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FRANCESCO GRUSSU

CONTACT AND ONLINE PROFILES

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EDUCATION AND TRAINING

2012-2016 — University College London (UCL), UK

PhD in MR Physics

Mark: viva passed with no corrections. Award date: 28/03/2016.
Thesis: "*Microstructural imaging of the human spinal cord with advanced diffusion MRI*"

2010-2012 — University of Genoa, Italy

Master's Degree in Bioengineering

Mark: 110 out of 110 *cum laude* & *Dignità di Stampa* (Examination Panel award).
Dissertation: "*A study on a bidirectional brain-machine interface inspired by the corticospinal control of movement*".

2006-2009 — University of Cagliari, Italy

Bachelor's Degree in Biomedical Engineering

Mark: 110 out of 110 *cum laude*.
Dissertation: "*Real time wavelet denoising on a DSP of neural signals coming from the peripheral nervous system*".

WORK EXPERIENCE

Jan.2025-now — Senior investigator, VHIO — Spain

Vall d'Hebron Institute of Oncology

Affiliations: Radiomics Group, Biomedical Research Department.
Role: supervisor of research line in diffusion MRI. Design of MRI studies.

Oct.2020-Dec.24 — Senior post-doc, VHIO — Barcelona, Spain

Vall d'Hebron Institute of Oncology

Affiliations: Radiomics Group, Clinical Research Department.
Role: development of microstructural MRI techniques in cancer.

Sep.2020-now — Honorary Senior Fellow, UCL — London, UK

University College London

Affiliations: Queen Square Institute of Neurology.
Role: collaborator in MRI development in multiple sclerosis.

Feb.2016-Sept.20 — Research Associate, UCL — London, UK

University College London

Affiliations: Institute of Neurology; Centre for Medical Image Computing.
Responsibilities: quantitative MRI development (spinal cord, brain, prostate).

May-June 2012 — Research Assistant, QMUL — London, UK

Queen Mary Univ. of London

Affiliation: School of Electronic Engineering and Computer Science (EECS).
Responsibilities: image segmentation (Computed Tomography Angiography).

RESEARCH VISITS

Feb.-March 2024 — Champalimaud Foundation, Portugal

Visiting Researcher

Affiliation: Preclinical MRI lab, Champalimaud Foundation, Lisbon, Portugal.
Training: preclinical MRI and multi-echo gradient echo imaging.

Sept.-Nov. 2017 — New York University (NYU), USA

Visiting Researcher

Affiliation: Radiology, Langone Medical Center, New York City (USA).
Training: advanced denoising techniques for diffusion MRI.

IMPACT STATS ON 24/03/2025

h-index

Google Scholar h-index: 23. Web of science h-index: 17.

Citations

Total Google Scholar citations: 1991. Web of Science citations: 1239.

SCIENTIFIC ARTICLES AND REVIEWS — (CO)-FIRST AUTHORSHIP

Cell Rep Med 2024

"*An accessible deep learning tool for voxel-wise classification of brain malignancies from perfusion MRI*". Garcia-Ruiz A, Pons-Escoda A, Grussu F et al. Cell Reports Medicine (2024), 5(3): 101464, doi: 10.1016/j.xcrm.2024.101464. AGR, APE and FG are joint first authors (equal contribution).

Magn Reson Med 2022

"*Diffusion MRI signal cumulants and hepatocyte microstructure at fixed diffusion time: Insights from simulations, 9.4T imaging, and histology*". Grussu F et al. Magnetic Resonance in Medicine (2022), 88(1): 365-379, doi: 10.1002/mrm.29174. Corresponding author.

Front Phys 2021

"*Feasibility of data-driven, model-free quantitative MRI protocol design: application to brain and prostate diffusion-relaxation imaging*". Grussu F et al. Frontiers in Physics (2021), 9: 752208, doi: 10.3389/fphy.2021.752208. Corresponding author.

Sem Ultrasound CT MRI 2021

Review: "*Diffusion-weighted imaging: recent advances and applications*". Martinez-Heras E, Grussu F, et al. Seminars in Ultrasound, CT and MRI (2021), 42(5): 490-506, doi: 10.1053/j.sult.2021.07.006. EMH and FG are joint first authors (equal contribution).

NeuroImage 2020

"*Multi-parametric quantitative in vivo spinal cord MRI with unified signal readout and image denoising*". Grussu F et al. NeuroImage (2020), 217: 116884, doi: 10.1016/j.neuroimage.2020.116884. Corresponding author.

Magn Reson Med 2019

"*Relevance of time-dependence for clinically viable diffusion imaging of the spinal cord*". Grussu F et al. Magnetic Resonance in Medicine (2019), 81(2): 1247-1264, doi: 10.1002/mrm.27463. Corresponding author.

Ann Clin Transl Neurol 2017

"*Neurite dispersion: a new marker of multiple sclerosis spinal cord pathology?*". Grussu F, Schneider T et al. Annals of Clinical and Translational Neurology (2017), 4(9):663-679, doi: 10.1002/acn3.445. FG and TS are joint first authors (equal contribution). Paper featured in Nature Reviews Neurology "Research Highlights" (Patel M, Nat Rev Neur (2017), 13(10): 578, doi: 10.1038/nrneurol.2017.127).

J Neurosci Meth 2016

"*A framework for optimal whole-sample histological quantification of neurite orientation dispersion in the human spinal cord*". Grussu F et al. Journal of Neuroscience Methods (2016), 273: 20-32, doi: 10.1016/j.jneumeth.2016.08.002. Corresponding author.

NeuroImage 2015 — "*Neurite orientation dispersion and density imaging of the healthy cervical spinal cord in vivo*". Grussu F et al. NeuroImage (2015), 111: 590-601, doi: 10.1016/j.neuroimage.2015.01.045. Corresponding author.

SCIENTIFIC ARTICLES AND REVIEWS — SENIOR AUTHORSHIP

MedIA 2025 — "*SpinFlowSim: a blood flow simulation framework for histology-informed diffusion MRI microvasculature mapping in cancer*". Voronova AK et al, Perez-Lopez R, Grussu F. Medical Image Analysis (2025), 102: 103531, doi: 10.1016/j.media.2025.103531. RPL and FG are joint corresponding authors and joint senior/last authors (equal contribution).

JMRI 2025 — "*Enhancing tumor microstructural quantification with machine learning and diffusion-relaxation MRI* ". Macarro C et al, Perez-Lopez R, Grussu F. Journal of Magnetic Resonance Imaging (2025), 61(2): 1018-1021, doi: 10.1002/jmri.29484. RPL and FG are joint corresponding authors and joint senior/last authors (equal contribution).

JMRI 2024 — **Review:** "*Advanced diffusion-weighted MRI for cancer microstructure assessment in body imaging, and its relationship with histology*". Fokkinga E, Hernandez-Tamames JA, Ianus A, Nilsson M, Tax CMW, Perez-Lopez R, Grussu F. Journal of Magnetic Resonance Imaging (2024), 60(4): 1278-1304, doi: 10.1002/jmri.29144. RPL and FG are joint corresponding authors and joint senior/last authors (equal contribution).

Front Neurol 2021 — "*Comparison of neurite orientation dispersion and density imaging and two-compartment spherical mean technique parameter maps in multiple sclerosis*". Johnson D, Ricciardi A, et al, Grussu F. Frontiers in Neurology (2021), 12: 662855, doi: 10.3389/fneur.2021.662855. DJ and AR are joint first authors (equal contribution).

