

Alessandro Daducci, PhD

ASSOCIATE PROFESSOR
Computer Science department
University of Verona, Italy

Birth: 23 March 1978
Nationality: Italian

Email: alessandro.daducci@univr.it
Website: www.di.univr.it

Summary

- 106 journal papers (11 as first author), 50+ conference papers, 9933 citations, h-index 40.
- 10 international workshops/schools organization, many international active collaborations.
- 7 PhD students active supervision (several M.Sc. and B.Sc. students).
- € 680K research grants as main applicant.
- € 1.4M research grants as co-applicant.

Research

Research interests

- Development of advanced algorithms and models for improving the quality of brain connectivity estimates.
- Investigation of brain connectivity alterations in a wide range of neurological pathologies.

Research experience

NOV 2016 – DEC 2017	Invited researcher at the Radiology Department, University Hospital Center (CHUV), Switzerland
FEB 2016 – OCT 2016	Chargé de recherche at the Radiology Department, University Hospital Center (CHUV), Switzerland
FEB 2015 – JAN 2016	Post-doctoral researcher at the Sherbrooke Connectivity Imaging Lab (SCIL), University of Sherbrooke, Quebec, Canada MAIN PROJECTS: convex optimization modeling for microstructure imaging, microstructure informed tractography, improving tractography in superficial white matter, microstructure-driven tractography. SUPERVISOR: Prof. Maxime Descoteaux
JUL 2014 – JAN 2015	Senior post-doctoral researcher at the Radiology Department, University Hospital Center (CHUV), Switzerland MAIN PROJECTS: convex optimization modeling for microstructure imaging, microstructure informed tractography. SUPERVISOR: Prof. Jean-Philippe Thiran
MAY 2010 – JUN 2014	Post-doctoral researcher at the Signal Processing Institute, Swiss Federal Institute of Technology (EPFL), Switzerland MAIN PROJECTS: diffusion MRI acquisition and reconstruction, fiber-tracking and applications to clinical studies. SUPERVISOR: Prof. Jean-Philippe Thiran
DEC 2010 – AUG 2012	Post-doctoral researcher at the Advanced Clinical Imaging Technology group, Swiss Federal Institute of Technology (EPFL), Switzerland MAIN PROJECTS: structural MRI, quantitative T1, T2* and MTR mapping and applications to clinical studies. SUPERVISOR: Dr. Gunnar Krueger and Prof. Cristina Granziera

APR 2009 – APR 2010	Research fellowship from the University of Verona, Italy ($\approx$ €18K) PROJECT: "Definition of non-invasive methodologies for iron detection in biological tissues".
APR 2009 – DEC 2009	Internship at the Signal Processing institute of the Swiss Federal Institute of Technology (EPFL), Switzerland PROJECT: "Post-stroke plasticity characterization with Diffusion Spectrum MRI". SUPERVISOR: Prof. Jean-Philippe Thiran
AUG 2007 – APR 2009	Research fellowship from the University of Verona, Italy ($\approx$ €30K) PROJECT: "Morphometric, MRI and optics images co-registration".
Nov 2006 – JUL 2007	Scholarship from the University of Verona, Italy ($\approx$ €9K) PROJECT: "Analysis of images acquired using experimental MRI contrast agents".
MAY 2006 – OCT 2006	Scholarship from the University of Verona, Italy ($\approx$ €6K) PROJECT: "Functional neuroimaging techniques for preclinical research".
MAR 2006 – APR 2006	Internship at the MRI laboratory of the University of Verona, Italy PROJECT: "Implementation of an MRI acquisition sequence for Chemical Shift Imaging to separate fat/water signals". SUPERVISOR: Prof. Pasquina Marzola

