

CURRICULUM VITAE

André Avelino Pasa

Full Professor

Physics Department

Universidade Federal de Santa Catarina

Campus Universitário – Trindade - Caixa Postal 476

88.040-900 Florianópolis – SC – Brazil

Phone/Fax ++55 48 3234 0599 Email: andre.pasa@ufsc.br

- 15.06.1960: born in Caxias do Sul, Rio Grande do Sul.
Father: Avelino Antônio Pasa
Mother: Catharina Mauri Pasa
- 1978 – 1983: Study of Electrical Engineering at the Pontifícia Universidade Católica Porto Alegre, RS.
- 1979 – 1984 Study of Physics at Instituto de Física da Universidade Federal do Rio Grande do Sul, Porto Alegre, RS.
- 1984 – 1986: Master Degree in Physics. Supervisors: Profs. I. J. R. Baumvol and J. P. de Souza. Title: *Formation of Ti and Ni silicides for microelectronic applications.*
- 1987 – 1993 Doctorate in Materials Science, Uni. Fed. do Rio de Janeiro. Supervisors: Profs. W.H.P. Losch and G.H. Bauer. Title: *Gold induced hydrogenated amorphous silicon crystallization.*
- 1990 – 1991: PhD Sandwich scholarship (DAAD/CAPES) at Institut für Physicalische Elektronik, Uni. Stuttgart, Germany.
- 1987 – 1993: Assistant researcher at Programa de Engenharia Metalúrgica e de Materiais, COPPE, Uni. Fed. do Rio de Janeiro.
- 1994 – today: Professorship at Departamento de Física, Universidade Federal de Santa Catarina.
- 2008 Sabbatical at Laboratorio de Fisica de Sistemas Pequeños y Nanotecnologia, CSIC, Madrid, Spain.

Plenary Talks:

A new platform for nucleic acid detection in biofluids, Pannano2020 - The Second Pan-American Nanotechnology Conference, Águas de Lindóia, SP, Brazil, March 04 – 07, 2020.

List of Publications (2012 - 2021):

2021

1. Boratto, M. H., Linhares, A. A., Congiu, M., Batagin-Neto, A., Plá-Cid, C. C., Pasa, A. A., and Graeff, C. F. O., Cu²⁺ cation-exchange in ZnxCd1-xS thin films for neuromorphic devices, Appl. Surf. Sci. 537, 147921 (2021), DOI: 10.1016/j.apsusc.2020.147921

2020

2. Avila, L. B., Muller, C. K.; Hildebrand, D., Faita, F. L., Baggio, B. F., Plá Cid, C. C., and Pasa, A. A., Resistive Switching in Electrodeposited Prussian Blue Layers, Materials 24, 5618 (2020), DOI: 10.3390/ma13245618

3. Cristofolini, T., Dalmina, M., Sierra, J. A., Silva, A. H.; Pasa, A. A., Pittella, F., and Creczynski-Pasa, T. B., Multifunctional hybrid nanoparticles as magnetic delivery systems for siRNA targeting the HER2 gene in breast cancer cells, *Mat. Sci. & Eng. C – Mat. Bio. Appl.* 109, 110555 (2020), DOI: 10.1016/j.msec.2019.110555
4. Mohd. Khalid, Ana M. B. Honorato, André A. Pasa, and Hamilton Varela, A sugar derived carbon-red phosphorus composite for oxygen evolution reaction and supercapacitor activities, *Mat. Sci. Ener. Tech.* 3, 508-514 (2020), DOI: 10.1016/j.mset.2020.05.0022589

2019

5. Dalmina, M., Pittella, F., Sierra, J. A., Souza, G. R. R., Silva, A. H., Pasa, A. A., Creczynski-Pasa, T. B., Magnetically responsive hybrid nanoparticles for in vitro siRNA delivery to breast cancer cells, *Mat. Sci. & Eng. C – Mat. Bio. Appl.* 99, 1182-1190 (2019) DOI: 10.1016/j.msec.2019.02.026
6. Zucolotto, B., Plá Cid, C. C., Faita, F.L., Folly, W. S. D., Pasa, A. A., Coercive Field Model for Description of Mono- and Multidomain Magnetic Granular Systems, *J. Phys. Chem. C* 123, 13930-13938 (2019).
7. Brandt, I. S., Stroppa, D. G., Lisboa-Filho, P. N, da Silva, J. H. D, and Pasa, A. A., Favoring the Reactivity of TiO₂ Films with Ideal Arrangement of Anatase and Rutile Crystallites, *ACS Applied Energy Materials*, 2, 4, 2579-2584, 2019 (DOI: 10.1021/acsaem.8b02171).
8. Baggio, B. F., Vicente, C., Pelegrini S., Plá Cid C. C., Brandt I. S., Tumelero M. A., and Pasa A. A., Morphology and Structure of Electrodeposited Prussian Blue and Prussian White Thin Films, *Materials*, 12(7), 1103, 2019 (DOI: 10.3390/ma12071103).
9. Tumelero, Milton A.; Martins, Mauro B.; Souza, Paloma B.; Della Pace, Rafael D.; Pasa, Andre A., Effect of electrolyte on the growth of thermoelectric Bi₂Se₃ thin films, *Electrochem. Acta*, 300, 357-362, 2019 (DOI: 10.1016/j.electacta.2019.01.069)