SCIENTIFIC ARTICLES AND REVIEWS — CO-AUTHORSHIP

Magn Res Med 2025c — **Review:** "*Considerations and recommendations from the ISMRM Diffusion Study Group for preclinical diffusion MRI: Part 3—Ex vivo imaging: Data processing, comparisons with microscopy, and tractography*". Schilling KG, Howard AFD, Grussu F et al. Magnetic Resonance in Medicine (2025), e-pub ahead of print, doi: 10.1002/mrm.30424.

Magn Res Med 2025b — **Review:** "*Considerations and recommendations from the ISMRM diffusion study group for preclinical diffusion MRI: Part 2—Ex vivo imaging: Added value and acquisition*". Schilling KG, Grussu F et al. Magnetic Resonance in Medicine (2025), e-pub ahead of print, doi: 10.1002/mrm.30435.

Magn Res Med 2025a — **Review:** "*Considerations and recommendations from the ISMRM diffusion study group for preclinical diffusion MRI: Part 1: In vivo small-animal imaging*". Jelescu IO, Grussu F et al. Magnetic Resonance in Medicine (2025), e-pub ahead of print, doi: 10.1002/mrm.30429.

Sci Rep 2025 — "*Evaluation of magnetic resonance spectroscopy total sodium concentration measures, and associations with microstructure and physical impairment in cervical myelopathy*". Solanky B, ... Grussu F et al. Scientific Reports (2025), 15: 7014, doi: 10.1038/s41598-025-91658-w.

J Immunother Cancer 2025 — "*Radiomics signature for dynamic monitoring of tumor inflamed microenvironment and immunotherapy response prediction*". Bernatowicz K, ... Grussu F et al. Journal for ImmunoTherapy of Cancer (2025), 13: e009140, doi: 10.1136/jitc-2024-009140.

NeuroImage Rep 2024 — "*Investigating the relationship between thalamic iron concentration and disease severity in secondary progressive multiple sclerosis using quantitative susceptibility mapping: Cross-sectional analysis from the MS-STAT2 randomised controlled trial*". Williams T, ..., Grussu F, ..., Chataway J; On behalf of The UCL MS-STAT2 investigators. NeuroImage: Reports (2024), 4(3): 100216, doi: 10.1016/j.ynirp.2024.100216.

Eur Urol 2024 — "*Whole-body magnetic resonance imaging as a treatment response biomarker in castration-resistant prostate cancer with bone metastases: the iPROMET clinical trial*". Garcia-Ruiz A, ... Grussu F et al. European Urology (2024), 86(3): 272-274, doi: 10.1016/j.eururo.2024.02.016.

Mult Scler 2024 — "*What contributes to disability in progressive MS? A brain and cervical cord–matched quantitative MRI study*". Tur C, ..., Grussu F, ..., Gandini Wheeler-Kingshott CAM. Multiple Sclerosis Journal (2024), e-pub ahead of print, doi: 10.1177/13524585241229969.

Radiology: AI 2024 — "*Identification of precise 3D CT radiomics for habitat computation by machine learning in cancer*". Prior O, ..., Grussu F, Bernatowicz K*, Perez-Lopez R*. Radiology: Artificial Intelligence (2024), 6(2): e230118, doi: 10.1148/ryai.230118. *: KB and RPL are joint senir authors.

Movement Disord 2023 — "*Multimodal analysis of the visual pathways in Friedreich's Ataxia reveals novel biomarkers*". Thomas-Black G, ... Grussu F et al. Movement Disorders (2023), 38(6): 959-969, doi: 10.1002/mds.29277.

Sci Rep 2023 — "*Feasibility of in vivo multi-parametric quantitative magnetic resonance imaging of the healthy sciatic nerve with a unified signal readout protocol*". Boonsuth R, Battiston M, Grussu F et al. Scientific Reports (2023), 13: 6565, doi: 10.1038/s41598-023-33618-w.

Front Neuroinform 2023 — "*Patterns of inflammation, microstructural alterations, and sodium accumulation define multiple sclerosis subtypes after 15 years from onset*". Ricciardi A, Grussu F et al. Frontiers in Neuroinformatics (2023), 17: 1060511, doi: 10.3389/fninf.2023.1060511.

Neurology 2023 — "*Differentiating Multiple Sclerosis from AQP4-Neuromyelitis Optica Spectrum Disorder and MOG-antibody disease with imaging*". Cortese R, ... Grussu F et al. Neurology (2023), 100(3): e308-e323, doi: 10.1212/WNL.0000000000201465.

Am J Neuroradiol 2022 — "*Diffuse large B-cell Epstein-Barr virus–positive primary CNS lymphoma in non-AIDS patients: high diagnostic accuracy of DSC perfusion metrics*". Pons-Escoda A, ... Grussu F et al. American Journal of Neuroradiology (2022), 43(11): 1567-1574, doi: 10.3174/ajnr.A7668.

Magn Reson Med 2022c — "*Multi-echo quantitative susceptibility mapping: how to combine echoes for accuracy and precision at 3 Tesla*". Biondetti E, ..., Grussu F et al. Magnetic Resonance in Medicine (2022), 88(5): 2101-2116, doi: 10.1002/mrm.29365.

Magn Reson Med 2022b — "*SENSE EPI reconstruction with 2D phase error correction and channel-wise noise removal*". Powell E, ..., Grussu F et al. Magnetic Resonance in Medicine (2022), 88(5): 2157-2166, doi: 10.1002/mrm.29349.

Magn Reson Med 2022a — "*Comparison of multicenter MRI protocols for visualizing the spinal cord gray matter*". Cohen-Adad J, ..., Grussu F et al. Magnetic Resonance in Medicine (2022), 88(2): 849-859, doi: 10.1002/mrm.29249.

Eur Radiol 2022 — "*Voxel-level analysis of normalized DSC-PWI time-intensity curves: a potential generalizable approach and its proof of concept in discriminating glioblastoma and metastasis*". Pons-Escoda A, ..., Grussu F et al. European Radiology (2022), 32: 3705–3715, doi: 10.1007/s00330-021-08498-1.

BMJ Open 2022 — "*Histo-MRI map study protocol: a prospective cohort study mapping MRI to histology for biomarker validation and prediction of prostate cancer*". Singh S, ..., Grussu F et al. BMJ Open (2022), 12: e059847, doi: 10.1136/bmjopen-2021-059847.

NeuroImage Clin 2022 — "*Spatial patterns of brain lesions assessed through covariance estimations of lesional voxels in multiple sclerosis: the SPACE-MS technique*". Tur C, Grussu F et al. NeuroImage: Clinical (2022), 33: 102904, doi: 10.1016/j.nicl.2021.102904.

Front Neurol 2021 — "*Assessing lumbar plexus and sciatic nerve damage in relapsing-remitting multiple*

sclerosis using magnetisation transfer ratio". Boonsuth R, ..., Grussu F et al. Frontiers in Neurology (2021), 12: 763143, doi: 10.3389/fneur.2021.763143.

Sci Rep 2021 — "*Robust imaging habitat computation using voxel-wise radiomics features*". Bernatowicz K, Grussu F et al. Scientific Reports (2021), 11: 20133, doi: 10.1038/s41598-021-99701-2.