Organization of workshops/conferences

DEC 2020	ORGANIZING COMMITTEE, workshop on " Myelin imaging: state of the art and challenges ", that took place virtually (due to COVID-19 pandemic) on December 11 th , 2020.
JUN 2018	ORGANIZING COMMITTEE, workshop on " Axon diameter mapping with dMRI ", that took place in Paris (France) on June 22 nd , 2018.
JUN 2018	ORGANIZING COMMITTEE, member-initiated symposium on " Non-invasive axon diameter mapping: So fascinating, so challenging and so many questions ", that took place in Paris (France) on June 18 th , 2018 in the context of the International Society for Magnetic Resonance in Medicine (ISMRM 2018).
OCT 2017	ORGANIZING COMMITTEE, " Summer school on Brain Connectomics ", that took place in Verona (Italy) from 9 th to 13 th October 2017.
JUN 2015	ORGANIZING COMMITTEE, " ISMRM 2015 Tractography Challenge ", that took place in Toronto (Canada) on June 1 st , 2015 in the context of the International Society for Magnetic Resonance in Medicine (ISMRM 2015).
MAY 2014	ORGANIZING COMMITTEE, " Verona Diffusion Workshop ", that took place in Verona (Italy) on May 16 th , 2014.
APR 2013	ORGANIZING COMMITTEE AND CHAIR, workshop on " high angular resolution diffusion MR imaging (HARDI) reconstruction techniques ", that took place in San Francisco (USA) on April 7 th , 2013 in the context of the IEEE International Symposium on Biomedical Imaging (ISBI 2013).
JAN 2013	LOCAL ORGANIZING COMMITTEE, " Biomedical and Astronomical Signal Processing (BASP) frontiers " workshop, that took place in Villars-sur-Ollon (Switzerland) from January 27 th to 1 st February 2013.
MAY 2012	ORGANIZING COMMITTEE AND CHAIR, workshop on " high angular resolution diffusion MR imaging (HARDI) reconstruction techniques ", that took place in Barcelona (Spain) on May 2 nd , 2012 in the context of the IEEE International Symposium on Biomedical Imaging (ISBI 2012).
SEP 2011	LOCAL ORGANIZING COMMITTEE, international " Biomedical and Astronomical Signal Processing (BASP) frontiers " workshop, that took place in Villars-sur-Ollon (Switzerland) from 4 th to 9 th September 2011.

Funding

As principal investigator

2023	THE ITALIAN MINISTRY OF UNIVERSITY AND RESEARCH (MUR) "Functionally and Anatomically Informed Tractography of the Human brain (FAITH)" Daducci A, Jovicich J, Inglese M ≈ EUR 205 000 (over 2 years)
2020	COMPUTER SCIENCE DEPARTMENT, UNIVERSITY OF VERONA "Development and validation of advanced tractography algorithms for accurate brain connectivity analysis in presence of pathological conditions" Daducci A, Granziera C ≈ EUR 48 000 (over 2 years)
2019	BRAIN RESEARCH FOUNDATION VERONA "Development and validation of novel methods for the joint modeling of structural and functional brain connectivity" Daducci A ≈ EUR 12 000 (over 1 year)
2016	COMPUTER SCIENCE DEPARTMENT, UNIVERSITY OF VERONA "Towards quantitative and biologically oriented connectivity analyses with multi-contrast MRI" Daducci A, Thiran J-P, Inglese M ≈ EUR 76 000 (over 2 years)
	FACULTÉ DE BIOLOGIE ET DE MÉDECINE, UNIVERSITY OF LAUSANNE "Development of advanced biophysical tissue-models for multi-contrast MRI for the microstructural characterization of axonal damage using a murine model of multiple sclerosis" Daducci A, Pot C, Kunz N ≈ EUR 187 000 (over 2 years)
	THE ITALIAN MINISTRY OF UNIVERSITY AND RESEARCH (MUR) Rita Levi Montalcini program for young researchers Daducci A ≈ EUR 200 000 (over 3 years)

As co-investigator

2022	PHARMACEUTICAL COMPANY Details cannot be disclosed due to a Confidential Disclosure Agreement between the parts. ≈ EUR 200 000 (over 2 years)
2021	TELETHON FOUNDATION "Corticospinal tract microstructural integrity and its correlation with clinical and molecular biomarkers: a profilometry MRI study to identify in-vivo biomarkers of disease severity in ARSACS" Cocozza S, Daducci A ≈ EUR 31 000 (over 1 year)
2019	QUEBEC BIO-IMAGING NETWORK "Microstructure-informed tractography: using orientation-specific T1 maps to inform tractography in areas of crossing fibres" Tardif C, Descoteaux M, Pike B, Daducci A ≈ EUR 12 000 (over 1 year)
2016	AUSTRALIAN RESEARCH COUNCIL, DISCOVERY PROJECTS "Exploring Brain Structure: Advancing Diffusion Magnetic Resonance Imaging using Spherical Signal Processing" Kennedy R, Sadeghi P, Daducci A ≈ EUR 265 000 (over 3 years)

