Prof. PhD. Diego Muraca

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Descripción

Associate Professor at the "Gleb Wataghin" Institute of Physics (IFGW/UNICAMP), Quantum Electronic Department. Scientific productivity fellow by the National Council for Scientific and Technological Development (CNPq/Brazil) since 2017. Corresponding Researcher (Conicet/Argentina) since 2023. Habitation title in 2021 by Unicamp, Brazil. Metal and Alloys laboratory (DEQ/IFGW) coordinator since 2023. Leader of the Fundamental and Applied Magnetism Group (GMFA) certified by the CNPq and the Instrumentation Laboratory for Physical Education (LIEF) of the IFGW since 2020. Bachelor in Physics - National University of Mar del Plata (UNMdP), Argentina (2005); PhD. from Buenos Aires University (2009), Argentina. Assistant Researcher, National Council for Scientific and Technological Research (CONICET-Argentina, 2010-2011) and Post-doctorate at the IFGW/UNICAMP (Brazil, 2011-2016) with scholarships from the São Paulo State Research Support Foundation (FAPESP) and CNPq; Invited researcher at BCMaterial (Spain)-2014/5months); Visiting Researcher, National Polytechnic Institute (Mexico, 2016/1 month); Invited professor at the Federal University of ABC (Brazil, 2016-2017), Invited professor at the National University of Colombia, Manizales (Colombia, 2009/20 days and 2010/20 days), at the National University of La Plata (Argentina , 2016/1 month) and Researcher at the Electronic Microscopy Laboratory at the *Brazilian Nanotechnology National Laboratory* (LNNano), *National Center for Research in Energy and Materials*, Campinas, SP, Brazil (2017/1 year).

Experience in physics, with emphasis on magnetism, magnetic materials, magnetic-hyperthermia, magnetic dipole interaction, magnetic nanoparticles, super-paramagnetic polymers and shape memory polymers. Experience in different experimental techniques such as SQUID magnetometry, VSM, synchrotron light techniques (SAXS, XAS, EXAFS, etc). Conventional materials characterization techniques: DSC, TGA, XRD, DLS, ec. Experience in transmission electron microscopy, being an experienced user of techniques such as TEM, STEM, HAADF, EDS, ED, and Cryo-EM. More than 85 articles published in international journals (> 2000 cites, h26/Scholar). Articles published in Nature Communications (1), Nanoscale (1), NanoResearch (1), Scientific Reports (4), Nanoscale Advances (1), ACS Applied Nano Material (3), Applied Physcis Letters (1), Physical review Applied (2), Acta Biomaterialia (1), etc. Participation in more than 30 national and international congresses/conferences/worshops. Ad-hoc project evaluator for: Agencia Nacional de Investigación e Innovación de Uruguay (ANII), Uruguay, CNPq (Brazil), National Agency for Scientific and Technical Promotion (ANPCyT, Argentina). Member of the committee for the ad-hoc evaluation of projects in the SAXS-LNLS (2011,2012, 2017), LME/LNNano/CNPEM since 2019.

Journal Reviewer: Chemistry of Materials, ACS Applied Nanoaterials, ACS Nano, M Journal of Magnetism and Magnetic Materials, ACS Applied Materials and Interfaces, Nanoscale Advances, The Journal of Physical Chemistry, Nanomedicine, Crystal Growth and Design, Physical Chemistry Chemical Physics, : Scientific Reports, Nanoscale, European Polymer Journal, Materials Chemistry and Physics, Current Pharmaceutical Design, Journal of Applied Physics, Nano, IAP Advances, Journal of Materials Science, Journal of Physical Chemistry. C. Materials Research Innovations, Nanoscale, IEEE Transactions on Magnetics, Journal of Magnetism and Magnetic Materials, Physica. A (Print), Journal of Nanoscience and Nanotechnology, Vacuu.