Sci Data 2021 — "*Open-access quantitative MRI data of the spinal cord and reproducibility across participants, sites and manufacturers*". Cohen-Adad J, ..., Grussu F et al. Scientific Data (2021), 8: 219, doi: 10.1038/s41597-021-00941-8.

Nat Protoc 2021 — "*Generic acquisition protocol for quantitative MRI of the spinal cord*". Cohen-Adad J, ..., Grussu F et al. Nature Protocols (2021), 16: 4611–4632, doi: 10.1038/s41596-021-00588-0.

Brain 2021 — "*Brain microstructural and metabolic alterations detected in vivo at the onset of the first demyelinating event*". Collorone S, ..., Grussu F et al. Brain (2021), 144: 1409-1421, doi: 10.1093/brain/awab043.

NeuroImage 2021 — "*Uncertainty modelling in deep learning for safer neuroimage enhancement: demonstration in diffusion MRI*". Tanno R, ... Grussu F et al. NeuroImage (2021), 225: 117366, doi: 10.1016/j.neuroimage.2020.117366.

Mult Scler 2020b — "*Reduced neurite density in the brain and cervical spinal cord in relapsing–remitting multiple sclerosis: A NODDI study*". Collorone S, Cowley N, Grussu F et al. Multiple Sclerosis Journal (2020), 26(13): 1647-1657, doi: 10.1177/1352458519885107.

Mult Scler 2020a — "*A multi-shell multi-tissue diffusion study of brain connectivity in early multiple sclerosis*". Tur C, Grussu F et al. Multiple Sclerosis Journal (2019), 26(7): 774-785, doi: 10.1177/1352458519845105.

NeuroImage 2020b — "*Cross-scanner and cross-protocol multi-shell diffusion MRI data harmonization: Algorithms and results*". Ning L, Bonet-Carne E, Grussu F et al. NeuroImage (2020), 221: 117128, doi: 10.1016/j.neuroimage.2020.117128.

NeuroImage 2020a — "*Generalised boundary shift integral for longitudinal assessment of spinal cord atrophy*". Prados F, ..., Grussu F et al. NeuroImage (2020), 209: 116489, doi: 10.1016/j.neuroimage.2019.116489.

Magn Reson Med 2019 — "*Fast bound pool fraction mapping via steady-state magnetization transfer saturation using single-shot EPI*". Battiston M, ..., Grussu F et al. Magnetic Resonance in Medicine (2019), 82: 1025-1040, doi: 10.1002/mrm.27792.

NeuroImage 2019 — "*Cross-scanner and cross-protocol diffusion MRI data harmonisation: a benchmark database and evaluation of algorithms*". Tax CMW, Grussu F et al. NeuroImage (2019), 195: 285-299, doi: 10.1016/j.neuroimage.2019.01.077.

Sci Rep 2018 — "*Structural cortical network reorganization associated with early conversion to multiple sclerosis*". Tur C, ..., Grussu F et al. Scientific Reports (2018), 8: 10715, doi: 10.1038/s41598-018-29017-1.

Magn Reson Med 2018b — "*An optimized framework for quantitative magnetization transfer imaging of the cervical spinal cord in vivo*". Battiston M, Grussu F et al. Magnetic Resonance in Medicine (2018) 79(5): 2576-2588, doi: 10.1002/mrm.26909.

Magn Reson Med 2018a — "*Fast and reproducible in vivo T1 mapping of the human cervical spinal cord*". Battiston M, ..., Grussu F et al. Magnetic Resonance in Medicine (2018), 79(4): 2142-2148, doi: 10.1002/mrm.26852.

NeuroImage 2017 — "*Spinal cord grey matter segmentation challenge*". Prados F, ..., Grussu F et al. NeuroImage (2017), 152:312–329, doi: 10.1016/j.neuroimage.2017.03.010.

PlosOne 2016 — "*Reduced field-of-view diffusion-weighted imaging of the lumbosacral enlargement: a*

pilot in vivo study of the healthy spinal cord at 3T". Yiannakas MC, Grussu F et al. PlosOne (2016), 11(10): e0164890, doi: 10.1371/journal.pone.0164890.

CONFERENCE PAPERS: FIRST AUTHORSHIP

CDMRI 2020

"*Deep learning model fitting for diffusion-relaxometry: a comparative study*". Grussu F, Battiston M, Palombo M, Schneider T, Wheeler-Kingshott CAM, Alexander DC. Proc of 2020 MICCAI Workshop on Computational Diffusion MRI, 2021, 159-172, doi: 10.1007/978-3-030-73018-5_13. Corresponding author.

CONFERENCE PAPERS: CO-AUTHORSHIP

MICCAI 2022

"*Progressive subsampling for oversampled data - application to quantitative MRI*". Blumberg SB, ..., Grussu F et al. Proc of Medical Image Computing and Computing Assisted Intervention (MICCAI) 2022, Lecture Notes in Computer Science, 13436: 421–431, doi: 10.1007/978-3-031-16446-0_40.

CDMRI 2019

"*Acquiring and predicting multidimensional diffusion (MUDI) data: an open challenge*". Pizzolato M, ..., Grussu F et al. Proc of 2019 MICCAI Workshop on Computational Diffusion MRI, 2020, 195-208, doi: 10.1007/978-3-030-52893-5_17.

CDMRI 2018b

"*Multi-shell diffusion MRI harmonisation and enhancement challenge (MUSHAC): progress and results*". Ning L, ..., Grussu F et al. Proc of 2018 MICCAI Workshop on Computational Diffusion MRI, 2019, 217-224, doi: 10.1007/978-3-030-05831-9_18.

CDMRI 2018a

"*Spatial characterisation of fibre response functions for spherical deconvolution in multiple sclerosis*". Tur C, Grussu F et al. Proc of 2018 MICCAI Workshop on Computational Diffusion MRI, 2019, 265-279, doi: 10.1007/978-3-030-05831-9_21.

MICCAI 2016

"*Bayesian image quality transfer*". Tanno R, ..., Grussu F et al. Proc of Medical Image Computing and Computing Assisted Intervention (MICCAI) 2016, Lecture Notes in Computer Science, 9901: 265-273, doi: 10.1007/978-3-319-46723-8_31.

BOOK CHAPTERS

CRC Press 2018

Chapter 8: "*D — the diffusion of water (DTI)*". Grussu F and Wheeler-Kingshott CAM. "*Quantitative MRI of the brain*" (2nd edition, 2018), Cercignani M, Dowell N and Tofts P editors. ISBN 978-1-138-03285-9, doi: 10.1201/b21837.

BOOK EDITING

CDMRI 2018

"*Computational Diffusion MRI*". Bonet-Carne E, Grussu F, Ning L, Sepehrband F and Tax C editors. Proc. of 2018 MICCAI Workshop on "*Computational Diffusion MRI*", Granada, Spain, 20/09/2018. ISBN: 978-3-030-05830-2, doi: 10.1007/978-3-030-05831-9.

CDMRI 2017

"*Computational Diffusion MRI*". Kaden E, Grussu F, Ning L, Tax C and Veraart J editors. Proc. of 2017 MICCAI Workshop on "*Computational Diffusion MRI*", Quebec City, Canada, 10/09/2017. ISBN: 978-3-319-73839-0, doi: 10.1007/978-3-319-73839-0.

RESEARCH FUNDING

"la Caixa" Junior Leader Fellowship 2022

2022 Junior Leader Retaining post-doctoral fellowship, "la Caixa" Foundation, Spain. "*New-generation oncological MRI (New-OncoMRI): development, validation and application*". **Award**: €294,900. **Role**: principal investigator and fellow.