2018

10. Zimmermann, Lizandra M., Almerindo, Gizelle I., Medeiros, Michelle, Affeldt, Ricardo F., Wanderlind, Eduardo H., Gerola, Adriana P., Nome, Rene A., Tumelero, Milton A., Faccio, Ricardo, Pasa, Andre A., Fiedler, Haidi D., Nome, Faruk, Toward Heterogeneously Catalyzed Detoxification of Phosphotriesters: Insights from Kinetics and Theoretical Calculations, *J. Phys. Chem. C*, 122, 25530-25538, 2018 (DOI: 10.1021/acs.jpcc.8b09148)
11. Quispe, L. T., Brandt, I. S., Pasa, A. A., Faradaic efficiency of porous electrodeposits: an application to -Ni(OH)₂ films, *J. Sol. Stat. Electrochem.* 22, 3025-3033, 2018 (DOI: 10.1007/s10008-018-4012-1)
12. Pignanelli, Fernand, Fernandez-Werner, Luciana, Romero, Mariano, Momburu, Dominique, Tumelero, Milton A., Pasa, Andre A., German, Estefania, Faccio, Ricardo, Momburu, Alvaro W., Hydrogen titanate nanotubes for dye sensitized solar cells applications: Experimental and theoretical study, *Mat. Res. Bull.* 106, 40-48, 2018 (DOI: 10.1016/j.materresbull.2018.05.029)
13. Romero, Mariano, Faccio, Ricardo, Montenegro, Benjamin, Tumelero, Milton A., Pla Cid, Cristiani Campos, Pasa, Andre A., Momburu, Alvaro W., Role of conducting polyaniline interphase on the low field magnetoresistance for LSMO-PANI nanocomposites, *J. Magn. Mag.* 466, 446-451, 2018 (DOI: 10.1016/j.jmmm.2018.07.053)
14. Brandt, Iuri S., Tumelero, Milton A., Martins, Cesar A., Pla Cid, Cristiani C., Faccio, Ricardo, and Pasa, Andre A., Defects controlling electrical and optical properties of electrodeposited Bi doped Cu₂O, *J Appl. Phys.* 123, 161412, 2018 (DOI: 10.1063/1.5007052)

15. Pelegrini, S., Tumelero, M. A., Brandt, I. S., Della Pace, R. D., Faccio, R., and Pasa, A. A., Electrodeposited Cu₂O doped with Cl: Electrical and optical properties, *J. Appl. Phys.* 123, 161567, 2018 (DOI: 10.1063/1.5004782)
16. F. Zhao, Y. Xu, M. A. Tumelero, S. Pelegrini, A. A. Pasa, and G. Zangari, Electrical Conductivity in Electrodeposited Cu-Ge(O) Alloy Films, *J. Electrochem Soc.*, 165, D628-D634 (2018)
17. de Oliveira, Cristian S., Quispe, Luis T., Pla Cid, Cristiani C., Sierra, Jelver A., de Barros, Silvio, Mello, A., and Pasa, Andre A., DTT functionalization of Ag particles for conducting adhesives, *J. Adhesion*, 94, 473-485, 2018 (DOI: 10.1080/00218464.2017.1288113)
18. Brandt, Iuri S, Pla Cid, Cristiani C, Azevedo, Carlos G. G.), Pereira, Andre L. J., Benetti, Luana C., Ferlauto, Andre S., Dias da Silva, Jose H., and Pasa, Andre A., Influence of substrate on the structure of predominantly anatase TiO₂ films grown by reactive sputtering, *RSC ADVANCES*, 8, 7062-7071, 2018 (DOI: 10.1039/c7ra10974a)