Research and Professional Experience

05/2023-...	**Corresponding Researcher**, CONICET, Argentina.
01/2022-...	**Associate Professor**, IFGW-UNICAMP, Campinas, SP, Brazil.
08/2017-01/2022	**Assistant Professor**, IFGW-UNICAMP, Campinas, SP, Brazil.
02/2017-08/2017	**Researcher**, *Brazilian Nanotechnology National Laboratory* (LNNano),CNPEM, Campinas, SP, Brazil.
08/2016-09/2016	**Visiting Professor**, La Plata National University, La Plata, Buenos Aires, Argentina.
06/2016-02/2017	**Visiting Professor**, Federal University of ABC (UFABC), SP, Brazil.
11/2015-12/2015	**Visiting Researcher**, National Politecnic Intitute (IPN), Mexico.
02/2014-05/2014	**Visiting Researcher**, Basque Center for Materials (BCMaterials), Bilbao, Spain.
02/2011-06/2016	**Post-doctorate Researcher**, IFGW-UNICAMP, Campinas, São Paulo, Brazil.
02/2010-02/2011	**Assistant Researcher**, CONICET, Argentina.
05/2009-02/2011	**Assistant Professor**, UNMdP, Mar del Plata, Buenos. Aires, Argentina.
08/2009-09/2009	**Visiting Professor**, Universidad Nacional de Colombia (UNC), Manizales, Colômbia.
07/2008-08/2008	**Visiting Professor**, UNC, Manizales, Colômbia.
05/2005-05/2009	**Assistant of the Professor**, Buenos Aires University, (FIUBA), Buenos Aires, Argentina.
05/2003-05/2005	**Assistant of the Professor**, UNMdP, Mar del Plata, Buenos. Aires, Argentina.

Education

2009	**PhD, Buenos Aires University, Argentina**. *"Magnetic behavior of manometric structures."*
2003	**Bachellor, National University of Mar del Plata, Argentina** . *"Universal behavior of the coefficients of the continuous equations in competitive growth models".*

Fellows

2017-cont.	***Scientific Productivity Grant***, CNPQ-PQ2, Brazil.
2014	***Post-doctorate Fellow, FAPESP-BEPE***, *Basque Center Of Materials*, Spain.
2012-2016	***Post-doctorate Fellow, FAPESP***, UNICAMP, Brazil.
2011-2011	***Post-doctorate Fellow, CNPQ-PDJ***, , UNICAMP, Brazil.
2005-2008	***Doctorate Fellow***, FONCyT/ANPyT, Argentina, PICT 2003, 14377.
2008-2009	***Doctorate Fellow Type II***, CONICET, Argentina.

Research Funding

Technological Scientific Research

01/07/2023-30/06/2025 **FAPESP** -*Ferrofluids for viscous fluid flow applications.*
Regular (2022/16460-0).
R$ 222.370,60.
Principal Researcher.

01/08/2023-31/07/2024 **Project PICTO-YPF**-Characterization and remediation of petroleum from the Southern Cuenca..
01-PICTO-2022-14-00003, Argentina.
Pesos Argentinean $ 18.200.000,00
Foreign Associate Researcher.

01/03/2021 -30/02/2024 **CNPq**- -*Magnetism in complex nanoparticles.*
CNPq Nº 09/2020. Produtivity Fellow, PQ2. (303227/2020-6), Brazil.
R$ 39.600,00.
Principal Researcher.

01/04/2021-31/03/2023 **FONCyT**-Hybrid platform for the regeneration of the peripheral nervous system based on magnetic targeting of modified adult multipotent cells.
PICT-2021-CAT-I-00183, Argentina.
–
Foreign Associate Researcher.

01/04/2023-31/03/2026 **FAPESP** -*Advanced functional nanomaterials for accurate cancer diagnosis (NanoCANdi).*
M-ERA.NET 2022 – Materials Science and Engineering, Brazil.
R$ 99.460,42, US$ 42.916,25.
Associate Researcher.

18/02/2019-17/01/2022. **CNPq** - *Studies of magnetic composite nanoparticles of $Fe_{(3-x)}Co_xO_4$: Fundamentals of magnetism and applications* .
Universal CNPq, Brazil.
R$ 10.000.
Principal Researcher.

01/03/2018-30/02/2021 **CNPq**-*Studies of complex magnetic nanoparticles and nanoparticle arrays for magnetic devices.*
NPq N º 12/2017 (303236/2017-5), -Productivity Fellow, PQ2. Brasil.
Monto:R $39.600.
Principal Researcher.

01/05/2018 a 30/04/2023 **FAPESP**-*Emergent phenomena in reduced dimensional systems.*
Thematic Project(17/10581-1).
R$ ∼ 1.300.000, US$ ∼ 300.000.
Associate Researcher.