Duration: 30/09/2022-29/09/2025. **Code**: ID 100010434, fellowship number LCF/BQ/PR22/11920010.

Beatriu de Pinós Fellowship 2020

2020 Beatriu de Pinós post-doctoral fellowship, AGAUR, Secretary of Universities and Research (Govt of Catalonia, Spain). "*Advancing Magnetic Resonance Imaging against liver cancer*". **Award**: €144,300. **Role**: principal investigator and fellow. **Duration**: 01/01/2022-31/12/2024, renounced on 29/09/2022 due to incompatibility with the "la Caixa" Junior Leader fellowship. **Code**: 2020 BP 00117.

UCL pump-priming award 2017

Centre for Medical Image Computing *Pump-priming Award* at University College London (UCL). "*Enabling multi-site high precision spinal cord MRI*". **Award**: GBP 23,900. **Role**: fellow. **Duration**: 01/07/2017-30/06/2018.

UCL Grand Challenge PhD studentship 2012

UCL School of Life and Medical Science *Grand Challenge PhD Studentship*, awarded to work on the project "*Axonal density as MR imaging biomarker: from bench to bedside*". **Award:** 59,000 GBP. **Role**: PhD student with personal funding. **Duration:** 09/2012-12/2015.

PRIZES AND AWARDS

2023 **Best oral paper award**, 2023 annual meeting of the Iberian Chapter of the International Society for Magnetic Resonance in Medicine (ISMRM), Trainee competition for abstract Grussu F et al, Proc of ISMRM Iberian Chapt. 2023.

2021 **3rd prize**, 2021 ISMRM MR of Cancer Study Group, Trainee competition for abstract Grussu F et al, Proc of ISMRM 2021, p.0699.

2021 ***Magna cum Laude*** award, abstract (Grussu et al, p.0699, ISMRM 2021).

2020 ***Magna cum Laude*** award, abstract (Grussu et al, p.1035, ISMRM 2020).

2020 **2nd prize** (shared), 2020 ISMRM British and Irish Chapter *"Mansfield Research Innovation Award"* for abstract Grussu F et al, Proc of ISMRM 2020.

2019 **1st prize** in the "*Multi-dimensional Diffusion Imaging*" (MUDI) challenge at 2019 CDMRI MICCAI Workshop (Shenzhen, China, 17/10/2019) (**Team**: Grussu F, Blumberg SB, Ianus A, Mertzanidou T, Alexander DC; **Method**: SARDU-Net).

2018-2020 **Elected trainee representative** for the *White Matter Study Group* of the International Society for Magentic Resonance in Medicine (ISMRM).

2018 & 2019 **"Distinguished reviewer"** Award for Magnetic Resonance in Medicine, awarded at the 2018 and 2019 ISMRM annual meetings.

2018 ***Magna cum Laude*** award, abstract (Grussu et al, p.466, ISMRM 2018).

2017 Poster short-listed for presentation at the 2017 ISMRM *Diffusion study group* (Grussu et al, p.3399, ISMRM 2017).

2017 ***Magna cum Laude*** award, abstract (Grussu et al, p.3399, ISMRM 2017).

2016 Abstract submission among best 5 in the "*Validation*" session, ISMRM workshop *Breaking the barriers of diffusion MRI*.

2016 Poster short-listed for presentation at the 2016 ISMRM *Diffusion study group* (Grussu et al, p.2009, ISMRM 2016).

2015 Young Investigators poster competition finalist (80 selected), European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) 2015.

2015 ***Magna cum Laude*** award, abstract (Grussu et al, p.0909, ISMRM 2015).

2015 ***Magna cum Laude*** award, abstract (Grussu et al, p.0154, ISMRM 2015).

2013 **1st prize**, Master's degree awards, Mòguru council, Italy (1st prize).

2013 Poster short-listed as a finalist of the 2013 ISMRM *White Matter Study Group* poster competition.

2012 **2012 Master's degree thesis prize**, *Gruppo Nazionale di Bioingegneria* (GNB, National Bioengineering Group).

2009 **Award for the best student graduating in Biomedical Engineering** (BEng) in 2009, University of Cagliari, Italy.

2008-2011 ***"Assegno di Merito"* (Merit cheque)** by the Sardinian regional government for excellence in Academic Studies, obtained yearly from 2008 to 2011.

PRIZES AWARDED TO HIS STUDENTS

2024 ***Best application (poster)*** by the Diffusion Study Group of the International Society for Magnetic Resonance in Medicine (ISMRM) to student Anna Voronova, for abstract (Voronova A et al, and Grussu F, p.0124, ISMRM 2024).

2024 ***Summa cum Laude*** award to student Anna Voronova, for abstract (Voronova A et al, and Grussu F, p.0124, ISMRM 2024).

2024 ***Magna cum Laude*** award to student Athanasios Grigoriou, for abstract (Grigoriou A et al, and Grussu F, p.0699, ISMRM 2024).

TRAVEL GRANTS

2020 UCL Dept. of neuroinflammantion travel grant funding attendance at the 2020 ISMRM meeting (GBP 400) – awarded for April 2020, unused due to COVID-19.

2016 ISMRM Trainee Stipend for attendance at ISMRM workshop "*Breaking the barriers of Diffusion MRI* (waived registration fees)".

2015, 2016 UCL School of Life and Medical Sciences Travel Grant funding the attendance at the 2015 (GBP 800) and 2016 (GBP 940) ISMRM meetings.

2015 ECTRIMS Travel Grant funding the attendance at the 2015 ECTRIMS meeting in Barcelona (Spain) (EUR 400).

2013, 2015, 2017 Guarantors of Brain Travel Grant funding the attendace at the 2013 (GBP 800), 2015 (GBP 500) and 2017 (GBP 800) ISMRM meetings.

2012-2015 ISMRM Trainee Stipend supporting attendance at the annual meeting (yearly).

INVITED ORAL COMMUNICATIONS

ISMRM Workshop 2025 "*Challenges in body diffusion and how to overcome them*". International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on: "40 years of Diffusion: past, present and future perspectives", Kyoto University, Kyoto (Japan), 18/02/2025.

EPFL 2024 "*Diffusion MR signal modelling for oncological body imaging*". Visitors Talk, Centre for Biomedical Imaging (CIBM), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne (Switzerland), 09/10/2024.

ESMRMB workshop 2024 "*Modelling body microstructure*". ESMRMB 2024 pre-congress workshop "Leaps in Microstructure Imaging: Exploring New Horizons", Barcelona (Spain), 02/10/2024.

DiPy workshop 2024 "*Advanced body diffusion MRI for oncological applications*". 2024 DiPy workshop, online, 14/03/2024.

ESMRMB workshop 2023 — "*Histology-informed body diffusion MRI in oncological applications*". ESMRMB 2023 pre-congress workshop "Frontiers in preclinical MRI", Basel (Switzerland), 04/10/2023.

ESMRMB lectures 2023 — "*Diffusion MRI in the body*". ESMRMB Lectures on MR, "Introduction to diffusion-weighted MR imaging and spectroscopy", Cardiff (UK), 07/09/2023.

DSG ISMRM 2023 — "*Emerging models in oncology*". "Virtual biopsies by diffusion MRI: are we there yet in oncology?", Virtual meeting of the International Society for Magnetic Resonance in Medicine (ISMRM) Diffusion Study Group (DSG). Online, 19/04/2023.

