

Gabriel Ramos Llordén

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Birthdate: 28/09/1988

(Last CV update: Jan 2018)

Professional experience

- September 2013 - **PhD researcher in Magnetic Resonance Imaging**, imec-Vision Lab, Department of Physics, University of Antwerp, Antwerp, Belgium.
- January 2017 - **Research internship in diffusion Magnetic Resonance Imaging modeling and reconstruction**, Laboratory of Mathematics in Imaging (LMI), Department of Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston, USA, Supervisors: prof. Yogesh Rathi and prof. Carl-Fredrik Westin.
- April 2017
- July 2012 - July 2013 **Research internship in Ultrasound imaging**, Laboratorio de Procesado de Imagen (LPI), Department of Signal Theory and Telematics, University of Valladolid, Valladolid, Spain.

Education

- September 2013 - **PhD candidate**, imec-Vision Lab, Department of Physics, University of Antwerp, Antwerp, Belgium, Supervisors: prof. Jan Sijbers and prof. Arnold Jan den Dekker.
- February 2018 (expected)
- September 2012 - **Master on ICT Research: Signal Processing and Bio-engineering**, University of Valladolid, Valladolid, Spain, July 2013
- Thesis: *Robust Initialization for Active Shape Models in 3D echocardiographies* Supervisors: dr. Gonzalo Vegas-Sánchez-Ferrero and prof. Santiago Aja-Fernández.
- Highest score-
- September 2006 - **Ingeniero de Telecomunicación**, University of Valladolid, Valladolid, Spain, July 2012
- Thesis: *Anisotropic Diffusion filter with Memory based on probabilistic models for intravascular and cardiac images* Supervisor: dr. Gonzalo Vegas-Sánchez-Ferrero.
- Highest score and nationally awarded-

Teaching experience

- March 2016 - Digital signal and image processing (Digitale signaal-en beeldverwerking), Exercises and laboratory lessons, *MSc in Physics, Department of Physics, University of Antwerp*
- November 2014 - Supervisor of MSc thesis of Piet Bladt, "Quantitative multi-component T_1 mapping", July 2015
- MSc in Physics, Department of Physics, University of Antwerp*

Languages

Spanish	Native	
English	Fluent	<i>Certificate in Advanced English (C1 CEFR Level), University of Cambridge, 2012</i>
Dutch	Basic	<i>A1+ CEFR Level</i>
German	Basic	<i>Level A1 Course, Fundación General de la Universidad de Valladolid, 2012</i>
French	Basic	<i>Three Years of School Courses</i>

Awards and Grants

- January 2018 Winner of the Abroad Internship Challenge (5000 Euro) awarded by the ISMRM Benelux Chapter (10th Annual Meeting)
- September 2017 FWO travel grant for international conference: 34th Annual Scientific Meeting of the ESMRMB, Barcelona, Spain
- January 2017 FWO grant for long stay abroad: Laboratory of Mathematics in Imaging, Brigham and Women's Hospital, Harvard Medical School, Boston, USA
- March 2016 FWO travel grant for international conference: 24th Annual Meeting & Exhibition of the ISMRM, Singapore, Singapore
- February 2016 Educational Stipend Award ISMRM, Singapore, Singapore
- May 2015 Magna Cum Laude Merit Award at the 23rd Annual Meeting & Exhibition of the ISMRM, Toronto
- March 2015 FWO travel grant for international conference: 23rd Annual Meeting & Exhibition of the ISMRM, Toronto, Canada
- March 2015 Educational Stipend Award ISMRM, Toronto, Canada
- May 2013 2012 Award for the best Spanish MSc thesis in Engineering & Medicine (ASISA), Official College of Telecommunication Engineers and Spanish Association of Telecommunication Engineers (COIT and AEIT), https://www.coit.es/index.php?op=actos_premios_1548
- June 2006 High School Extraordinary Prize, *Regional Government of Castilla y León*

Professional associations

- May 2015 - European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)
- December 2014 - International Society for Magnetic Resonance in Medicine (ISMRM)
- January 2013 - IEEE Member
- January 2013 - Colegio Oficial de Ingenieros de Telecomunicación