2017

19. I.S. Brandt, M.A. Tumelero, S. Pelegrini, G. Zangari, Electrodeposition of Cu₂O: growth, properties, and applications, *J. Solid State Electrochem.* 21 (2017) 1999–2020.
20. J.P.B. Silva, F.L. Faita, K. Kamakshi, K.C. Sekhar, J.A. Moreira, A. Almeida, M. Pereira, A.A. Pasa, M.J.M. Gomes, Enhanced resistive switching characteristics in Pt/BaTiO₃/ITO structures through insertion of HfO₂:Al₂O₃(HAO) dielectric thin layer, *Sci. Rep.* 7 (2017) 46350.
21. M. Khalid, L.T. Quispe, C.C. Pla Cid, A. Mello, M.A. Tumelero, A.A. Pasa, The synthesis of highly corrugated graphene and its polyaniline composite for supercapacitors, *New J. Chem.* (2017).
22. L.T. Quispe, C.C.P. Cid, A. Mello, I.S. Brandt, A.A. Pasa, Anodic Synthesis of β-Ni(OH)₂ Thin Films on Si(100), *ECS J. Solid State Sci. Technol.* 6 (2017) N64–N69.
23. I.S. Brandt, M.A. Tumelero, E. Lima Jr., D.L. da Silva, R.D. Zysler, R. Faccio, A.A. Pasa, Enhanced defect-mediated ferromagnetism in Cu₂O by Co doping, *J. Magn. Magn. Mater.* (2017) 1–13.
24. P.B. Souza, M.A. Tumelero, G. Zangari, A.A. Pasa, Tuning Electrodeposition Conditions towards the Formation of Smooth Bi₂Se₃ Thin Films, *J. Electrochem. Soc.* 164 (2017) 401–405.
25. K. Ersching, E.A. Isoppo, M.A. Tumelero, A.D.C. Viegas, A.A. Pasa, Uniformity and homogeneity of Fe_xNi_{100-x} nanowires electrodeposited in nanoporous alumina, *J. Phys. Chem. Solids.* 104 (2017) 124–132.
26. Romero, Mariano, Faccio, Ricardo, Tumelero, Milton A., Pasa, Andre A., Momburu, Alvaro W., The structural and organic magnetoresistance response of poly(9-vinyl carbazole) using low applied magnetic fields and magnetic nanoparticle addition, *J. Mat. Chem C*, 5, 3779-3787, 2017 (DOI: 10.1039/c7tc00058h).

2016

27. A.H. Silva, E. Lima, M.V. Mansilla, R.D. Zysler, H. Troiani, M. Luz, M. Pesciotti, C. Locatelli, J.C. Benech, N. Oddone, V.C. Zoldan, E. Winter, A.A. Pasa, T.B. Creczynski-Pasa, Superparamagnetic iron-oxide nanoparticles mPEG350 – and mPEG2000-coated: cell uptake and biocompatibility evaluation, *Nanomedicine Nanotechnology, Biol. Med.* 12 (2016) 909–919.
28. M.A. Tumelero, R. Faccio, A.A. Pasa, Unraveling the native conduction of trichalcogenides and its ideal band alignment for new photovoltaic interfaces, *J. Phys. Chem. C.* 120 (2016) 1390–1399.

29. J.A. Fischer, L.M. Sandratskii, S.-H. Phark, S. Ouazi, A.A. Pasa, D. Sander, S.S.P. Parkin, Probing the spinor nature of electronic states in nanosize non-collinear magnets, *Nat. Commun.* 7 (2016) 13000.
30. J.A. Sierra, C.R. Vanoni, M.A. Tumelero, C.C. Plá Cid, R. Faccio, D.F. Franceschini, T.B. Creczynski-Pasa, A.A. Pasa, Biogenic approaches using citrus extracts for the synthesis of metal nanoparticles: The role of flavonoids in gold reduction and stabilization, *New J. Chem.* 40 (2016) 1420–1429.
31. M.A. Tumelero, R. Faccio, A.A. Pasa, The role of interstitial native defects in the topological insulator Bi₂Se₃, *J. Phys. Condens. Matter.* 28 (2016) 425801.
32. M.A. Tumelero, L.C. Benetti, E. Isoppo, R. Faccio, G. Zangari, A.A. Pasa, Electrodeposition and ab Initio Studies of Metastable Orthorhombic Bi₂Se₃: A Novel Semiconductor with Bandgap for Photovoltaic Applications, *J. Phys. Chem. C.* 120 (2016) 11797–11806.
33. M. Romero, R. Faccio, H. Pardo, M.A. Tumelero, C.C. Plá Cid, A.A. Pasa, Á.W. Mombrú, Microstructure, interparticle interactions and magnetotransport of manganite-polyaniline nanocomposites, *Mater. Chem. Phys.* 171 (2016) 178–184.
34. A.H. Silva, C. Locatelli, F.B. Filippin-Monteiro, P. Martin, N.J. Liptrott, B.G. Zanetti-Ramos, L.C. Benetti, E.M. Nazari, C.A.C. Albuquerque, A.A. Pasa, A. Owen, T.B. Creczynski-Pasa, Toxicity and inflammatory response in Swiss albino mice after intraperitoneal and oral administration of polyurethane nanoparticles, *Toxicol. Lett.* 246 (2016) 17–27.