UCL 2022b — "*Data-driven, model-free, deep learning approach for quantitative MRI protocol design*". "Microstructure Imaging Meets Machine Learning" (MIML) workshop, University College London, London (UK), 13/05/2022.

ISMRM 2022 — "*Modeling diffusion in cancer and body*". Educational session: "Diffusion", 2022 annual meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), London (UK), 07/05/2022.

UCL 2022a — "*Diffusion MRI signal cumulants and hepatocyte microstructure at fixed diffusion time: Insights from simulations, 9.4T imaging, and histology*". Centre for Medical Image Computing *qMRI interest group*, University College London, London (UK), virtual talk 24/03/2022.

UCL 2021 — "*Diffusion-relaxation microstructural MRI of the liver for application in oncology*". Centre for Medical Image Computing *qMRI interest group*, University College London, London (UK), virtual talk 22/04/2021.

BCNatal 2021 — "*Diffusion-relaxation microstructural MRI of the liver for application in oncology: initial experience*". BCNatal Fetal Medicine Research Centre virtual seminar, Hospital Clinic and Sant Joan de Déu, Universitat de Barcelona, Barcelona (Spain) 18/01/2021.

BIC ISMRM 2020 — "*SARDU-Net: a new method for model-free, data-driven experiment design in qMRI*". ISMRM British and Irish Chapter post-grad virtual meeting (online), 17/09/2020.

University of Verona 2019 — "*Diffusion MRI data harmonisation*". 2019 School on Brain Connectomics, University of Verona (Italy), 24/09/2019.

UCL workshop 2019 — "*Insight on spinal cord microstructure from time-dependent diffusion*". Spinal cord MRI workshop, UCL, London (UK), 21/01/2019.

ISMRM Italian Chapter 2018 — "*Axonal dispersion from diffusion MRI: a new marker of microstructural damage*". Italian Association for Magnetic Res. in Medicine, Padua (Italy), 10/05/2018.

King's College London 2018 — "*Microstructural imaging of the human spinal cord: insights from in vivo and ex vivo data*". Inst. of Psychiatry, Psychology and Neuroscience, KCL (UK) 19/03/2018.

UCL workshop 2018 — "*Histological validation of neurite dispersionfrom diffusion MRI in MS*". Mult. sclerosis: translating eng. innovation into the clinic, UCL, London (UK) 31/01/2018.

Polytechnique Montreal 2017 — "*Advanced microstructural imaging in the human spinal cord*". NeuroPoly Lab seminar, Montreal (Canada), 16/11/2017.

New York University 2017 — "*Quantitative MRI of the spinal cord: challenges, feasibility and future perspectives*". Department of Radiology, NY City (USA), 13/10/2017.

University of Cagliari 2015 — "*Advanced diffusion-weighted MRI of the human spinal cord: feasibility and future directions in multiple sclerosis*". Fac. of Engineering, Cagliari (Italy), 24/07/2015.

Spinal Cord MRI Workshop 2015 — "*Histological validation of quantitative MRI methods*". 2nd Spinal Cord MRI Workshop, Toronto (Canada), 06/06/2015.

CHAIRING AT SCIENTIFIC EVENTS

ISMRM 2022 — **Moderator** of oral "power pitch" scientific section "Motion correction", 10/05/2022, 2022 annual meeting of the International Society for Magnetic Resonance in Medicine (ISMRM).

ISMRM 2021b — **Moderator** of oral scientific section "Microstructure: Modelling Gray & White Matter Diffusion", 19/05/2021, 2021 virtual annual meeting of the ISMRM.

ISMRM 2021a — **Facilitator** of poster session "Diffusion Applications: Brain & Spine", 18/05/2021, 2021 virtual annual meeting of the ISMRM.

PARTICIPATION IN EXAMINATION PANELS

EPFL 2024 — **PhD defense** at the École Polytechnique Fédérale de Lausanne (EPFL), Lausanne (Switzerland). Thesis title: "*Lymph node microstructure imaging using diffusion MRI: From simulations to acquisitions*". Exam date: 08/10/2024. Role: external examiner. Degree: PhD. Department: Center for Biomedical Imaging (CIBM), EPFL. Thesis link here.

ORGANISATION OF SCIENTIFIC EVENTS

MIS ISMRM 2021 — **Member Initiated Symposium** at ISMRM 2020: "Looking Beyond Axons: Imaging the Immune System in White Matter", 19/05/2021. **Organisers**: Cohen-Adad J, Grussu F, Kolind S.

WMSG ISMRM 2019 — **ISMRM White Matter Study Group Virtual meeting**: "Myelin Imaging in the Spinal Cord at High Field", 27/06/2019, joint meeting with the High-field Study Group. **Organiser**: Grussu F. **Chair**: Cohen-Adad J.

MIS ISMRM 2019 — **Member Initiated Symposium** at ISMRM 2019: "Completing the Circle: Moving Multi-Parametric Neuro MRI into Clinical Practice and Trials", 15/05/2019. **Organisers**: Vrenken H, Cohen-Adad J, Grussu F.

CDMRI 2018 — **MICCAI Workshop:** Computational Diffusion MRI (CDMRI) 2018 (Granada, scheduled for 20/09/2018). **Organisers:** Bonet-Carne E (UCL), Grussu F (UCL), Ning L (Harvard), Sepehrband F (USC), Tax C (Cardiff University).

MUSHAC Challenge 2018 — **MICCAI Challenge:** Multi-shell dMRI harmonisation and enhancement (MUSHAC, part of CDMRI 2018). **Organisers:** Bonet-Carne E (UCL), Grussu F (UCL), Ning L (Harvard), Sepehrband F (USC), Tax C (Cardiff University).

CDMRI 2017 — **MICCAI Workshop:** Computational Diffusion MRI (CDMRI) 2017 (Quebec City, 10/09/2017). **Organisers:** Grussu F (UCL), Kaden E (UCL), Ning L (Harvard), Tax C (Cardiff University), Veraart J (NYU).

Data Harmonisation Challenge 2017 — **MICCAI Challenge:** Diffusion MRI data harmonisation (part of CDMRI 2017). **Organisers:** Grussu F (UCL), Kaden E (UCL), Ning L (Harvard), Tax C (Cardiff University), Veraart J (NYU).

Spinal Cord MRI Workshop 2016 — **Workshop:** 3rd Spinal Cord MRI Workshop, Singapore, 13/05/2016. **Organisers:** Cohen-Adad J & De Leener B (Polytechnique Montreal), Grussu F & Prados F (UCL), Summers P (University of Modena).

Spinal Cord Grey Matter Segmentation Challenge 2016 — **Challenge:** Grey Matter Segmentation: What's there and What's next? (part of SC MRI Workshop 2016). **Organisers:** Cohen-Adad J, Prados F, Landman B, Wheeler-Kingshott C, Summers P, Dupont S, Yiannakas M, Smith S, Gergely D, DeLeener B, Grussu F.

SCIENTIFIC PEER REVIEWING

2016-present — Reviewer for Bipolar Disorders; Functional Neurology; Frontiers; Human Brain

Mapping; Journal of Magnetic Resonance Imaging; Journal of Neuroscience Methods; Magnetic Resonance in Medicine; NeuroImage; Medical Image Analysis; IEEE Transactions on Medical Imaging; npj Precision Oncology; NMR in Biomedicine; Scientific Data; 2019, 2021 and 2022 ISMRM annual meetings; 2021 ISMRM BIC-Iberian Chapter post-grad meeting; 2021 Iberian Chapter annual meeting; 2019, 2020 MICCAI Computational Diffusion MRI (CDMRI) workshop.

