Joeri R. Verbiest

https://jrverbiest.github.io/

E X P E R I E N C E

- **Researcher Expert & Technical Developer**, Faculty of Rehabilitation Sciences, Rehabilitation Research Group (REVAL), Hasselt University, Belgium (**current employment**, part-time)
- **Senior Researcher**, Karel de Grote Hogeschool, Campus Hoboken, Antwerp, Belgium (**current employment**, part-time)
- **Senior Consultant**, VeroTech, Leuven, Belgium. **Consultant @ Cochlear Technology Centre** (CTC), Mechelen, Belgium.
- **Project Manager**, Peira bvba, Turnhout, Belgium
- **Senior Electronic Engineer**, Bruker-microCT, Kontich, Belgium & Bruker Biospin, Rheinstetten, Germany.
- **Research Engineer**, Pepric NV, Leuven, Belgium
- **RF Design Engineer**, Orban Microwave Products (OMP), Wijgmaal, Belgium
- **Product Generation Engineer**, NMDG NV, Bornem, Belgium

E D U C A T I O N

- **Doctoral degree in Engineering Science (PhD, dr.)**, Katholieke Universiteit Leuven, Leuven, Belgium, 2007. (Funded by IWT PhD scholarship.)
- **Master of Science in Electrical Engineering (MSc, ir.)** option Telecommunication and Telematic, Cum Laude, Katholieke Universiteit Leuven, Leuven, Belgium, 2002.

  Courses in biomedical engineering: Human Physiology, Biology and Biochemistry of Human Systems, including Human Biotechnology, Biomedical Measurements and Stimulation and transport Phenomena in Biological systems.
- **Industrial Engineer Electricity (MSc, Ing.)**, option Electronics specialisation telecommunication, Cum Laude, Institute for Higher Education in the Sciences & the arts, De Nayer Institute, Sint-Katelijne-Waver, Belgium, 1999.

NANODEGREES & COURSES

- **Machine Learning DevOps Engineer,** Udacity (2022).
- **Machine Learning Engineer Nanodegree**, Udacity (2019).
- **Data Scientist Nanodegree, Term 1: Machine Learning for Data Scientists**, Udacity (2019).
- **AI Programming with Python Nanodegree**, Udacity (2018).
- **Introduction to Programming Nanodegree**, Udacity (2018).
- **Learn to program with Python,** course, Syntra, Mechelen, Belgium (2017).

PROJECTS

- **PWO-project ML@E^{2}dge**. *"Machine Learning at the Extreme Edge."* Website: https://mlate2dge.github.io/
- **TETRA project ELGAS**. *"Effects of air quality in the accommodations of ships on human health: monitoring environmental parameters, risk analysis and recommendations."* scientific Partners: Hogere Zeevaartschool (HZS) Antwerpen, Vlaamse Instelling voor Technologisch Instituut (VITO) en Karel de Grote Hogeschool (KdG). Website: https://www.kdg.be/ELGAS
- **Rapid Scan**, internal project @ Bruker Biospin, Rheinstetten, Germany. https://www.bruker.com/products/mr/epr/rapid-scan.html. *"Design power electronic module for an Electron Paramagnetic Resonance (EPR) spectrometer accessory."*
- **MULTIFUN**, European Project, *"Multifunctional Nanotechnology for selective detection and Treatment of cancer."*, https://cordis.europa.eu/project/id/262943. Active in one WP.
- **PANAMA**, European Project, *"Power Amplifier aNd Antennas for Mobile Applications."*, http://www.catrene.org/web/downloads/profiles_catrene/CA101-PANAMA-project%20profile-final%20%287-6-11%29.pdf. Active in two WPs, one as WP leader.
- **O&O project** @ NMDG, Bornem, Belgium. *"Calibration, Hardware and Software Technology for Characterization of Nonlinear Components under Broadband Modulation Stimulus."*
- **Antenna design for a medical implant**, a project under Non-Disclosure Agreement (consulting service project), Katholieke Universiteit Leuven (Esat-Telemic)

PATENT & SCIENTIFIC PUBLICATIONS

I. Patent

- System and method for determining a quantity of magnetic particles. (**Inventor**) Pub. No.: WO/2016/128353, Pub. Date: 18 August 2016.

II. Articles in International Journals

- Li X., Torfs G, Vandewege J, Bauwelinck J, **Verbiest J.R**., Sensitive and quantitative pEPR detection system for SPIO nanoparticles, Electronics Letters, pp. 1600-1601, Volume 49, Issue 25, 2013.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "A low-cost small size tapered slot antenna for lower band UWB applications," IEE Electronics Letters, Volume 42, Issue 12, pp. 670-671,2006.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "A novel small size planar triangular monopole antenna for UWB WBAN applications," IEE Electronics Letters, Volume 42, Issue 10, pp. 566-567, 2006.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "A Novel Small Size Printed Tapered Monopole Antenna for UWB WBAN," IEEE Antennas and Wireless Propagation Letters, pp. 377-379, vol. 5, 2006.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "Microwave Breast Cancer Detection and Superficial Hyperthermia Breast Cancer Treatment," Revue HF, Belgian Journal of Electronics and Communication, no. 4, pp 35-44, 2004.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "Antennas for Wireless Biomedical Applications," Revue HF, Belgian Journal of Electronics and Communication, no. 4, pp 13-24, 2004.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "Development of Optimal Radiated Structures in the Surrounding of Biological Tissues," Revue HF, Belgian Journal of Electronics and Communication, no. 2, p. 18, 2004.

III. Articles in International Conference Proceedings

- Detection of superparamagnetic iron oxide nanoparticles (SPION's) in the pig lung using the particle electron paramagnetic resonance (pEPR) technique, Christine M Shortt, Deirdre Edge, Eric Roskin, **Joeri R Verbiest**, Farouk Markos, Stephanie Teughels, WMIC 2014, Seoul; Sept 17-20.
- Bio-distribution of supraparagmetic iron oxide nanoparticles in the pig, C. Shortt, D. Edge, S. Teughels, E. Roskin, **J. Verbiest**, O. Gobbo, A. Prina-Mello, Y. Volkov and F. Markos. Drug Discovery and Development, Pharmacology and Experimental Therapeutics, Experimental Biology 2014, San Diego; April 26-30.

- G. Paillonc y and **J. Verbiest**, "On the fly PA Design with the R&S NMDG ZVxPlus," ARMMS RF & Microwave Society, April 2009.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "A Microstrip-Fed Equilateral Triangular Microstrip Antenna on a Finite Periodic Surface of Square Patches," The Second IASTED International Conference on Antennas, Radar, and Wave Propagation (ARP2005), Banff, Canada, pp.366-370, 19-21 July 2005.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "Design of very small antennas for biomedical devices," Proc. 12th URSI Forum, Brussels, Belgium, 10 December 2004.
- **J.R. Verbiest**, P. Delmotte, G.A.E. Vandenbosch, L. Verschaeve and A. Maes, "The Use of High Impedance Surfaces in the Construction of an Exposure Setup. A Preliminary Feasibility Study", Journées Internationales de Nice sur les Antennes (JINA2004), Nice, France, pp. 116-117, 8-10 November 2004.
- **J.R. Verbiest**, G.A.E. Vandenbosch, "Development of Optimal Radiated Structures in the Surrounding of Biological Tissues," Proc. 11th URSI Forum, Brussels, Belgium, 18 December 2003.
- **J.R. Verbiest** and G.A.E. Vandenbosch, "Development of a Finite-Difference Time-Domain model for the research on biological effects by electromagnetic fields," Proc. 10th URSI Forum, Brussels, Belgium, 13 December 2002.