

PhD course "From coordination polymers to nanoparticles: design strategies and characterization for new magnetic materials"

**CURRICUL VITAE**

*Rafael Alves Allão Cassaro*



## 1 Short CV

Rafael A. Allão Cassaro graduated in Industrial Chemistry from Universidade Federal Fluminense-Brazil in 2005. He got a master in 2008 and PhD in 2012 working on magnetic properties of coordination compounds under supervision of Prof. Maria das Graças Fialho Vaz at the same university. He did 14-months research stage working with Electron Paramagnetic Resonance at the University of Florence-Italy, supervised by Prof. Lorenzo Sorace during his PhD. He spent almost two years as postdoc at the University of Massachusetts-Amherst in US working magnetic investigation of metal-radical complexes, in the group headed by Prof. Paul M. Lahti. Since 2014 is assistant professor at Universidade Federal do Rio de Janeiro. He was awarded as young scientist called Jovem-Cientista do Nosso Estado-FAPERJ in 2018. He is interested on Coordination Compounds, Molecular Magnetism, Electron Paramagnetic Resonance and Magnetic Nanoparticles.

## 2 Bibliometric data

38 papers, 1 book chapter, H index = 12

### 3 Selection of the 10 most relevant publications and/or patents

- 1- Allão Cassaro, R. A.; Lahti, P. M. ; VAZ, M. G. F. ; NOVAK, M. A. . Lattice Solvent Engineering Improves the Stability of a Cobalt Pyrenylnitronylnitroxide Ferrimagnetic Chain. *INORGANIC CHEMISTRY*, v. 62, p. 11248-11255, 2023.
- 2- SOUZA, M. S. ; REIS, S. G. ; STINGHEN, DANILO ; ESCOBAR, LÍVIA B. L. ; Allão Cassaro, R. A. ; PONETI, G. ; BORTOLOT, C. ; MARBEY, JONATHAN ; HILL, STEPHEN ; VAZ, M. G. F. . High-Frequency EPR Studies of New 2p-3d Complexes Based on a Triazolyl-Substituted Nitronyl Nitroxide Radical: The Role of Exchange Anisotropy in a Cu-Radical System. *Inorganic Chemistry*, v. 61, p. 12118-12128, 2022.
- 3- SHEEHAN, BRENDAN C. ; KWARK, ROBERT ; COLLETT, CHARLES A. ; COSTA, THOMAZ A. ; CASSARO, RAFAEL A. ALLÃO ; FRIEDMAN, JONATHAN R. . Direct spectroscopic observation of Berry-phase interference in the single-molecule magnet. *PHYSICAL REVIEW B*, v. 102, p. 224428, 2020.
- 4- DE SOUZA, MATEUS S. ; BRIGANTI, MATTEO ; REIS, SAMIRA G. ; STINGHEN, DANILO ; BORTOLOT, CAROLINA S. ; CASSARO, RAFAEL A. A. ; Guedes, Guilherme P. ; DA SILVA, FERNANDO C. ; FERREIRA, VITOR F. ; Novak, Miguel A. ; SORIANO, STÉPHANE ; TOTTI, FEDERICO ; Vaz, Maria G. F. . Magnetic Cationic Copper(II) Chains and a Mononuclear Cobalt(II) Complex Containing [Ln(hfac) ] Blocks as Counterions. *INORGANIC CHEMISTRY*, v. 58, p. 1976-1987, 2019.
- 5- SARMIENTO, C. V. ; ARAUJO, T. S. ; REIS, S. G. ; SOUZA, M. S. ; ALLÃO CASSARO, RAFAEL A. ; NOVAK, M. A. ; VAZ, M. G. F. . Lanthanide chains containing the naphthalenyl nitronyl nitroxide radical. *RSC Advances*, v. 9, p. 30302-30308, 2019.
- 6- PATRASCU, ANDREI ; CALANCEA, S. ; BRIGANTI, MATTEO ; SORIANO, STÉPHANE ; MADALAN, AUGUSTIN M ; ALLÃO CASSARO, RAFAEL A. ; CANESCHI, A. ; TOTTI, FEDERICO ; Vaz, M. G. F. ; ANDRUH, MARIUS . Chimeric design of heterospin 2p-3d, 2p-4f, and 2p-3d-4f complexes using a novel family of paramagnetic dissymmetric compartmental ligands. *CHEMICAL COMMUNICATIONS (LONDON. 1996. ONLINE)*, p. 6504-6507, 2017.
- 7- Cassaro, R. A. A.; FRIEDMAN, J. R. ; Lahti, P. M. . Copper(II) Coordination Compounds with Sterically Constraining Pyrenyl Nitronyl Nitroxide and Imino Nitroxide. *Polyhedron*, v. 117, p. 7-13, 2016.
- 8- CHEN, Y. ; ASHKEZARI, M. D. ; COLLETT, C. A. ; Cassaro, R. A. A. ; TROIANI, F. ; LAHTI, P. M. ; FRIEDMAN, J. R. . Observation of Tunneling-Assisted Highly Forbidden Single-Photon Transitions in a Single-Molecule Magnet. *Physical Review Letters*, v. 117, p. 187202, 2016.
- 9- ALLÃO CASSARO, RAFAEL A.; REIS, S. G. ; ARAUJO, T. S. ; Lahti, P. M. ; NOVAK, M. A. ; VAZ, M. G. F. . A Single-Chain Magnet with a Very High Blocking Temperature and a Strong Coercive Field. *Inorganic Chemistry*, v. 54, p. 9381-9383, 2015.
- 10- Vaz, Maria G. F. ; ALLÃO CASSARO, RAFAEL A. ; Akpınar, H. ; Schlueter, J. A. ; Lahti, P. M. ; NOVAK, M. A. . A Cobalt Pyrenylnitronylnitroxide Single-Chain Magnet with High Coercivity and Record Blocking Temperature. *Chemistry - A European Journal*, v. 20, p. 5060-5067, 2014.