OFFICIAL STUDENT SUPERVISION

PhD, VHIO and UB 2023-26

Project co-supervision: "*Novel Magnetic Resonance Imaging biomarkers for precision medicine in oncology: integrating multi-omics and real-world data strategies*". **Degree:** PhD programme in Biomedicine (research line in biomedical engineering), Universitat de Barcelona (UB; Barcelona, Spain). Project carried out at VHIO, Barcelona (Spain). **Supervised in:** 2023-2026 (ongoing).

PhD, VHIO and UB 2022-26

Project co-supervision: "*Histology-informed diffusion MRI simulations and artificial intelligence for cancer microstructure characterization*". **Degree:** PhD programme in Biomedicine (research line in biomedical engineering), Universitat de Barcelona (UB; Barcelona, Spain). Project carried out at the Vall d'Hebron Institute of Oncology (VHIO), Barcelona (Spain). **Supervised in:** 2022-2026 (ongoing).

PhD, VHIO and UB 2022-25

Project co-supervision: "*Deep learning cancer vasculature with histology-informed diffusion and perfusion MRI*". **Degree:** PhD programme in Biomedicine (research line in biomedical engineering), Universitat de Barcelona (UB; Barcelona, Spain). Project carried out at VHIO, Barcelona (Spain). **Supervised in:** 2022-2025 (ongoing).

MEng, VHIO and TU Delft 2022/23

Project co-supervision: *"Unraveling tumour microstructure through diffusion MRI using histology-powered artificial intelligence"*. **Degree:** Master's in "Biomedical Engineering", Delft University of Technology (TU Delft), (Delft, The Netherlands). Project carried out at VHIO, Barcelona (Spain). **Supervised in:** 09-2022/06-2023.

MEng, VHIO and UI La Rioja 2022/23

Project co-supervision: "*Prediction of advanced biomarkers from clinical diffusion Magnetic Resonance Imaging*". **Degree:** Master's in "Artificial Intelligence", Universidad Internacional de La Rioja (Logroño, Spain). Project carried out at VHIO, Barcelona (Spain). **Supervised in:** 2022/2023.

MRes, UCL 2018/19

Project co-supervision: "*Improving the differential diagnosis between Neuromyelitis Optica Spectrum Disorder and Multiple Sclerosis using MRI*". **Degree:** MRes in "Clinical Neuroscience", Institute of Neurology, University College London (UCL, London, UK). **Supervised in:** 2018/2019.

MSc, UCL 2018/19

Project co-supervision: "*Evaluation of quantitative MRI indices reproducibility across scanner upgrade*". **Degree:** MSc in "Advanced neuroimaging", Institute of Neurology, UCL (London, UK). **Supervised in:** 2018/2019

MSc, UCL 2017/18

Project co-supervision: "*Investigation of multi-component T1 relaxation at 3 Tesla*". **Degree:** MSc in "Advanced neuroimaging", Institute of Neurology, UCL (London, UK). **Supervised in:** 2017/2018.

MSc, UCL 2015/16

Project co-supervision: "*Evaluation of strategies for co-registration between quantitative and anatomical magnetic resonance images of the human spinal cord*". **Degree:** MSc in "Advanced neuroimaging", Institute of Neurology, UCL (London, UK). **Supervised in:** 2015/2016.

TEACHING EXPERIENCE

UCL Lecture

Lecture: "*Image optimisation: SNR, CNR and sources of artifacts*". **Degree:** MSc in "Advanced neuroimaging", Institute of Neurology, UCL (London, UK). **Conveyed:** 2019/20, 2017/18, 2016/17, 2015/16.

UCL Workshop **Workshop:** Hands-on with a portable MRI scanner. **Degree:** MSc in "Advanced neuroimaging", Institute of Neurology, UCL (London, UK). **Conveyed:** 2017/18, 2016/17, 2015/16.

UniPV Workshop **Workshop:** "*Model fitting for quantitative MRI*". **Degree:** MEng in "Biomedical Engineering", University of Pavia (Pavia, Italy). **Conveyed:** 2016/17.

UCL Lecture **Lecture:** "*Magnetic resonance image formation*". **Degree:** MSc in "Advanced biomedical imaging", Centre for Advanced Biomedical Imaging, UCL (London, UK). **Conveyed:** 2015/16.

OPEN SCIENCE

Code released through GitHub (http://fragrussu.github.io and http://github.com/radiomicsgroup)

GitHub 2024c **Histo-μSim**: histology-informed cancer diffusion MRI (link).

GitHub 2024b **SpinFlowSim**: diffusion MRI simulator in vascular networks (link).

GitHub 2024a **BodyMRITools**: python code for body diffusion MRI processing (link).

GitHub 2022 **MChepato**: Code and synthetic data for Grussu et al, MRM 2022 (link). Available in Zenodo as record 6645258, doi: 10.5281/zenodo.6645258.

GitHub 2020b **qMRI-Net**: MRI signal model fitting based on artificial intelligence (link).

GitHub 2020a **SARDU-Net**: data-driven, model-free quantitative MRI protocol design (link).

GitHub 2019b **MyRelax**: tools for myelin and relaxation MRI analyses (link to the latest version). Version 1.0.0 available in Zenodo as record 4561898, doi: 10.5281/zenodo.4561898.

GitHub 2019a **MRITools**: tools for handling and managing research MRI scans (link).

GitHub 2016 **StructureTensorToolbox**: tools for analysis of 2D histological images (link).

Data sets released through Zenodo

Zenodo 2024b "*Histology-informed microstructural diffusion simulations for MRI cancer characterisation (Histo-μSim): ex vivo mouse data*". Grussu F, Grigoriou A, Macarro C and Perez-Lopez R. Data set. Zenodo record 14559356, 2024, doi: 10.5281/zenodo.14559356.

Zenodo 2024a "*Histology-informed microstructural diffusion simulations for MRI cancer characterisation (Histo-μSim): histology substrates*". Grigoriou A, Macarro C, Perez-Lopez R and Grussu F. Data set. Zenodo record 14559104, 2024, doi: 10.5281/zenodo.14559104.

DISSEMINATION TO THE WIDER PUBLIC

2024b Lab demonstration: "*Uso de la inteligencia artificial en la investigación contra el cáncer*" ("*Using artificial intelligence in cancer research*") at the 2024 European Researchers' Night (27/09/2024), CosmoCaixa, Barcelona (Spain).

2024a Video: "*Resonancia magnética para combatir el cáncer*" ("*Magnetic Resonance Imaging to fight cancer*"), released through the YouTube channel of the Vall d'Hebron Institute of Oncology (Barcelona, Spain) (link, video in Spanish).

2022b Science fair: "*Demostración de análisis avanzado de imágenes por resonancia magnética y datos co-localizados de microscopía*" ("*Demonstration of advanced analysis of MR images and co-localised microscopy*") at the 2022 European Researchers' Night (30/09/2022), CosmoCaixa, Barcelona (Spain).

2022a "*Innovating Magnetic Resonance Imaging to fight diseases*". Università della Terza Età (UniTre), Mòguru, Italy (12/04/2021). Talk given to a general audience in Sardinian language.