2014	SWISS NATIONAL SCIENCE FOUNDATION "Towards micro-structure-based tractography for quantitative brain connectivity analysis" Thiran JP, Daducci A ≈ EUR 365 000 (over 3 years) SWISS NATIONAL SCIENCE FOUNDATION "Quantitative characterization of the connectome in the progression of psychosis" Hagmann P, Conus P, Thiran JP, Daducci A ≈ EUR 465 000 (over 3 years)
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Education

APR 2010	Ph.D. in "Multimodal imaging in biomedicine" from the University of Verona, Italy THESIS: "Advanced image-processing techniques in Magnetic Resonance Imaging for the investigation of brain pathologies and tumour angiogenesis". SUPERVISORS: Prof. Pasquina Marzola & Prof. Andrea Sbarbati
APR 2006	Academic master in "Biomedical data processing and remote-control in medicine" from the University of Verona, Italy COURSE TOPICS: introduction to imaging modalities, image processing techniques, robotics, data mining etc.
SEP 2004	M.Sc. in Computer Science with full marks (110/110 cum laude) from the University of Verona, Italy THESIS: "Analysis and simulation of a genetic algorithm in the finite population case". SUPERVISOR: Dr. Roberto Posenato

Short courses

MAY 2008	"Image Registration – 2D, 3D, Rigid and Deformable Scenes" from April 28th to May 16th, 2008. INSTRUCTOR: Prof. Adrien Bartoli, LASMEA laboratory, Clermont-Ferrand, France.
APR 2007	"ParaVision Programming Course" from April 16th to 20th, 2007 at Bruker BioSpin GmbH, Germany. COURSE TOPIC: sequence programming for MRI acquisitions.
JUL 2006	"Magnetic Resonance for Imaging" from 5th to 7th July, 2006 at Bruker Biospin srl, Italy. COURSE TOPIC: introduction to magnetic resonance imaging and acquisition sequences.

Skills

LANGUAGES	Italian (mother tongue) English (fluent, written and spoken) French (basic)
PROGRAMMING	Python, Cython C/C++, OpenGL, Matlab, mex, shell scripting, html, PHP, MySQL/PostgreSQL.

Teaching

2010 – PRESENT	ACTIVE SUPERVISION of 7 PhD students and several M.Sc. ad B.Sc. students.
2016 – PRESENT	BIOMEDICAL IMAGE PROCESSING (M.Sc.), instructor. University of Verona, Italy.
2017 – PRESENT	IMAGE PROCESSING (B.Sc.), instructor. University of Verona, Italy.

2009 – 2011	IMAGE PROCESSING, teaching assistant. Swiss Federal Institute of Technology (EPFL), Switzerland.
2009	HUMAN-COMPUTER INTERACTION, instructor. University of Verona, Italy.

List of publications

106 journal papers (11 as first author), 50+ conference papers, 9933 citations, h-index 40.

