

Alessandro Daducci, PhD

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Dipartimento di Informatica
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In breve

- 92 articoli su rivista (10 come primo autore), 50+ articoli a conferenza, 6884 citazioni, h-index 34.
- 10 convegni/scuole internazionali organizzate, svariate collaborazioni internazionali attive.
- 6 studenti di dottorato supervisionati attivamente (svariate tesi triennali e magistrali).
- € 680K di fondi raccolti come investigatore principale.
- € 1.4M di fondi raccolti come collaboratore.

Ricerca

Interessi di ricerca

- Sviluppo di algoritmi e modelli per migliorare la qualità delle stime di connettività cerebrale.
- Applicazione di tecniche ed algoritmi avanzati per studiare la connettività cerebrale in svariate patologie neurologiche.

Esperienze di ricerca

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

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

Organizzazione di conferenze/scuole

DIC 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.
GIU 2018	ORGANIZING COMMITTEE, workshop on " Axon diameter mapping with dMRI ", that took place in Paris (France) on June 22 nd , 2018.
GIU 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).
OTT 2017	ORGANIZING COMMITTEE, " Summer school on Brain Connectomics ", that took place in Verona (Italy) from 9 th to 13 th October 2017.
GIU 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).
MAG 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).
GEN 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.
MAG 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).
SET 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.

Fondi di ricerca

Come investigatore principale

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)

Come collaboratore

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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Educazione

APR 2010	Ph.D. in "Multimodal imaging in biomedicine", Università di Verona, Italia TESI: "Advanced image-processing techniques in Magnetic Resonance Imaging for the investigation of brain pathologies and tumour angiogenesis". SUPERVISORI: Prof. Pasquina Marzola & Prof. Andrea Sbarbati
APR 2006	Master di primo livello in "Biomedical data processing and remote-control in medicine", Università di Verona, Italia ARGOMENTI: introduction to imaging modalities, image processing techniques, robotics, data mining etc.
SET 2004	M.Sc. in Computer Science with full marks (110/110 e lode), Università di Verona, Italia TESI: "Analysis and simulation of a genetic algorithm in the finite population case". SUPERVISORE: Dr. Roberto Posenato

Corsi brevi

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

Competenze

LINGUE	Italiano (lingua madre) Inglese (fluente, scritto e orale) Francese (base)
PROGRAMMAZIONE	Python, Cython C/C++, OpenGL, Matlab, mex, shell scripting, html, PHP, MySQL/PostgreSQL.

Insegnamento

2010 – PRESENTE	SUPERVISIONE ATTIVA di 6 tesi di dottorato e svariati studenti triennali e magistrali.
2016 – PRESENTE	BIOMEDICAL IMAGE PROCESSING (M.Sc.), istruttore. Università di Verona, Italia.
2017 – PRESENTE	IMAGE PROCESSING (B.Sc.), istruttore. Università di Verona, Italia.
2009 – 2011	IMAGE PROCESSING, assistente. Swiss Federal Institute of Technology (EPFL), Svizzera.

Lista di pubblicazioni

92 articoli su rivista (10 come primo autore), 50+ articoli a conferenza, 6884 citazioni, h-index 34.

Per vedere la lista completa, si rimanda a: scholar.google.com

Peer-Reviewed Journal Articles

- [J1] 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)
- [J2] 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)
- [J3] 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)
- [J4] 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)
- [J5] 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)
- [J6] 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)
- [J7] 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)
- [J8] M. Battocchio, S. Schiavi, M. Descoteaux, A. **Daducci**. "Bundle-o-graphy: improving structural connectivity estimation with adaptive microstructure-informed tractography", NEUROIMAGE 263:119600 (2022)
- [J9] 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)
- [J10] 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)
- [J11] 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)
- [J12] 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)
- [J13] 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-Rodriguez. "Evaluating reproducibility and subject-specificity of microstructure-informed connectivity", NEUROIMAGE 258:119356 (2022)
- [J14] 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)
- [J15] R. Rahmanzadeh, R. Galbusera, P.-J. Lu, E. Bahn, M. Weigel, M. Barakovic, J. Franz, T. D. Nguyen, P. Spincemille, S. Schiavi. "A new advanced MRI biomarker for remyelinated lesions in multiple sclerosis", ANNALS OF NEUROLOGY 92(3):486–502 (2022)
- [J16] 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)
- [J17] 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)

- [J18] 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)
- [J19] 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)
- [J20] 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)
- [J21] 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)
- [J22] 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)
- [J23] 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)
- [J24] E. J. Canales-Rodriguez, 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)
- [J25] 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)
- [J26] 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)
- [J27] 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)
- [J28] 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)
- [J29] M. Ocampo-Pineda, S. Schiavi, M. Barakovic, G. Girard, M. Descoteaux, J.-P. Thiran, A. **Daducci**. "Hierarchical microstructure informed tractography", BRAIN CONNECT (2021)
- [J30] 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)
- [J31] 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)
- [J32] K. G. Schilling. "Tractography dissection variability: What happens when 42 groups dissect 14 white matter bundles on the same dataset?", NEUROIMAGE 243:118502 (2021)
- [J33] 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)
- [J34] S. Coccozza, S. Schiavi, G. Pontillo, M. Battocchio, E. Riccio, S. Caccavallo, C. Russo, T. Di Risi, A. Pisani, A. **Daducci**, A. Brunetti. "Microstructural damage of the cortico-striatal and thalamo-cortical fibers in Fabry disease: a diffusion MRI tractometry study", NEURORADIOLOGY (2020)
- [J35] M. Deprez, A. Price, D. Christiaens, G. Lockwood Estrin, L. Cordero-Grande, J. Hutter, A. **Daducci**, D. Tournier, M. Rutherford, S. Counsell, M. Bach Cuadra, J. V. Hajnal. "Higher order spherical harmonics reconstruction of fetal diffusion MRI with intensity correction", IEEE TRANS MED IMAGING 39(4):1104–1113 (2020)