Technological development

2019-2020 *Evaluation of Superparamagnetic Nanoparticles as Heat Generators for Flow Assurance Applications***.** .
ANP, Petroleum Study Center (CEPETRO)-UNICAMP.
R$ 2.000.000
Associate Researcher.

Concluded Research Mentoring

Postdoctoral Scientists

2019-2021 Maria Eugênia Fortes Brollo. IFGW-Unicamp, Funcamp.

2019-2020 Hildo Guillardi Júnior. Cepetro-Unicamp, Funcamp.

Ph.D. Students

2022 J. M. Orozco-Henao. Dipolar interactions between single-domain magnetic nanoparticles: study in ferrofluids and the implementation of magnetic hyperthermia therapy. 2022.Argentina. Co-Advisor.

2014 Oscar Moscoso Londoño. Nanostructured systems composed of magnetic nanoparticles supported on polymeric matrices and sylver-magnetite heterodimers. Argentina, Advisor

Masters Students

2020 Carlos Alberto Invernizzi Canhassi. *Negative Josephson junctions based on topological semimetals.* IFGW-Unicamp, Co-Advisor, (2020).

Undergraduates Students

2022-2024 Gustavo Soares da Silva *Magnetohyperthermia.* IFGW, CNPq (PIBIC-2022-2024)

2019-2021 Enzo Figueiredo. *Fundamental magnetism in nanoparticles.* IFGW, CNPq (PIBIC-2020-2021). properties of ordered nanoparticles FAPESP (2021, 21/04014-2, concluido).

2022-2023 Guilherme Kuhl. *Lorentz Microscopy.* IFGW, CNPq (PIBIC-2021-2022). *Phase change of electron beams due to interactions with magnetized materials*, FAPESP (2022, 21/04058-0).

2019-2020 Dante Galluzzi Polesi. *Characterization of nanoparticles for application in petroleum.* IFGW, Funcamp (2019-2020).

Awards, Titles, highlight

Awards, Titles

2023 **Conicet Corresponding Investigator, Argentina**. Active Argentine and foreign researchers, who do not belong to the Researcher's Career, with permanent residence abroad and in the country, of recognized prestige, and with outstanding contributions to science and technology.

2021 **Habitation title**. Title obtained through public competition where the candidate's career is evaluated. UNICAMP, Brasil.

2017 **CNPq Productivity Fellow (PQ2), Brazil.** Years: 2017, 2020, 2023.

Articles with highlight

2021 *Acta Biomaterialia* highlight by *Science* journal. Acta Biomaterialia, 2021, 130, P. 234.

Hybrid Materials special edition Journal of Materials Chemistry B, 2021, 9, 428.

2020 *Top 100 Scientific Reports physics papers in 2019.* Scientific Reports. 2019; 9, 3182.

Nanoscale Advances selected to Introducing the new Nanoscale Advances*Photocatalysis and Photoelectrochemistry* article collection, Nanoscale Advances. 2019; 1, 3909.

2019 *ACS Applied Nano-Materials* Cover of ACS Applied Nano Materials. 2019; 2, 6, 3414.

Union of Pure and Applied Chemistry (IUPAC-2017). The Journal of Physical Chemistry C 05/2016; 120(23).

Presentations

Recent Invited Talks

2023 **Plenary at Argentinean Symposium of Polymers (SAP-2023)** . Mar del Plata, Buenos Aires, Argentina.

4th Colombian School on Magnetism and Magnetic Materials (CS3M-2023). National University of Colombia, Manizales, Colombia.

Autumn Meeting of the Brazilian Physical Society (EOSBF-2023) .Brazilian Society of Physics, Ouro Preto, Minas Gerais, Brazil.

2022 **Long Term Projects for Electron Microscopy**. Workshop, LNNano/CNPEM, San Pablo, Brazil.

2021 **Theoretical and Applied Physics Meeting: event dedicated to FACNED in its 50 years of work**. The University of Cauca, Cauca, Colombia.

2019 **2nd Colombian School on Magnetism and Magnetic Materials** (CS3M), Uniandes, Bogota, Colombia.

2018 **Nano2018. XVII Meeting of Nanostructured Surfaces and Materials**. Y-TEC, La Plata, Agentina.

2013 **International Meeting on the teaching of Exact and Natural Sciences**. The Catholic University of Pereira, Pereira, Colombia.

2009 **First School of Physical Engineering**, Manizales, Colombia.