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35. V.C. Zoldan, R. Faccio, A.A. Pasa, N and P Type Character of Single Molecule Diodes., *Sci. Rep.* 5 (2015) 8350.
36. J.I. Avila, M.A. Tumelero, A.A. Pasa, A.D.C. Viegas, Magneto-resistive system with concentric ferromagnetic asymmetric nanorings, *J. Appl. Phys.* 117 (2015) 6. doi:10.1063/1.4914346.
37. D. L. da Silva, E.C. Moreira, F.T. Dias, V. Das Neves Vieira, I.S. Brandt, A. Da Cas Viegas, A.A. Pasa, Quasi-one-dimensional nanostructured cobalt (Co) intercalated vanadium oxide (V₂O₅): Peroxovanadate sol gel synthesis and structural study, *J. Solid State Chem.* 221 (2015) 116–125.
38. M. Khalid, M.A. Tumelero, A.A. Pasa, Asymmetric and symmetric solid-state supercapacitors based on 3D interconnected polyaniline-carbon nanotube framework, *RSC Adv.* 5 (2015) 62033–62039.
39. M. Romero, R. Faccio, H. Pardo, M.A. Tumelero, A.A. Pasa, Á.W. Mombrú, Microstructural and magnetotransport studies of novel manganite-sebacic acid nanocomposites prepared at low temperature, *J. Magn. Magn. Mater.* 377 (2015) 490–495 (10.1016/j.jmmm.2014.11.001).
40. M. Romero, H. Pardo, R. Faccio, M.A. Tumelero, C.C. Plá Cid, J. Castiglioni, A.A. Pasa, A.W. Mombrú, Interphase and magnetotransport of LSMO-PMMA nanocomposites obtained by a sonochemical method, *J. Magn. Magn. Mater.* 382 (2015) 342–348.
41. B. Zucolotto, C.C. Plá Cid, E.A. Isoppo, A.A. Pasa, J.G.S. Duque, W.S.D. Folly, Reliable evaluation of magnetic properties of nanoparticle systems, *J. Appl. Phys.* 118 (2015) 113903.
42. I. S. Brandt, V.C. Zoldan, V. Stenger, C.C. Plá Cid, A.A. Pasa, T.J. Oliveira, F.D.A. Aarão Reis, Substrate effects and diffusion dominated roughening in Cu₂O electrodeposition, *J. Appl. Phys.* 118 (2015).
43. M. Romero, R. Faccio, J. Martínez, H. Pardo, B. Montenegro, C.C. Plá Cid, A.A. Pasa, Á.W. Mombrú, Effect of lanthanide on the microstructure and structure of LnMn_{0.5}Fe_{0.5}O₃ nanoparticles with Ln=La, Pr, Nd, Sm and Gd prepared by the polymer precursor method, *J. Solid State Chem.* 221 (2015) 325–333 (10.1016/j.jssc.2014.10.028).

44. S. Ullah, E.P. Ferreira-Neto, A. a. Pasa, C.C.J. Alcântara, J.J.S. Acuña, S. a. Bilmes, M.L. Martínez Ricci, R. Landers, T.Z. Fermino, U.P. Rodrigues-Filho, Enhanced photocatalytic properties of core@shell SiO₂@TiO₂ nanoparticles, *Appl. Catal. B Environ.* 179 (2015) 333–343.
45. S. Pelegrini, I.S. Brandt, C.C.P. Cid, E.A. Isoppo, A.D.C. Viegas, A.A. Pasa, Electrochemical Cl Doping of Cu₂O: Structural and Morphological Properties, *ECS J. Solid State Sci. Technol.* 4 (2015) P181–P185.
46. Romero, Mariano, Faccio, Ricardo, Pardo, Helena, Tumelero, Milton A., Montenegro, Benjamin, Pla Cid, Cristiani Campos, Pasa, Andre A., Mombro, Alvaro W., The effect of manganite nanoparticle addition on the low field magnetoresistance of polyaniline, *J. Mat. Chem. C*, 3, 12040-12047 (2015) (DOI: 10.1039/c5tc03083h)