For the full list of publications, please see: scholar.google.com

Peer-Reviewed Journal Articles

- [J1] C. Beaulieu, A. **Daducci**, H. Mayberg, A. Leemans. *"Due to difference in anatomical definitions, population variability and tractography methods, it will not be possible to standardize brain tractography for users, or will it?"*, BRAIN STRUCTURE FUNCTION 230(4):1–4 (2025)
- [J2] S. Bosticardo, M. Battocchio, M. Ocampo-Pineda, A. Cagol, L. Po-Jui, E. Ruberte, N. D. Oliveira S Siebenborn, X. Chen, L. Melie-Garcia, M. Weigel, L. Kappos, J. Kuhle, A. **Daducci**, C. Granziera. *"TIME: Tractography-Informed myelin estimation"*, NEUROIMAGE. CLINICAL 48:1–10 (2025)
- [J3] S. Bosticardo, M. Battocchio, S. Schiavi, A. Zalesky, C. Granziera, A. **Daducci**. *"A multi-compartment model for pathological connectomes"*, NETWORK NEUROSCIENCE 9(4):1245–1263 (2025)
- [J4] A. **Daducci**, S. Schiavi. *"Quantitative tractography: joys and sorrows"*, BRAIN STRUCTURE FUNCTION 230(6):1–4 (2025)
- [J5] A. Griffo, F. Rheault, A. **Daducci**, A. Zalesky. *"A thousand ways to tailor your tractography-based connectome"*, BRAIN STRUCTURE FUNCTION 230(7):1–6 (2025)
- [J6] H. M. Kjer, M. Andersson, H. Yi, A. Pacureanu, A. **Daducci**, M. Pizzolato, T. Salditt, A.-L. Robisch, M. Eckermann, M. Töpperwien, A. Bjorholm Dahl, M. L. Elkjær, Z. Illes, M. Ptito, V. Andersen Dahl, T. B. Dyrby. *"Bridging the 3D geometrical organisation of white matter pathways across anatomical length scales and species"*, ELIFE 13:1–35 (2025)
- [J7] A. Scaravilli, G. Mari, I. Gabusi, M. Battocchio, S. Bosticardo, S. Schiavi, B. Bender, C. Kessler, R. La Piana, B. P. Van De Warrenburg, M. Cosottini, D. Timmann, A. **Daducci**, R. Schüle, M. Synofzik, F. M. Santorelli, S. Coccozza. *"An Investigation of Corticospinal Tract Microstructural Integrity in ARSACS Using a Profilometry MRI Analysis: Results From the PROSPAX Study"*, EUROPEAN JOURNAL OF NEUROLOGY 32(4):1–11 (2025)
- [J8] L. Wen Da, M. C. Nelson, I. R. Leppert, J. S. W. Campbell, S. Schiavi, G. B. Pike, C. D. Rowley, A. **Daducci**, C. L. Tardif. *"Mapping the aggregate g-ratio of white matter tracts using multi-modal MRI"*, IMAGING NEUROSCIENCE 3:1–20 (2025)
- [J9] A. Arrigoni, M. Previtali, S. Bosticardo, G. Pezzetti, S. Poloni, S. Capelli, A. Napolitano, A. Remuzzi, R. Zangari, F. L. Lorini, M. Sessa, A. **Daducci**, A. Caroli, S. Gerevini. *"Brain microstructure and connectivity in COVID-19 patients with olfactory or cognitive impairment"*, NEUROIMAGE. CLINICAL 43:1–1 (2024)
- [J10] S. Bosticardo, L. Po-Jui, I. Tagge, B. Zhu, S. Schädelin, A. **Daducci**, C. Granziera. *"An Investigation of Myelin Streamline Decomposition of Brain Networks in the SYNERGY Trial (P9-6.018)"*, NEUROLOGY 102(7_{supplement1}):1–12 (2024)
- [J11] S. Coccozza, S. Bosticardo, M. Battocchio, L. Corben, M. Delatycki, G. Egan, N. Georgiou-karistianis, S. Monti, G. Palma, C. Pane, F. Saccà, S. Schiavi, L. Selvadurai, M. Tranfa, A. **Daducci**, A. Brunetti, I. H. Harding. *"Gradient of microstructural damage along the dentato-thalamo-cortical tract in Friedreich ataxia"*, ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY 11(7):1691–1702 (2024)
- [J12] I. Gabusi, M. Battocchio, S. Bosticardo, S. Schiavi, A. **Daducci**. *"Blurred streamlines: A novel representation to reduce redundancy in tractography"*, MEDICAL IMAGE ANALYSIS:103101 (2024)
- [J13] S. Genc, S. Schiavi, M. Chamberland, C. M. W. Tax, E. P. Raven, A. **Daducci**, D. K. Jones. *"Developmental differences in canonical cortical networks: insights from microstructure-informed tractography"*, NETWORK NEUROSCIENCE(3):1–48 (2024)
- [J14] S. Obaid, G. I. Guberman, E. St-Onge, E. Campbell, M. Edde, L. Lamsam, A. Bouthillier, A. G. Weil, A. **Daducci**, F. Rheault, D. K. Nguyen, M. Descoteaux. *"Progressive remodeling of structural networks following surgery for operculo-insular epilepsy"*, FRONTIERS IN NEUROLOGY 15:1–15 (2024)
- [J15] A. Scaravilli, I. Gabusi, G. Mari, M. Battocchio, S. Bosticardo, S. Schiavi, B. Bender, C. Kessler, B. Brais, R. La Piana, B. P. Warrenburg, M. Cosottini, D. Timmann, A. **Daducci**, R. Schüle, M. Synofzik, F. M. Santorelli, S. Coccozza, N. Null. *"An MRI evaluation of white matter involvement in paradigmatic forms of spastic ataxia: results from the multi-center PROSPAX study"*, JOURNAL OF NEUROLOGY(8):1–1 (2024)
- [J16] S. Bosticardo, S. Schiavi, S. Schaedelin, M. Battocchio, M. Barakovic, P.-J. Lu, M. Weigel, L. Melie-Garcia, C. Granziera, A. **Daducci**. *"Evaluation of tractography-based myelin-weighted connectivity across the lifespan"*, FRONTIERS IN NEUROSCIENCE 17 (2023)