Computer skills

- Basic HTML, JAVA
- Intermediate VHDL
- Expert Matlab, C, C++
- Miscellaneous Windows, Office, Linux, Latex

Scientific talks

- 30 Jan 2017, Statistical reconstruction methods for optimal analysis of relaxometry data and k-space under-sampling, *Laboratory of Mathematics in Imaging, Brigham and Women's Hospital, Harvard Medical School*
Boston, (USA)
- 28 Sep 2015, Partially Discrete Magnetic Resonance Tomography
Quebec, (Canada)
- 21 May 2015, Simultaneous group-wise rigid registration and Maximum Likelihood T_1 estimation for Leuven, T_1 mapping
(Belgium)
- 2 June 2015, Simultaneous group-wise rigid registration and Maximum Likelihood T_1 estimation for Toronto, T_1 mapping
(Canada)

Scientific publications

Journal papers [J]

- [J1] **G. Ramos-Llordén**, A.J. den Dekker, J. Sijbers, “Partial discreteness: A Novel Prior for Magnetic Image Reconstruction”, *IEEE Transactions on Medical Imaging*, vol. 36, no. 5, pp. 1041-1053, May. 2017.
- [J2] **G. Ramos-Llordén**, A.J. den Dekker, G. Van Steenkiste, B. Jeurissen, F. Vanhevel, J. Van Audekerke, M. Verhoye, J. Sijbers, “A unified Maximum Likelihood framework for simultaneous motion and T_1 estimation in quantitative MR T_1 mapping”, *IEEE Transactions on Medical Imaging*, vol. 36, no. 2, pp. 433-446, Feb. 2017.
- [J3] **G. Ramos-Llordén**, G. Vegas-Sánchez-Ferrero, M. Martín-Fernández, C. Alberola-López, S. Aja-Fernández, “Anisotropic Diffusion Filter with Memory based on Speckle Statistics for Ultrasound Images”, *IEEE Transactions on Image Processing*, vol. 24, no. 1, pp. 345-358, Jan. 2015.

Book chapters [B]

- [B1] **G. Ramos-Llordén**, S. Aja-Fernández, G. Vegas-Sánchez-Ferrero, “Chapter 5: Introduction to speckle filtering”, in *Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video*, editors: C. P. Loizou, C. S. Pattichis and J. D’Hooge, 2018, ISBN: 978-1-78561-290-9
- [B2] S. Aja-Fernández, **G. Ramos-Llordén**, G. Vegas-Sánchez-Ferrero, “Chapter 8: Non-Linear Despeckle Filtering”, in *Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video*, editors: C. P. Loizou, C. S. Pattichis and J. D’Hooge, 2018, ISBN: 978-1-78561-290-9

Conference papers [C]

- [C1] P. Bladt, G. Van Steenkiste, **G. Ramos-Llordén**, A.J. den Dekker and J. Sijbers, “Multi-voxel algorithm for quantitative bi-exponential MRI T_1 estimation”, in Proc. SPIE 9784, Medical Imaging 2016: Image Processing, 978402
- [C2] **G. Ramos-Llordén**, A.J. den Dekker, G. Van Steenkiste, J. Van Audekerke, M. Verhoye, J. Sijbers, “Simultaneous Motion Correction and T_1 estimation in Quantitative T_1 Mapping: an ML Restoration Approach”, in *IEEE International Conference on Image Processing*, Quebec, Canada, 2015.
- [C3] **G. Ramos-Llordén**, H. Segers, W. Jan Palenstijn, A.J. den Dekker, J. Sijbers, “Partially Discrete Magnetic Resonance Tomography”, in *IEEE International Conference on Image Processing*, Quebec, Canada, 2015.
- [C4] G. Vegas-Sánchez-Ferrero, **G. Ramos-Llordén**, R. de Luis-García, A. Tristán-Vega, S. Aja-Fernández, “Anisotropic Diffusion Filtering for Correlated Multiple-Coil MRI”, in *IEMBC*, Osaka, Japan, 2013.
- [C5] **G. Ramos-Llordén**, G. Vegas-Sánchez-Ferrero, S. Aja-Fernández, M. Martín-Fernández, C. Alberola-López, “Fast Anisotropic Speckle filter for Ultrasound Medical Images”, in *13th Mediterranean Conf. Medical and Biological Engineering and Computing*, Sevilla, Spain, 2013.
- [C6] **G. Ramos-Llordén**, G. Vegas-Sánchez-Ferrero, S. Aja-Fernández, M. Martín-Fernández, C. Alberola-López, “Filtro de Difusión Anisótropo con Memoria basado en Modelos Probabilísticos para Imágenes Intravasculares y Cardíacas”, in *Conferencia de la Asociación Española de Ingeniería Biomédica*, San Sebastián, Spain, 2012.