Seminars

2022 Sao Paulo, Brazil. Colloquia for post-graduation in nanoscience and advanced materials at UFABC. *Magnetismo em partículas nano-dimensionadas e suas aplicações*.

2021 La Plata, Argentina. Seminar on the PUE - Condensed Matter project, at the La Plata Physics Institute. Observation by in situ electron microscopy of the redox process in heterogeneous photosensitive plasmonic nanoparticles of silver and silver chloride.

2014 BCMaterials, Bilbao, España. *Physico-chemical studies of complex silver-magnetite nanostructures*

2013 National University of Colombia, Manizales Campus. An overview of nanoscience and nanotechnology: concepts, applications, advances and risks.

Catholic University of Pereira, Colombia. Nanoscience and Nanotechnology, Devices, Applications and Risks.

2012 Institute of Physics - Universidade de São Paulo *New Magneto-Otic Nanostructures of Magnetite and Prata: Relation between Structural, Magnetic and Electronic Properties.*

National Polytechnic Institute, Postgraduate in Advanced Technology, Mexico. Introduction to superparamagnetism: Nanoparticles, heterodimers and ferrogels.

National Polytechnic Institute, Postgraduate in Advanced Technology, Mexico. Introduction to superparamagnetism: Nanoparticles, heterodimers and ferrogels.

2011 Cycle of Seminars and Colloquiums of the La Plata Physics Institute. Structural and magnetic properties of metallic-magnetic nanoparticles (Au@Fe3O4).

2009 *Invited Professor at National University of Colombia*, Manizales, Short course, Topic: Introduction to magnetism and magnetic materials.

2008 *Invited Professor at National University of Colombia*, Manizales, Short Course for Magister students, Topic: Introduction to soft an nanocrystalline ferromagnetic materials for diverse applications.

Events as organizer

2021 *First Latin America Webinar on Magnetism*. Latinoamericano, Virtual.

Presentations (continued)

2016 XVI SBPmat. Symposio: *Complex Magnetic Nanostructures: Synthesis, characterizations and applications.* Brasil.

2009 *IX Latin America Workshop on Magnetism, Magnetic Materials and Their Applications*. Manizales, Colómbia.

Academic Activities

Master's Thesis jury

2021 G. Conceição Concas, Brazilian Center for Physical Research(CBPF), Brazil.

2020 M. H. Martinez Moreira, IFGW, Unicamp, Brazil.

2020 L. Marcon Corrêa, IFGW, Unicamp, Brazil.

2018 W. Brito Jalil da Fonseca, Brazilian Center for Physical Research(CBPF), Brazil.

2009 O. Moscoso Lodoño, National University of Colombia, Manizales Campus, Colombia.

Doctoral Thesis jury

2022 G. Niraula, *Federal University of Maranhão*, UFMA, Brazil.

2021 B. R. Ferias Verçoza Costa, *Federal University of Rio de Janeiro*, UFRJ, Brazil.

M. E. Noé Malmoria, FIUBA, University of Buenos Aires, Argentina.

2019 G. Bharathy, *Anna University*, India.

2017 W. Takemits, *Federal University of São Carlos*, UFSC, Brazil, (2017).

A. A. Velásquez Salazar, National University of Colombia, Manizales Campus, Colombia.

2016 L. P. Bognoni Manzo, Unicamp, Brazil.

Research Publications

Published Articles

1. M. E. F. Brollo, I. F. Pinheiro, G. S. Bassani, *et al.*, "Iron oxide nanoparticles in a dynamic flux: Magnetic hyperthermia effect on flowing heavy crude oil," *ACS Omega*, vol. 8, no. 36, pp. 32 520–32 525, 2023. DOI: 10.1021/acsomega.3c02832. eprint: https://doi.org/10.1021/acsomega.3c02832.

2. M. Kloster, A. A. d. Almeida, D. Muraca, N. E. Marcovich, and M. A. Mosiewicki, "Chitosan-based magnetic particles as adsorbents for anionic contaminants," *Engineered Science*, vol. 22, p. 851, 2023, ISSN: 2576-9898. DOI: 10.30919/es8d851.

3. G. Niraula, D. Toneto, G. F. Goya, *et al.*, "Observation of magnetic vortex configuration in non-stoichiometric fe3o4 nanospheres," *Nanoscale Adv.*, vol. 5, pp. 5015–5028, 18 2023. DOI: 10.1039/D3NA00433C.