- [J17] G. Girard, J. Rafael-Patiño, R. Truffet, D. B. Aydogan, N. Adluru, V. A. Nair, V. Prabhakaran, B. B. Bendlin, A. L. Alexander, S. Bosticardo. *"Tractography passes the test: Results from the diffusion-simulated connectivity (DiSCo) challenge"*, NEUROIMAGE 277:120231 (2023)
- [J18] I. R. Leppert, P. Bontempi, C. D. Rowley, J. S. Campbell, M. C. Nelson, S. Schiavi, G. B. Pike, A. **Daducci**, C. L. Tardif. *"Dual-encoded magnetization transfer and diffusion imaging and its application to tract-specific microstructure mapping"*, IMAGING NEUROSCIENCE 1:1–17 (2023)
- [J19] M. C. Nelson, J. Royer, W. D. Lu, I. R. Leppert, J. S. Campbell, S. Schiavi, H. Jin, S. Tavakol, R. Vos de Wael, R. Rodriguez-Cruces. *"The human brain connectome weighted by the myelin content and total intra-axonal cross-sectional area of white matter tracts"*, NETWORK NEUROSCIENCE 7(4):1363–1388 (2023)
- [J20] T. Sarwar, K. Ramamohanarao, A. **Daducci**, S. Schiavi, R. E. Smith, A. Zalesky. *"Evaluation of tractogram filtering methods using human-like connectome phantoms"*, NEUROIMAGE 281:120376 (2023)
- [J21] A. Wenger, M. Barakovic, S. Bosticardo, S. Schaedelin, A. **Daducci**, S. Schiavi, M. Weigel, R. Rahmanzadeh, P.-J. Lu, A. Cagol. *"An investigation of the association between focal damage and global network properties in cognitively impaired and cognitively preserved patients with multiple sclerosis"*, FRONTIERS IN NEUROSCIENCE 17:1007580 (2023)
- [J22] M. Battocchio, S. Schiavi, M. Descoteaux, A. **Daducci**. *"Bundle-o-graphy: improving structural connectivity estimation with adaptive microstructure-informed tractography"*, NEUROIMAGE 263:119600 (2022)
- [J23] M. Bergamino, S. Schiavi, A. **Daducci**, R. R. Walsh, A. M. Stokes. *"Analysis of Brain Structural Connectivity Networks and White Matter Integrity in Patients With Mild Cognitive Impairment"*, FRONTIERS IN AGING NEUROSCIENCE 14 (2022)
- [J24] S. Bosticardo, S. Schiavi, S. Schaedelin, P.-J. Lu, M. Barakovic, M. Weigel, L. Kappos, J. Kuhle, A. **Daducci**, C. Granziera. *"Microstructure-weighted connectomics in multiple sclerosis"*, BRAIN CONNECTIVITY 12(1):6–17 (2022)
- [J25] E. Fischì Gomez, G. Girard, P. J. Koch, T. Yu, M. Pizzolato, J. Brügger, G. F. Piredda, T. Hilbert, A. G. Cadic-Melchior, E. Beanato. *"Variability and reproducibility of multi-echo T2 relaxometry: Insights from multi-site, multi-session and multi-subject MRI acquisitions"*, FRONTIERS IN RADIOLOGY (2022)