Conference abstracts [A]

- [A1] **G. Ramos-Llordén**, Q. Beirinckx, A.J. den Dekker, and J. Sijbers, “An educational presentation on accurate and precise MRI relaxometry: the often disregarded but critical role of statistical parameter estimation”, *10th meeting of the ISMRM Benelux chapter*, Antwerp, Belgium, 2018.
- [A2] **G. Ramos-Llordén**, A.J. den Dekker, P. Bladt, A. Cuyt, and J. Sijbers, “Statistically optimal separation of multi-component MR signals with a Majorize-Minimize approach: application to MWF estimation”, in *34th annual scientific meeting of the ESMRMB*, Barcelona, Spain, 2017.
- [A3] **G. Ramos-Llordén**, A.J. den Dekker, M. Björk, M. Verhoye, and J. Sijbers, “NOVI-FAST: A fast non-linear least squares method for accurate and precise estimation of T_1 from SPGR signals”, in *24th meeting of the ISMRM*, Singapore, Singapore, 2016.
- [A4] **G. Ramos-Llordén**, A.J. den Dekker, M. Björk, M. Verhoye, and J. Sijbers, “NOVI-FAST: A fast non-linear least squares method for accurate and precise estimation of T_1 from SPGR signals”, in *8th meeting of the ISMRM Benelux chapter*, Eindhoven, The Netherlands, 2016.
- [A5] **G. Ramos-Llordén**, A.J. den Dekker, G. Van Steenkiste, J. Van Audekerke, M. Verhoye, J. Sijbers, “Simultaneous group-wise rigid registration and Maximum Likelihood T_1 estimation for T_1 mapping”, in *23rd meeting of the ISMRM*, Toronto, Canada, 2015.
- [A6] **G. Ramos-Llordén**, H. Segers, W. Jan Palenstijn, A.J. den Dekker, J. Sijbers, “Partial discreteness: a new type of prior knowledge for MRI reconstruction”, in *23rd meeting of the ISMRM*, Toronto, Canada, 2015.
- [A7] **G. Ramos-Llordén**, A.J. den Dekker, G. Van Steenkiste, J. Van Audekerke, M. Verhoye, J. Sijbers, “Simultaneous group-wise rigid registration and Maximum Likelihood T_1 estimation for T_1 mapping”, in *7th meeting of the ISMRM Benelux chapter*, Gent, Belgium, 2015.
- [A8] **G. Ramos-Llordén**, A.J. den Dekker, J. Sijbers, “Joint Motion Correction and Estimation for T_1 mapping: proof of concept”, in *Poster session: Medical Imaging Summer School 2014*, Favignana, Italy, 2014.
- [A9] **G. Ramos-Llordén**, J. Sijbers, “Misalignment correction for T_1 maps using a maximum likelihood estimator approach”, in *Front. Neuroinform. Conf. Abstract: Imaging the brain at different scales: How to integrate multi-scale structural information?*, Antwerp, Belgium, 2013.

Scientific reviewer of:

- 1 Medical Image Analysis
- 2 IEEE Transactions on Medical Imaging
- 3 IEEE Journal of Biomedical and Health Informatics
- 4 Ultrasonics, Elsevier
- 5 Pattern Recognition Letters, Elsevier
- 6 Physica Medica: European Journal of Medical Physics
- 7 Annals of Academia Brasileira de Ciencias
- 8 Journal of Applied Remote Sensing
- 9 IETE Technical Review
- 10 Journal of Magnetic Resonance Imaging, Elsevier