4. I. Pinheiro, M. Brollo, G. Bassani, *et al.*, "Effect of viscosity and colloidal stability on the magnetic hyperthermia of petroleum-based nanofluids," *Fuel*, vol. 331, 2023, cited By 0. DOI: 10.1016/j.fuel.2022.125810.

5. N. Shrivastava, C. Ospina, C. Jacinto, *et al.*, "Probing the optical and magnetic modality of multi core-shell fe3o4@sio2@-nagdf4:re3+ (re = ce, tb, dy) nanoparticles," *Optical Materials*, vol. 137, 2023, cited By 0. DOI: 10.1016/j.optmat.2023.113585.

6. A. Cardona Rodríguez, A. Reiber, I. Schuller, D. Muraca, and J. Gabriel Ramírez, "Evidence of a glassy magnetic transition driven by structural disorder in bifeo3 nanoparticles," *Journal of Magnetism and Magnetic Materials*, vol. 563, 2022, cited By 1. DOI: 10.1016/j.jmmm.2022.169917.

7. A. Cardona-Rodríguez, E. Ramos Rodríguez, D. Carranza-Celis, *et al.*, "Resolving magnetic contributions in bifeo3 nanoparticles using first order reversal curves," *Journal of Magnetism and Magnetic Materials*, vol. 556, 2022, cited By 1. DOI: 10.1016/j.jmmm.2022.169409.

8. J. Orozco-Henao, D. Muraca, F. Sánchez, and P. Mendoza Zélis, "Determination of the effective anisotropy of magnetite/maghemite nanoparticles from mössbauer effect spectra," *Journal of Physics D: Applied Physics*, vol. 55, no. 33, 2022, cited By 1. DOI: 10.1088/1361-6463/ac708e.

9. J. Rocha, V. de Souza, P. Panunto, *et al.*, "In vitro and in vivo acute toxicity of a novel citrate-coated magnetite nanoparticle," *PLoS ONE*, vol. 17, no. 11 November, 2022, cited By 0. DOI: 10.1371/journal.pone.0277396.

10. P. Tancredi, P. Rivas-Rojas, O. Moscoso-Londoño, D. Muraca, M. Knobel, and L. Socolovsky, "Size and doping effects on the improvement of the low-temperature magnetic properties of magnetically aligned cobalt ferrite nanoparticles," *Journal of Alloys and Compounds*, vol. 894, 2022, cited By 11. DOI: 10.1016/j.jallcom.2021.162432.

11. M. Brollo, I. Pinheiro, G. Bassani, *et al.*, "Iron oxide nanoparticles in a dynamic flux: Implications for magnetic hyperthermia-controlled fluid viscosity," *ACS Applied Nano Materials*, vol. 4, no. 12, pp. 13 633–13 642, 2021, cited By 5. DOI: 10.1021/acsanm.1c03061.

12. L. Costa, L. Khan, L. Franqui, *et al.*, "Hybrid magneto-luminescent iron oxide nanocubes functionalized with europium complexes: Synthesis, hemolytic properties and protein corona formation," *Journal of Materials Chemistry B*, vol. 9, no. 2, pp. 428–439, 2021, cited By 4. DOI: 10.1039/d0tb02454f.

13. G. Niraula, J. Coaquira, G. Zoppellaro, *et al.*, "Engineering shape anisotropy of fe3o4--fe2o3hollow nanoparticles for magnetic hyperthermia," *ACS Applied Nano Materials*, vol. 4, no. 3, pp. 3148–3158, 2021, cited By 24. DOI: 10.1021/acsanm.1c00311.

14. G. Niraula, D. Toneto, E. Joshy, *et al.*, "Energy evolution, stabilization, and mechanotransducer properties of fe3 o4 vortex nanorings and nanodisks," *Physical Review Applied*, vol. 16, no. 2, 2021, cited By 0. DOI: 10.1103/PhysRevApplied.16.024002.

15. G. Niraula, J. A. H. Coaquira, F. H. Aragon, *et al.*, "Stoichiometry and orientation- and shape-mediated switching field enhancement of the heating properties of Fe_3O_4 circular nanodiscs," *Phys. Rev. Appl.*, vol. 15, p. 014 056, 1 Jan. 2021. DOI: 10.1103/PhysRevApplied.15.014056.