- [J26] I. Gabusi, G. Pontillo, M. Petracca, M. Battocchio, S. Bosticardo, T. Costabile, A. **Daducci**, C. Pane, E. Riccio, A. Pisani. *"Structural disconnection and functional reorganization in Fabry disease: a multimodal MRI study"*, BRAIN COMMUNICATIONS 4(4):fcac187 (2022)
- [J27] P. J. Koch, G. Girard, J. Brügger, A. G. Cadic-Melchior, E. Beanato, C.-H. Park, T. Morishita, M. J. Wessel, M. Pizzolato, E. J. Canales-Rodríguez. *"Evaluating reproducibility and subject-specificity of microstructure-informed connectivity"*, NEUROIMAGE 258:119356 (2022)
- [J28] C. Maffei, G. Girard, K. G. Schilling, D. B. Aydogan, N. Adluru, A. Zhylka, Y. Wu, M. Mancini, A. Hamamci, A. Sarica. *"Insights from the IronTract challenge: optimal methods for mapping brain pathways from multi-shell diffusion MRI"*, NEUROIMAGE 257:119327 (2022)
- [J29] R. Rahmanzadeh, R. Galbusera, P.-J. Lu, E. Bahn, M. Weigel, M. Barakovic, J. Franz, T. D. Nguyen, P. Spincemaille, S. Schiavi. *"A new advanced MRI biomarker for remyelinated lesions in multiple sclerosis"*, ANNALS OF NEUROLOGY 92(3):486–502 (2022)
- [J30] F. Rheault, K. G. Schilling, A. Valcourt-Caron, A. Théberge, C. Poirier, G. Grenier, G. I. Guberman, J. Begnoche, J. H. Legarreta, L. Y Cai. *"Tractostorm 2: Optimizing tractography dissection reproducibility with segmentation protocol dissemination"*, HUMAN BRAIN MAPPING 43(7):2134–2147 (2022)
- [J31] V. Sairanen, M. Ocampo-Pineda, C. Granziera, S. Schiavi, A. **Daducci**. *"Incorporating outlier information into diffusion-weighted MRI modeling for robust microstructural imaging and structural brain connectivity analyses"*, NEUROIMAGE 247:118802 (2022)
- [J32] S. Schiavi, A. Azzari, A. Mensi, N. Graziano, A. **Daducci**, M. Bicego, M. Inglese, M. Petracca. *"Classification of multiple sclerosis patients based on structural disconnection: A robust feature selection approach"*, JOURNAL OF NEUROIMAGING (2022)
- [J33] S. Schiavi, L. Po-Jui, M. Weigel, A. Lutti, D. K. Jones, L. Kappos, C. Granziera, A. **Daducci**. *"Bundle myelin fraction (BMF) mapping of different white matter connections using microstructure informed tractography"*, NEUROIMAGE 249:118922 (2022)
- [J34] F. Zhang, A. **Daducci**, H. Yong, S. Schiavi, C. Seguin, R. E. Smith, C.-H. Yeh, T. Zhao, L. J. O'Donnell. *"Quantitative mapping of the brain's structural connectivity using diffusion MRI tractography: A review"*, NEUROIMAGE 249:118870 (2022)
- [J35] M. Barakovic, G. Girard, S. Schiavi, D. Romascano, M. Descoteaux, C. Granziera, D. K. Jones, G. M. Innocenti, J.-P. Thiran, A. **Daducci**. *"Bundle-Specific Axon Diameter Index as a New Contrast to Differentiate White Matter Tracts"*, FRONTIERS IN NEUROSCIENCE 15:646034 (2021)