2017 "*Why to get vaccinated and avoid misinformation: the scientific method in modern medicine*". Event for a general audience in Italian and Sardinian, Mòguru, Italy (17/08/2017). Organisers: Grussu F, Tur C, Coccollone E, Broccia S.

2015 Participation at *MS Frontiers 2015* (29-30/06/2015), organised by the UK Multiple Sclerosis Society and bringing together researchers and Multiple Sclerosis patients.

2013 UCL stall at *Science Uncovered*, 2013 European Researcher's Night (28/09/2013), London Science Museum.

CONFERENCE & WORKSHOP PROCEEDINGS: FIRST AUTHORSHIP

ESMRMB 2024 "*Histological interpretation of Susceptibility-Perturbation MRI in human tumours of the liver*". Grussu F et al. European Society for Magnetic Resonance in Medicin and Biology (ESMRMB) 2024 (traditional poster presentation).

ISMRM 2024b "*Histology-informed biophysical diffusion MRI model selection for enhanced liver cancer immunotherapy assessment*". Grussu F et al. International Society for Magnetic Resonance in Medicine (ISMRM) 2024 (**oral presentation**).

ISMRM 2024a "*Two-axon population (TAP) modelling for large axon diffusion imaging in the peripheral nervous system*". Grussu F et al. International Society for Magnetic Resonance in Medicine (ISMRM) 2024 (**oral presentation**).

ISMRM Iberian 2023 "*Extra-cellular liver diffusion modelling at high b-value: a preclinical MRI-histology study*". Grussu F et al. Iberian Chapter of the ISMRM 2023 (**oral presentation**).

ISMRM 2022b "*Histological correlates of DR-HIGADOS microstructural metrics in the mouse and human liver*". Grussu F et al. International Society for Magnetic Resonance in Medicine (ISMRM) 2022 (power-pitch presentation).

ISMRM 2022a "*Inter-scanner reproducibility and variability assessment of advanced liver diffusion MRI metrics*". Grussu F et al. ISMRM 2022 (d-poster presentation).

ISMRM 2021b "*DR-HIGADOS: a new diffusion-relaxation framework for clinically feasible microstructural imaging of the liver*". Grussu F et al. ISMRM 2021 (**oral presentation**, ***Magna cum Laude*** award).

ISMRM 2021a "*Investigating the relationship between diffusion MRI signal cumulants and hepatocyte microstructure at fixed diffusion time*". Grussu F et al. International Society for Magnetic Resonance in Medicine (ISMRM) 2021 (**d-poster presentation**).

ISMRM 2020 "*SARDU-Net: a new method for model-free, data-driven experiment design in quantitative MRI*". Grussu F et al. ISMRM 2020 (**power-pitch presentation**, ***Magna cum Laude*** award).

ISMRM 2019 "*Clinically viable g-ratio imaging with unified readout at 3T: evaluation and comparison*". Grussu F et al. ISMRM 2019 (e-poster presentation).

ISMRM 2018b "*Magnitude versus complex-valued images for spinal cord diffusion MRI: which one is best?*". Grussu F et al. ISMRM 2018 (**oral presentation**, ***Magna cum Laude*** award).

ISMRM 2018a "*A unified signal readout improves denoising of multi-modal spinal cord MRI*". Grussu F et al. ISMRM 2018 (poster presentation).

ISMRM 2017b "*Origin of the time dependence of the diffusion-weighted signal in spinal cord white matter*". Grussu F et al. ISMRM 2017 (**oral presentation**).

ISMRM 2017a — "*A unified signal readout for reproducible multimodal characterisation of brain microstructure*". Grussu F et al. ISMRM 2017 (e-poster presentation, ***Magna cum Laude*** award, finalist at the Diffusion Study Group competition).

Brain School 2017 — "*Whole-brain macromolecular tissue volume mapping: A comparison of imaging readouts at 3 Tesla*". Grussu F et al. School of Brain Cells and Circuits "Camillo Golgi". Frontiers ISBN 978-288945-584-3 (**poster presentation**).

ISMRM Scientific Workshop 2016 — "*Optimal histological quantification of neurite orientation dispersion for the validation of diffusion MRI*". ISMRM Scientific workshop "Breaking the barriers of diffusion MRI" (poster presentation + Power Pitch).

ISMRM 2016 — "*Axon diameter distribution influences diffusion-derived axonal density estimation in the human spinal cord:* in silico *and* in vivo *evidence*". Grussu F et al. ISMRM 2016 (poster presentation, finalist at the Diffusion Study Group competition).

ECTRIMS 2015 — "*Quantitative histological validation of NODDI MRI indices of neurite morphology in multiple sclerosis spinal cord*". Grussu F et al. European Committee for Research and Treatment of Multiple Sclerosis (ECTRIMS) 2015 (poster presentation, short-listed for poster prize competition).

MS Frontiers 2015 — "*Histological correlates of NODDI in the multiple sclerosis spinal cord*". Grussu F et al. MS Frontiers 2015, annual scientific meeting of the UK Multiple Sclerosis Society (**oral and poster presentation**).

ISMRM 2015b — "*Quantitative histological correlates of NODDI orientation dispersion estimates in the human spinal cord*". Grussu F et al. ISMRM 2015 (**oral presentation**, ***Magna cum Laude*** award).

ISMRM 2015a — "*Histological metrics confirm microstructural characteristics of NODDI indices in multiple sclerosis spinal cord*". Grussu F et al. ISMRM 2015 (**oral presentation**, ***Magna cum Laude*** award).

British Chapter of the ISMRM 2014 — "*Characterisation of single-shell NODDI fitting in spinal cord grey and white matter*". Grussu F et al. British Chapter of the ISMRM 2014 (poster presentation).

ISMRM 2014b — "*Neurite orientation dispersion and density imaging of the cervical cord* in vivo". Grussu F et al. ISMRM 2014 (poster presentation).

ISMRM 2014a — "*Single-shell diffusion MRI NODDI with* in vivo *cervical cord data*". Grussu F et al. ISMRM 2014 (poster presentation).

ISMRM Workshop 2013 — "In vivo *estimation of neuronal orientation dispersion and density of the human spinal cord*". ISMRM Scientific workshop "Multiple sclerosis as a whole-brain disease" (**oral presentation**).

ISMRM 2013 — "*Towards spinal cord microstructure mapping with the neurite orientation dispersion and density imaging*". Grussu F et al. ISMRM 2013 (poster presentation, finalist at the White Matter Study Group poster competition).

CONFERENCE & WORKSHOP PROCEEDINGS: SENIOR AUTHORSHIP

ISMRM Workshop 2025b — "*Which Microvascular Properties Can We Probe in Clinical Settings with Diffusion MRI?*". Voronova A, ..., and Grussu F. 2025 ISMRM Workshop on *40 Years of Diffusion: Past, Present and Future Perspectives* (oral presentation).

ISMRM Workshop 2025b — "*Histology-Informed Microstructural Diffusion Simulations (Histo-μSim) for Enhanced Diffusion MRI Parameter Estimation in Cancer*". Grigoriou A, ..., and Grussu F. 2025 ISMRM Workshop on *40 Years of Diffusion: Past, Present and Future Perspectives* (power-pitch presentation), p. 202.

ESMRMB 2024b — "*Biologically-realistic blood flow simulations reveal complex features of vascular IVIM signals*". Voronova A, ..., and Grussu F. ESMRMB 2024 (traditional poster presentation).

