Esteban Anoardo

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1. Presonal

Name: Esteban Anoardo.
Place and date of birth: Córdoba - Argentina, April 7 of 1964. Personal address: Virgen Corazón de María 276, 5189-Anisacate, Córdoba (Argentina).

2. Academic Degrees

- Licenciado en Física (5-years degree in Physics), FaMAF/UNC, 1990.
- Doctor en Física (Physics PhD), FaMAF/UNC, 1996.

3. Current positions

- Profesor Titular (Full Professor). FaMAF/UNC.
- Investigador Principal (Principal Researcher). National Science & Technological Council (CONICET)**.**

4. General experience

- 1999/2000: I+D Coordinator, Stelar srl, Mede – Italy (www.stelar.it). European joint project (Florence-Frankfurt-Utrech Universities): “Field Cycling NMR Relaxometry” (RTD Project No ERBFMGECT950002).
- 2000/2001: Fellow of the Alexander von Humboldt Foundation. Posdoc at Sektion Kernresonanzspektroskopie, University of Ulm, Germany.
- 2005-today: Founder and leader of the NMR Relaxometry and Special Techniques Laboratory (LaRTE), FaMAF/UNC and IFEG/CONICET.

5. Expertise:

- NMR Relaxometry.
- Molecular Physics.
- Liquid crystals, lipids, polymers.
- NMR Instrumentation.
- Magnetic Resonance Imaging.
- NMR Metrology.

6. Current interests:

- Development of Field-cycling NMR techniques & applications.
- NMR Relaxometry.
- Magnetic Resonance Imaging.

7. Featured publications:

- *Field-cycling NMR relaxometry,* R. Kimmich and E. Anoardo, Progress in Nuclear Magnetic Resonance Spectroscopy **44**, 257 (2004).
- *Fast-Field-Cycling NMR: Applications and Instrumentation,* E. Anoardo, G. Galli and G. Ferrante, Applied Magnetic Resonance **20**, 365 (2001).
- *^{14}N nuclear quadrupole dips in the proton spin-lattice relaxation dispersion in the Smectic-C phase of HpAB,*E. Anoardo and D. Pusiol, Physical Review Letters **76**, 3983–3986.

8. Selected recent publications:

- *A fast field-cycling MRI relaxometer for physical contrasts design and pre-clinical studies in small animals,* J. A. Romero, G. G. Rodriguez and E. Anoardo, Journal of Magnetic Resonance **311**, 106682 (2020).
- *Use of 1H-NMR spectroscopy, diffusometry and relaxometry for the characterization of thermally-induced degradation of motor oils,* C. C. Fraenza, E. Förster, G. Guthausen, H. Nirschl and E. Anoardo, Tribology International **153**, 106620 (2021).
- *Fast iron-oxide induced low-field magnetic resonance imaging*, G. G. Rodriguez, E. M. Erro and E. Anoardo, Journal of Physics D: Applied Physics **54**, 025003 (2021).
- *Proton double irradiation field-cycling nuclear magnetic resonance imaging: testing new concepts and calibration methods*, G. G. Rodriguez and E. Anoardo, IEEE Transactions of Measurement and Instrumentation **70**, 4501608 (2021).
- *Dual k-space and image-space post-processing for field-cycling MRI under low magnetic field stability and homogeneity conditions,* G. G. Rodriguez, A. Salvatori and E. Anoardo, Magnetic Resonance Imaging **87**, 157 (2022).
- *New challenges and opportunities for low-field MRI,* E. Anoardo and G. G. Rodriguez, Journal of Magnetic Resonance Open **14-15**, 100086 (2023).

- *On the deformability of additivated phosphatidylcholine liposomes: molecular dynamic regimes and membrane elasticity*, M. B. Marzola Coronel, C. C. Fraenza and E. Anoardo, Chemistry and Physics of Lipids **252**, 105290 (2023).

9. Academia:

- More than 50 scientific/technical articles.
- 3 book chapters.
- 3 Review articles.
- Several Invited Lectures at international conferences, invited seminars, oral and poster communications.
- 9 PhD. finalized theses (plus 3 theses in progress).
- One Master-degree Thesis in automatic control.
- One Specialization Thesis in Science Communication.
- Several undergraduate theses in Physics and Engineering.
- 35 years of university teaching experience.
- One patent (accepted) and two patents under evaluation.
- Several administrative and advisory positions at the University, CONICET and other science & technology national dependencies. Current: Director of the Physics Institute “Enrique Gaviola”, CONICET – Córdoba.

10. Current projects

- *Investigación aplicada e instrumentación para imágenes por resonancia magnética nuclear con campo magnetic ciclado,* PIP Conicet (2021-2023).

- *Desarrollo de estándares, protocolos e instrumentación para uso metrológico de técnicas de resonancia magnética nuclear,* PICT Foncyt (2023-2027).

11. PhD. Theses

- Dr. Fernando Bonetto (2003). Now Senior Researcher of CONICET at IFIS-LITORAL, Santa Fé, Argentina.
- Dr. Josefina Perlo (2011). Now Senior Researcher at Magritek GmbH, Aachen-Germany.
- Dr. Luis Ever Aguirre (2011). Now Senior Process Development Engineer at Epishine, Linköpings-Sweeden.
- Dr. Eng. Guillermo Omar Forte (2013). Now Researcher of CONICET at the LaRTE, IFEG-CONICET, Córdoba, Argentina.
- Dr. Dipl. Stephan Kruber (2015). Now Researcher & Development Engineer at RSP GmbH, Saalfeld - Germany.
- Dr. Carla C. Fraenza (2016). Now posdoc at the Hunter College, New York - USA.
- Dr. Gabriela A. Dominguez (2016). Now retired due to health disability.
- Dr. Agustín Romero (2018). Now posdoc at the Warshaw University, Warshaw - Poland.

- Dr. Gonzalo Gabriel Rodriguez (2021). Now posdoc at the NMR Signal Enhancement Group, Max Planck Institute for Multidisciplinary Sciences, Göttingen – Germany.

12. Lectures, presentations and seminars (selected & last)

- *Low-field MRI solutions: fixed field, pre-polarized or field-cycled?*, Ampere NMR School, Zakopane – Poland (2023).
- *Field-cycling MRI Relaxometry: active contrast and dynamic imaging*, 12th Conference on Fast Field-Cycling NMR Relaxometry, Cambridge-UK (2022).
- *New challenges and opportunities for low-field MRI,* Ampere NMR School, Zakopane – Poland (2022).
- *Field-cycling MRI Relaxometry,* Ampere NMR School, Zakopane – Poland (2021). Virtual presentation.
- *Fast field-cycling NMR Relaxometry as a tool for ICE-lubricant analytics.* Seminar (virtual) within the frame of the COST Action EURELAX (2020).
- *Experimental issues on field-cycling NMR: critical aspects, physical and technical limits,* AMPERE NMR School, Zakopane – Poland (2019).
- *Field-cycling NMR relaxometry as a tool for the characterization of the elastic properties of liposomes,* 11th Conference on Fast Field-Cycling NMR Relaxometry, Pisa - Italy (2019).

Esteban Anoardo, July 2023.