- [J36] M. Barakovic, C. M. Tax, U. Rudrapatna, M. Chamberland, J. Rafael-Patino, C. Granziera, J.-P. Thiran, A. **Daducci**, E. J. Canales-Rodriguez, D. K. Jones. "Resolving bundle-specific intra-axonal T2 values within a voxel using diffusion-relaxation tract-based estimation", *NEUROIMAGE* 227:117617 (2021)
- [J37] P. Bontempi, R. Podda, A. **Daducci**, N. Sonato, P. Fattoretti, S. Fiorini, S. Tambalo, E. Mosconi, F. Merigo, M. Baliotti, P. Marzola. "MRI characterization of rat brain aging at structural and functional level: Clues for translational applications", *EXPERIMENTAL GERONTOLOGY* 152:1–8 (2021)
- [J38] E. J. Canales-Rodríguez, M. Pizzolato, G. F. Piredda, T. Hilbert, N. Kunz, C. Pot, Y. Thomas, R. Salvador, E. Pomarol-Clotet, T. Kober, J.-P. Thiran, A. **Daducci**. "Comparison of non-parametric T2 relaxometry methods for myelin water quantification", *MEDICAL IMAGE ANALYSIS* 69:101959 (2021)
- [J39] L. Po-Jui, M. Barakovic, M. Weigel, R. Rahmzadeh, R. Galbusera, S. Schiavi, A. **Daducci**, F. La Rosa, M. Bach Cuadra, R. Sandkühler, J. Kuhle, L. Kappos, P. Cattin, C. Granziera. "GAMER-MRI in Multiple Sclerosis Identifies the Diffusion-Based Microstructural Measures That Are Most Sensitive to Focal Damage: A Deep-Learning-Based Analysis and Clinico-Biological Validation", *FRONTIERS IN NEUROSCIENCE* 15:647535 (2021)
- [J40] C. Leuze, M. Goubran, M. Barakovic, M. Aswendt, Q. Tian, B. Hsueh, A. Crow, E. Weber, G. Steinberg, M. Zeineh, E. Plowey, A. **Daducci**, G. Innocenti, J.-P. Thiran, K. Deisseroth, J. McNab. "Comparison of diffusion MRI and CLARITY fiber orientation estimates in both gray and white matter regions of human and primate brain", *NEUROIMAGE* 228:117692 (2021)
- [J41] P.-J. Lu, Y. Yoo, R. Rahmzadeh, R. Galbusera, M. Weigel, P. Ceccaldi, T. D. Nguyen, P. Spincemille, Y. Wang, A. **Daducci**, F. La Rosa, M. Bach Cuadra, R. Sandkühler, K. Nael, A. Doshi, Z. A. Fayad, J. Kuhle, L. Kappos, B. Odry, P. Cattin, E. Gibson, C. Granziera. "GAMER MRI: Gated-attention mechanism ranking of multi-contrast MRI in brain pathology", *NEUROIMAGE: CLINICAL* 29:102522 (2021)
- [J42] S. Obaid, F. Rheault, M. Edde, G. I. Guberman, E. St-Onge, J. Sidhu, A. Bouthillier, A. **Daducci**, J. Ghaziri, M. W. Bojanowski, D. K. Nguyen, M. Descoteaux. "Structural Connectivity Alterations in Operculo-Insular Epilepsy", *BRAIN SCIENCES* 11 (2021)
- [J43] M. Ocampo-Pineda, S. Schiavi, M. Barakovic, G. Girard, M. Descoteaux, J.-P. Thiran, A. **Daducci**. "Hierarchical microstructure informed tractography", *BRAIN CONNECT* (2021)
- [J44] M. Pesce, A. Repetti, A. Auria, A. **Daducci**, J.-P. Thiran, Y. Wiaux. "Fast Fiber Orientation Estimation in Diffusion MRI from kq-Space Sampling and Anatomical Priors", *JOURNAL OF IMAGING* 7 (2021)
- [J45] R. Rahmzadeh, L. Po-Jui, M. Barakovic, M. Weigel, P. Maggi, T. D. Nguyen, S. Schiavi, A. **Daducci**, F. La Rosa, S. Schaedelin, M. Absinta, D. S. Reich, P. Sati, Y. Wang, M. Bach Cuadra, E.-W. Radue, J. Kuhle, L. Kappos, C. Granziera. "Myelin and axon pathology in multiple sclerosis assessed by myelin water and multi-shell diffusion imaging", *BRAIN* 144:1684–96 (2021)
- [J46] K. G. Schilling. "Tractography dissection variability: What happens when 42 groups dissect 14 white matter bundles on the same dataset?", *NEUROIMAGE* 243:118502 (2021)
- [J47] A. P. Bates, A. **Daducci**, P. Sadeghi, E. Caruyer. "A 4D Basis and Sampling Scheme for the Tensor Encoded Multi-Dimensional Diffusion MRI Signal", *IEEE SIGNAL PROCESS LETT* 27:790–794 (2020)
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