ESMRMB 2024a — "*Histology-informed cell size distribution mapping with diffusion MRI*". Grigoriou A, ..., and Grussu F. ESMRMB 2024 (traditional poster presentation).

ISMRM 2024b — "*FlowSim: a blood flow simulator for histology-informed diffusion MRI micro-vasculature mapping in cancer*". Voronova A, ..., and Grussu F. ISMRM 2024 (power-pitch presentation, ***Summa cum Laude*** award, **Diffusion Study Group prize, best application (poster category)**).

ISMRM 2024a — "*A Monte Carlo simulation framework for histology-informed diffusion MRI parameter estimation in cancer*". Grigoriou A, ..., and Grussu F. ISMRM 2024 (power-pitch presentation, ***Magna cum Laude*** award).

ISMRM Scientific Workshop 2022 — "*A systematic comparison of machine learning approaches for diffusion-relaxation MRI protocol enhancement in advanced solid tumours*". Macarro C, ..., and Grussu F. ISMRM Workshop on Diffusion MRI *From Research to Clinic* 2022 (poster presentation).

ISMRM 2019 — "*Sensitivity of NODDI and two-compartment SMT parameter maps in multiple sclerosis*". Johnson D, ..., and Grussu F. ISMRM 2019 (e-poster presentation).

CONFERENCE & WORKSHOP PROCEEDINGS: SELECTED CO-AUTHORSHIP

ISMRM 2023 — "*Decomposition of clinical ADC into intracellular and extracellular-extravascular contributions in prostate cancer using histology*". Garcia-Ruiz A et al. ISMRM 2023 (oral presentation).

ENA Symposium 2022 — "*Non-invasive biomarkers for response and survival prediction in patients with advanced solid tumours treated with immune checkpoint inhibitors (ICIs)*". Bernatowicz K et al. European Journal of Cancer 174S1 (2022) S3–S128, doi: 10.1016/S0959-8049(22)00988-1 (EORTC-NCI-AACR (ENA) Symposium, 2022 October 26-28, Barcelona, Spain; poster presentation).

ISMRM Workshop 2022 — "*Decoding liver intra-tumour heterogeneity with co-localized CT and multi-parametric MRI*". Prior Palomares O, Grussu F, et al. ISMRM Workshop on Diffusion MRI *From Research to Clinic* 2022 (oral presentation).

ISMRM 2022b — "*Deep-learning-informed parameter estimation improves reliability of spinal cord diffusion MRI*". Gong T et al. ISMRM 2022 (oral presentation).

ISMRM 2022a — "*Deep learning voxelwise classification of primary central nervous system lymphoma using DSC-PWI normalized time-intensity curves*". Garcia-Ruiz A et al. ISMRM 2022 (d-poster presentation).

ISMRM 2021 — "*Associations between cervical cord sodium concentration, neuronal density and macromolecular tissue volume in spinal cord injury*". Solanky B et al. ISMRM 2021 (oral presentation).

ISMRM 2020 — "*Acquiring and predicting MUlti-dimensional DIffusion (MUDI) data: an open challenge*". Pizzolato M et al. ISMRM 2020 (oral presentation).

ISMRM 2020b — "*New potential MRI markers of glial scarring and tissue damage in multiple sclerosis spinal cord pathology using diffusion MRI*". Palombo M et al. ISMRM 2020 (power-pitch presentation).

ISMRM 2020a — "*SENSE reconstruction with simultaneous 2D phase correction and channel-wise noise removal (SPECTRE)*". Powell E et al. ISMRM 2020 (d-poster presentation).

ISMRM 2020 — "*Quantitative MRI of the spinal cord: reproducibility and normative values across 40 sites*". Alonso-Ortiz E L et al. ISMRM 2020 (oral presentation).

ISMRM 2019b — "*Cross-scanner and cross-protocol harmonisation of multi-shell diffusion MRI data: open challenge and evaluation results*". Ning L et al. ISMRM 2019 (oral presentation).

ISMRM 2019a "*Bound Pool Fraction mapping via steady-state MT saturation using single-shot EPI*". Battiston M et al. ISMRM 2019 (oral presentation).

ISMRM 2018b "*Cross-vendor and cross-protocol harmonisation of diffusion MRI data: a comparative study*". Tax C et al. ISMRM 2018 (oral presentation).

ISMRM 2018a "*Consensus acquisition protocol for quantitative MRI of the cervical spinal cord at 3T*". Alley S et al. ISMRM 2018 (oral presentation).

ECTRIMS 2017c "*Application of Neurite Orientation Dispersion and Density Imaging (NODDI) in clinically isolated syndrome (CIS)*". Collorone S et al. ECTRIMS 2017 (poster presentation).

ISMRM 2017b "*Boundary shift integral to compute brain and cervical spinal cord longitudinal atrophy on the same 3D T1 brain images in multiple sclerosis*". Prados F et al. ISMRM 2017 (oral presentation).

ISMRM 2017a "*Impact of acquisition strategies and spherical deconvolution algorithms on brain connectivity mapping in early multiple sclerosis*". Tur C et al. ISMRM 2017 (oral presentation).

ECTRIMS 2016b "*Computing spinal cord atrophy using the boundary shift integral: a more powerful outcome measure for clinical trials?*". Prados F et al. ECTRIMS 2016 (poster presentation).

ECTRIMS 2016a "*Neurite orientation dispersion and density imaging (NODDI) reflects early microstructural brain tissue changes in clinically isolated syndrome (CIS)*". Collorone S et al. ECTRIMS 2016 (poster presentation).

ISMRM 2016b "*Reduced field-of-view diffusion-weighted imaging of the lumbosacral enlargement: a pilot* in vivo *study of the healthy spinal cord using a clinical 3T MR system*". Yiannakas M et al. ISMRM 2016 (e-poster presentation).

ISMRM 2016a "*Atrophy computation in the spinal cord using the boundary shift integral*". Prados F et al. ISMRM 2016 (oral presentation).

AAN 2016b "*No Differences in spinal cord white and grey matter diffusion abnormalities between neuromyelitis optica spectrum disorder and multiple sclerosis*". Cortese R et al. American Accademy of Neurology (AAN) 2016 (poster presentation).

AAN 2016a "*Neurite orientation dispersion and density imaging (NODDI) at the onset of clinically isolated syndrome (CIS): new insights in the early microstructural brain tissue changes*". Collorone S et al. AAN 2016 (dual presentation).

ISMRM 2015 "*Combined sodium-NODDI: towards quantitative* in vivo *intracellular and intraneurite sodium measures at 3T*". Solanky B et al. ISMRM 2015 (e-poster presentation).

ISMRM 2014 "*An investigation of brain neurite density and dispersion in multiple sclerosis using single shell diffusion imaging*". Magnollay L et al. ISMRM 2014 (poster presentation).

ECTRIMS 2013 "*Application of neurite orientation dispersion and density imaging (NODDI) to relapsing remitting multiple sclerosis (RRMS)*". Magnollay L et al. ECTRIMS 2013 (poster presentation).

ECTRIMS 2013 "*Neurite orientation dispersion and density imaging in the multiple sclerosis spinal cord*". Kearney H et al. ECTRIMS 2013 (e-poster presentation).

NCM 2012 "*Algorithms for shaping the dynamics of a bidirectional neural interface*". Semprini M et al. Society for the Neural Control of Movement (NCM) 2012 (poster presentation).