16. G. Niraula, J. A. Coaquira, F. H. Aragon, *et al.*, "Tuning the shape, size, phase composition and stoichiometry of iron oxide nanoparticles: The role of phosphate anions," *Journal of Alloys and Compounds*, vol. 856, p. 156 940, 2021, ISSN: 0925-8388. DOI: https://doi.org/10.1016/j.jallcom.2020.156940.

17. E. Peixoto, M. Carvalho, J. Duque, D. Muraca, Y. Xing, and W. Nunes, "Size distribution and interaction effects on dispersed fe30ni70 nanoalloy synthesized by thermal decomposition," *Journal of Magnetism and Magnetic Materials*, vol. 518, 2021, cited By 1. DOI: 10.1016/j.jmmm.2020.167399.

18. P. Soto, M. Vence, G. Piñero, *et al.*, "Sciatic nerve regeneration after traumatic injury using magnetic targeted adipose-derived mesenchymal stem cells," *Acta Biomaterialia*, vol. 130, pp. 234–247, 2021, cited By 14. DOI: 10.1016/j.actbio.2021.05.050.

19. G. Kloster, D. Muraca, O. Moscoso Londoño, K. Pirota, M. Mosiewicki, and N. Marcovich, "Alginate based nanocomposites with magnetic properties," *Composites Part A: Applied Science and Manufacturing*, vol. 135, 2020, cited By 17. DOI: 10.1016/j.compositesa.2020.105936.

20. G. Muñoz Medina, M. Fernández van Raap, D. Coral, D. Muraca, and F. Sánchez, "Synthesis of highly stable fe/feox@citrate colloids with strong magnetic response by mechanochemistry and coprecipitation for biomedical and environmental applications," *Journal of Magnetism and Magnetic Materials*, vol. 508, 2020, cited By 4. DOI: 10.1016/j.jmmm.2020.166759.

21 J. Orozco-Henao, D. Muraca, F. Sánchez, and P. Mendoza Zélis, "Palmitic acid-coated magnetite nanocubes with high-quality crystallinity and bulk-like magnetic features," *Journal of Physics D: Applied Physics*, vol. 53, no. 38, 2020, cited By 4. DOI: 10.1088/1361-6463/ab9264.

22 E. Ramos, A. Cardona-Rodríguez, D. Carranza-Celis, R. González-Hernández, D. Muraca, and J. Ramírez, "Strain-controlled ferromagnetism in bifeo3 nanoparticles," *Journal of Physics Condensed Matter*, vol. 32, no. 18, 2020, cited By 10. DOI: 10.1088/1361-648X/ab6b8a.

23 J. Santillán, D. Muñetón Arboleda, D. Muraca, D. Schinca, and L. Scaffardi, "Highly fluorescent few atoms silver nanoclusters with strong photocatalytic activity synthesized by ultrashort light pulses," *Scientific Reports*, vol. 10, no. 1, 2020, cited By 21. DOI: 10.1038/s41598-020-64773-z.

24 J. Santillán, D. Muñetón Arboleda, D. Muraca, D. Schinca, and L. Scaffardi, "Ligand-free few atoms ag nanoclusters synthesis and their potential application as photocatalytic agents," *Journal of Nanotechnology and Nanomaterials*, vol. 1, no. 2, 2020. DOI: 10.33696/Nanotechnol.1.009.

25 N. Shrivastava, J. Garcia, U. Rocha, *et al.*, "Binary activated iron oxide/sio2/nagdf4:re (re = ce, and eu; yb, and er) nanoparticles: Synthesis, characterization and their potential for dual: T 1- t 2 weighted imaging," *New Journal of Chemistry*, vol. 44, no. 3, pp. 832–844, 2020, cited By 4. DOI: 10.1039/c9nj03929e.

26 P. Tancredi, P. Rivas-Rojas, L. Veiga, *et al.*, "Magnetic mesoporous silica nanospheres with dual probe release fluorescent functionality," *Nanotechnology*, vol. 31, no. 49, 2020, cited By 1. DOI: 10.1088/1361-6528/abb2c1.

27 D. Carranza-Celis, A. Cardona-Rodríguez, J. Narváez, *et al.*, "Control of multiferroic properties in bifeo 3 nanoparticles," *Scientific Reports*, vol. 9, no. 1, 2019, cited By 45. DOI: 10.1038/s41598-019-39517-3.

