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 THE 12/12/2025

h-index

Google Scholar h-index: 25. Web of Science h-index: 19.

Citations

Total Google Scholar citations: 2448. Web of Science citations: 1448.

FUNDING: PROJECT GRANTS

CaixaResearch 2025

CaixaResearch Institute Innovation Hub 2025. CaixaResearch Institute, Barcelona (Spain). "*Computational Magnetic Resonance for metastatic prostate cancer*". **Award**: €30,000. **Role**: principal investigator. **Duration**: 01/01/2026-31/12/2026. Competitive call open to researchers from Innovation Hub institutions (VHIO; IrsiCaixa; ISGlobal; BarcelonaBeta).

AEI Generación de Conocimiento/ Knowledge Generation 2024

2024 Knowledge Generation Projects (*Proyectos de Generación de Conocimiento*), National Research Agency (*Agencia Estatal de Investigación* (AEI)), Ministry of Science, Innovation and Universities, Spain. "*Magnetic Resonance Imaging (MRI) foundational artificial intelligence for non-invasive, histologically-meaningful cancer characterisation (MRI-Found-Histo)*". **Award**: €118,750. **Role**: principal investigator. **Duration**: 01/09/2025-31/08/2028. **Code**: PID2024-158670OA-I00.

UCL pump-priming award 2017

Departmental seed grant. 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**: principal investigator. **Duration**: 01/07/2017-30/06/2018.

FUNDING: FELLOWSHIPS AND STUDENTSHIPS

"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 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. **Description:** PhD studentship covering a 3-year student stipend, tuition fees at UK/EU rate, and research costs. **Duration:** 09/2012-12/2015.

SCIENTIFIC ARTICLES AND REVIEWS — SENIOR AUTHORSHIP

Comm Bio 2025 — "*Histology-informed microstructural diffusion simulations for MRI cancer characterisation — the Histo-microSim framework*". Grigoriou A et al, Grussu F. Communications Biology (2025), 8: 1695, doi: 10.1038/s42003-025-09096-3. Senior (last) author, corresponding author.

MedIA 2025 — "*SpinFlowSim: a blood flow simulation framework for histology-informed diffusion MRI microvasculature mapping in cancer*". Voronova AK et al, Grussu F. Medical Image Analysis (2025), 102: 103531, doi: 10.1016/j.media.2025.103531. Senior (last) author, corresponding author.

JMRI 2025 — "*Enhancing tumor microstructural quantification with machine learning and diffusion-relaxation MRI* ". Macarro C et al, Grussu F. Journal of Magnetic Resonance Imaging (2025), 61(2): 1018-1021, doi: 10.1002/jmri.29484. Senior (last) author, corresponding author.

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. Senior (last) author, corresponding author.

Front Neurol 2021 — "*Comparison of neurite orientation dispersion and density imaging and two-compartment spherical mean technique parameter maps in multiple sclerosis*". Johnson D et al, Grussu F. Frontiers in Neurology (2021), 12: 662855, doi: 10.3389/fneur.2021.662855. Senior (last) author.

SCIENTIFIC ARTICLES AND REVIEWS — (CO)-FIRST AUTHORSHIP

J Immunother Cancer 2025 — "*Integrating C-reactive protein llare and early MRI dynamics for enhanced prediction of immunotherapy response*". Navarro D*, Grussu F* et al. Journal for ImmunoTherapy of Cancer (2025), accepted (in production), doi: 10.1136/jitc-2025-012143. *: DN and FG are joint first authors (equal contribution).

Comm Med 2025 — "*Clinically feasible liver tumour cell size measurement through histology-informed in vivo diffusion MRI*". Grussu F et al. Communications Medicine (2025), published 20/11/2025 (in press), doi: 10.1038/s43856-025-01246-2. Corresponding author.

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 — CO-AUTHORSHIP

JMRI 2025

"*The sense of smell (SoS) atlas: its creation and first application to investigate COVID-19 related anosmia with a comprehensive quantitative MRI protocol*". Gaviraghi M, ..., Grussu F et al. Journal of Magnetic Resonance Imaging (2025), e-pub ahead of print, doi: 10.1002/jmri.70128.