- [J36] V. Nath, K. Schilling, P. Parvathaneni, A. E. Hainline, Y. Huo, J. A. Blaber, M. Rowe, P. Rodrigues, V. Prckovska, B. Aydogan, W. Sun, Y. Shi, W. Parker, A. A. O. Ismail, R. Verma, R. P. Cabeen, A. W. Toga, A. T. Newton, J. Wasserthal, P. Neher, K. H. Maier-Hein, G. Savini, F. Palesi, E. Kaden, Y. Wu, Y. Feng, J. He, M. Barakovic, D. Romascano, J. Rafael-Pinto, M. Frigo, G. Girard, A. **Daducci**, J.-P. Thiran, M. Paquette, F. M. Rheault, J. Sidhu, C. Lebel, A. Leemans, M. Descoteaux, T. Dyrby, H. Kang, B. A. Landman. *"Tractography Reproducibility Challenge with Empirical Data (TraCED): The 2017 ISMRM Diffusion Study Group Challenge"*, J MAGN RESON IMAGING 51(1):234–249 (2020)
- [J37] M. Petracca, S. Schiavi, M. Battocchio, M. M. El Mendili, L. Fleysher, A. **Daducci**, M. Inglese. *"Streamline density and lesion volume reveal a postero–anterior gradient of corpus callosum damage in multiple sclerosis"*, EUR J NEUROL 27(6):1076–1082 (2020)
- [J38] G. F. Piredda, T. Hilbert, E. J. Canales-Rodriguez, M. Pizzolato, C. Deuster, R. Meuli, J. Pfeuffer, A. **Daducci**, J.-P. Thiran, T. Kober. *"Fast and high-resolution myelin water imaging: Accelerating multi-echo GRASE with CAIPIRINHA"*, MAGN RESON MED 85(1):209–222 (2020)
- [J39] F. Rheault, A. De Benedictis, A. **Daducci**, C. Maffei, C. M. W. Tax, D. Romascano, E. Caverzasi, F. C. Morency, F. Corrivetti, F. Pestilli, G. Girard, G. Theaud, I. Zemmoura, J. Hau, K. Glavin, K. M. Jordan, K. Pomiecko, M. Chamberland, M. Barakovic, N. Goyette, P. Poulin, Q. Chenot, S. S. Panesar, S. Sarubbo, L. Petit, M. Descoteaux. *"Tractostorm: The what, why, and how of tractography dissection reproducibility"*, HUM BRAIN MAPP 41(7):1859–1874 (2020)
- [J40] D. Romascano, M. Barakovic, J. Patiño-Lopez, T. B. Dyrby, J.-P. Thiran, A. **Daducci**. *"ActiveAx_{ADD}: towards non-parametric and orientationally invariant axon diameter distribution mapping using PGSE"*, MAGN RESON MED 83(6):2322–2330 (2020)
- [J41] S. Schiavi, M. Ocampo-Pineda, M. Barakovic, L. Petit, M. Descoteaux, J.-P. Thiran, A. **Daducci**. *"A new method for accurate in vivo mapping of human brain connections using microstructural and anatomical information"*, SCI ADV 6(31):eaba8245 (2020)
- [J42] S. Schiavi, M. Petracca, M. Battocchio, M. M. El Mendili, S. Paduri, L. Fleysher, M. Inglese, A. **Daducci**. *"Sensory-motor network topology in multiple sclerosis: Structural connectivity analysis accounting for intrinsic density discrepancy"*, HUM BRAIN MAPP 41(11):2951–2963 (2020)
- [J43] E. Bonet-Carne, E. Johnston, A. **Daducci**, J. Jacobs, A. Freeman, D. Atkinson, D. Hawkes, S. Punwani, D. C. Alexander, E. Panagiotaki. *"VERDICT-AMICO: Ultrafast fitting algorithm for non-invasive prostate microstructure characterisation"*, NMR BIOMED 32(1):e4019 (2019)
- [J44] E. J. Canales-Rodriguez, J. H. Legarreta-Gorroño, Y. Alemán-Gomez, M. Pizzolato, J. R. Patiño, G. O. D. Rensonnet, M. Barakovic, J. Radua, E. Pomarol-Clotet, R. Salvador, J.-P. Thiran, A. **Daducci**. *"Sparse Wars: A Survey and Comparative Study of Spherical Deconvolution Algorithms for Diffusion MRI"*, NEUROIMAGE 184:140–160 (2019)
- [J45] G. M. Innocenti, T. B. Dyrby, G. Girard, E. St-Onge, J.-P. Thiran, A. **Daducci**, M. Descoteaux. *"Topological principles and developmental algorithms might refine diffusion tractography"*, BRAIN STRUCT FUNCT 224(1):1–8 (2019)
- [J46] L. J. O'Donnell, A. **Daducci**, D. Wassermann, C. Lenglet. *"Advances in computational and statistical diffusion MRI"*, NMR BIOMED 32(4):e3805 (2019)
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