28 L. Khan, G. Da Silva, A. De Medeiros, *et al.*, "Fe3o4@sio2 nanoparticles concurrently coated with chitosan and gdof:ce3+,tb3+ luminophore for bioimaging: Toxicity evaluation in the zebrafish model," *ACS Applied Nano Materials*, vol. 2, no. 6, pp. 3414–3425, 2019, cited By 20. DOI: 10.1021/acsanm.9b00339.

29 D. Muraca, L. Scaffardi, J. Santillán, D. Muñetón Arboleda, D. Schinca, and J. Bettini, "In situ electron microscopy observation of the redox process in plasmonic heterogeneous-photo-sensitive nanoparticles," *Nanoscale Advances*, vol. 1, no. 10, pp. 3909–3917, 2019, cited By 0. DOI: 10.1039/c9na00469f.

30 P. Tancredi, L. da Costa, S. Calderon, *et al.*, "Exploring the synthesis conditions to control the morphology of gold-iron oxide heterostructures," *Nano Research*, vol. 12, no. 8, pp. 1781–1788, 2019, cited By 13. DOI: 10.1007/s12274-019-2431-7.

31 P. Tancredi, P. Rivas-Rojas, O. Moscoso-Londoño, D. Muraca, M. Knobel, and L. Socolovsky, "Significant coercivity enhancement at low temperatures in magnetically oriented cobalt ferrite nanoparticles," *Applied Physics Letters*, vol. 115, no. 26, 2019, cited By 7. DOI: 10.1063/1.5131259.

32 D. Arboleda, J. Santillán, V. Arce, *et al.*, "A simple and "green" technique to synthesize long-term stability colloidal ag nanoparticles: Fs laser ablation in a biocompatible aqueous medium," *Materials Characterization*, vol. 140, pp. 320–332, 2018, cited By 16. DOI: 10.1016/j.matchar.2018.04.021.

33 D. Coral, P. Soto, V. Blank, *et al.*, "Nanoclusters of crystallographically aligned nanoparticles for magnetic thermotherapy: Aqueous ferrofluid, agarose phantoms and: Ex vivo melanoma tumour assessment," *Nanoscale*, vol. 10, no. 45, pp. 21 262–21 274, 2018, cited By 24. DOI: 10.1039/c8nr07453d.

34 L. Khan, L. Zambon, J. Santos, *et al.*, "Red-emitting magnetic nanocomposites assembled from ag-decorated fe3o4@sio2 and y2o3:eu3+: Impact of iron-oxide/silver nanoparticles on eu3+ emission," *ChemistrySelect*, vol. 3, no. 4, pp. 1157–1167, 2018, cited By 17. DOI: 10.1002/slct.201702478.

35 G. Kloster, D. Muraca, O. Moscoso Londoño, M. Knobel, N. Marcovich, and M. Mosiewicki, "Structural analysis of magnetic nanocomposites based on chitosan," *Polymer Testing*, vol. 72, pp. 202–213, 2018, cited By 19. DOI: 10.1016/j.polymertesting.2018.10.022.

36 C. Meiorin, D. Actis, F. Montoro, *et al.*, "Magnetic remote activation of shape recovery in nanocomposites based on tung oil and styrene," *Physica Status Solidi (A) Applications and Materials Science*, vol. 215, no. 24, 2018, cited By 9. DOI: 10.1002/pssa.201800311.

37 M. Montiel Schneider, M. Martin, D. Coral, *et al.*, "Selective contrast agents with potential to the earlier detection of tumors: Insights on synthetic pathways, physicochemical properties and performance in mri assays," *Colloids and Surfaces B: Biointerfaces*, vol. 170, pp. 470–478, 2018, cited By 16. DOI: 10.1016/j.colsurfb.2018.06.044.

38 N. Shrivastava, U. Rocha, D. Muraca, *et al.*, "Insight into dual-modality of triply doped magnetic-luminescent iron-oxide/nagdf4:re3+ (re=ce, tb, dy) nanoparticles," *Materials Letters*, vol. 213, pp. 358–361, 2018, cited By 5. DOI: 10.1016/j.matlet.2017.11.037.

39 N. Shrivastava, U. Rocha, D. Muraca, *et al.*, "Magnetic upconverting fluorescent nagdf4:ln3+ and iron-oxide@nagdf4:ln3+ nanoparticles," *AIP Advances*, vol. 8, no. 5, 2018, cited By 8. DOI: 10.1063/1.5007748.

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