Eur Radiol 2025

Review: "*ESR Essentials: diffusion-weighted MRI—practice recommendations by the European Society for Magnetic Resonance in Medicine and Biology*". Palombo M, Bodini B, Grussu F et al. European Radiology (2025), e-pub ahead of print, doi: 10.1007/s00330-025-12033-x.

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), 93(6): 2561-2582, 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), 93(6): 2535-2560, 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), 93(6): 2507-2534, doi: 10.1002/mrm.30429.

Imag Neurosci 2025

"*Body size and intracranial volume interact with the structure of the central nervous system: A multi-center in vivo neuroimaging study*". Labounek R, ... Grussu F et al. Imaging Neuroscience (2025), 3: 00559, doi: 10.1162/imag_a_00559.

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 (2020), 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.

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.

AWARDS IN SUPERVISORY ROLES

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

BSC 2025 — "*Histology-informed computer simulations enhance Magnetic Resonance Imaging (MRI) virtual biopsies in cancer*". "Severo Ochoa Research Seminar", Barcelona Supercomputing Center (BSC), Barcelona, Spain, 13/11/2025.

ODELIA Summer School 2025 — "*An overview of Magnetic Resonance Imaging (MRI): from basic principles to cutting-edge applications*". ODELIA consortium on open source swarm learning to empower medical AI. "2025 ODELIA Summer School", Vall d'Hebron Institute of Oncology (VHIO), Barcelona, Spain, 18/09/2025.

ISMRM Iberian Chapter 2025 — "*Quantitative imaging and AI Automation*". International Society for Magnetic Resonance in Medicine (ISMRM), 2025 annual meeting of the Iberian Chapter. "2025 ISMRM Iberian Chapter pre-conference Summer School", Institut de Bioenginyeria de Catalunya (IBEC), Barcelona (Spain), 02/07/2025.

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.

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

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.

MODERATION OF SCIENTIFIC SESSIONS

ISMRM Iberian Chapter 2025 — **Moderator** of oral scientific session "Clinical session", 03/07/2025, 2025 annual meeting of the Iberian Chapter of the International Society for Magnetic Resonance in Medicine (ISMRM), Barcelona (Spain).

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

ISMRM 2021b — **Moderator** of oral scientific session "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 EVALUATION PANELS

Research Council of Finland 2025 — **Grant reviewer** for the Research Council of Finland, 2025 Call for Clinical Research (online evaluation).

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 (in person in Lausanne). Role: external examiner. Degree: PhD. Department: Center for Biomedical Imaging (CIBM), EPFL. Thesis link here.

ORGANISATION OF SCIENTIFIC EVENTS

ISMRM Iberian Chapter 2025 — **ISMRM Iberian Chapter:** 2025 annual meeting of the Iberian Chapter of the International Society for Magnetic Resonance in Medicine (ISMRM) (Barcelona, scheduled for 3-4/07/2025). **Organisers:** Marco Rius I (IBEC), Ortega Machuca MA (IBEC), Candiota AP (UAB), Julià-Sapé M (UAB), Muñoz Moreno E (IDIBAPS), Lope-Piedrafita S (UAB), Barba Vert I (UVic), Benito M (UCM), Grussu F (VHIO), Gómez Cabeza D (IBEC).

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,

Spain, 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, Canada, 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 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, 2022 ISMRM annual meetings; 2021 ISMRM Iberian Chapter post-grad meeting; 2021, 2025 Iberian Chapter annual meeting; 2019, 2020 MICCAI workshop on Computational Diffusion MRI.

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 Iberian Chapter 2025

"*Simplicity is a virtue: histology-informed model comparison selects simple diffusion representations in a colorectal cancer metastasis specimen*". Grigoriou A, ..., and Grussu F. 2025 ISMRM Iberian Chapter annual meeting, p.49 (poster presentation). **2nd prize for the best poster presentation.**

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).

December 12, 2025