2014

47. C. I. L. De Araujo, J.M. Fonseca, J.P. Sinnecker, R.G. Delatorre, N. Garcia, A.A. Pasa, Circular single domains in hemispherical Permalloy nanoclusters, *J. Appl. Phys.* 116 (2014) 20–23.
48. M.L. Mojica Piscioti, E. Lima, M. Vasquez Mansilla, V.E. Tognoli, H.E. Troiani, A.A. Pasa, T.B. Creczynski-Pasa, A.H. Silva, P. Gurman, L. Colombo, G.F. Goya, A. Lamagna, R.D. Zysler, In vitro and in vivo experiments with iron oxide nanoparticles functionalized with DEXTRAN or polyethylene glycol for medical applications: Magnetic targeting, *J. Biomed. Mater. Res. - Part B Appl. Biomater.* 102 (2014) 860–868.
49. I.S. Brandt, C.A. Martins, V.C. Zoldan, A.D.C. Viegas, J.H. Dias Da Silva, A.A. Pasa, Structural and optical properties of Cu₂O crystalline electrodeposited films, *Thin Solid Films.* 562 (2014) 144–151. doi:10.1016/j.tsf.2014.04.013.
50. M. Khalid, M.A. Tumelero, I.S. Brandt, C.C. Pla Cid, A.A. Pasa, Large slabs and allihn condenser type structures of polyaniline by an innovative one-pot approach, *RSC Adv.* 4 (2014) 31689–31691.
51. M. Khalid, M.A. Tumelero, V.C. Zoldan, C.C. Pla Cid, D.F. Franceschini, R.A. Timm, L.T. Kubota, S.A. Moshkalev, A.A. Pasa, Polyaniline nanofibers-graphene oxide nanoplatelets composite thin film electrodes for electrochemical capacitors, *RSC Adv.* 4 (2014) 34168–34178.
52. S. Pelegrini, A. Adami, C. Collini, P. Conci, C.I.L. De Araújo, V. Guarnieri, S. Güths, A.A. Pasa, L. Lorenzelli, Development and characterization of a microthermoelectric generator with plated copper/constantan thermocouples, *Microsyst. Technol.* 20 (2014) 585–592.
53. C. Vicente, V.C. Zoldan, M.A. Flores-Mendoza, D.S. Hamburg-Piekar, B.F. Baggio, C.S. de Oliveira, A.A. Pasa, Enhancement of organic light-emitting diode light extraction by texturing PDMS layers, *Opt. Eng.* 53 (2014) 107111. doi:10.1117/1.OE.53.10.107111.

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54. S. Ullah, J.J.S. Acuña, A.A. Pasa, S.A. Bilmes, M.E. Vela, G. Benitez, U.P. Rodrigues-Filho, Photoactive layer-by-layer films of cellulose phosphate and titanium dioxide containing phosphotungstic acid, *Appl. Surf. Sci.* 277 (2013) 111–120.
55. A.M.G. Borges, L.O. Benetoli, M.A. Licínio, V.C. Zoldan, M.C. Santos-Silva, J. Assreuy, A.A. Pasa, N.A. Debacher, V. Soldi, Polymer films with surfaces unmodified and modified by non-thermal plasma as new substrates for cell adhesion, *Mater. Sci. Eng. C*. 33 (2013) 1315–1324.
56. C.I.L. De Araujo, M.A. Tumelero, J.I. Avila, A.D.C. Viegas, N. Garcia, A.A. Pasa, Electrical spin injection from ferromagnetic nanocontacts into nondegenerated silicon at low temperatures, *J. Supercond. Nov. Magn.* 26 (2013) 3449–3454.
57. D.L. da Silva, A.A. Pasa, Orthorhombic phase formation in electrochemically grown vanadium oxide (V₂O₅) nanofibers, *Mater. Chem. Phys.* 140 (2013) 7–10.

58. M.B. Fritzen-Garcia, F.F. Monteiro, T. Cristofolini, J.J.S. Acuña, B.G. Zanetti-Ramos, I.R.W.Z. Oliveira, V. Soldi, A.A. Pasa, T.B. Creczynski-Pasa, Characterization of horseradish peroxidase immobilized on PEGylated polyurethane nanoparticles and its application for dopamine detection, *Sensors Actuators, B Chem.* 182 (2013) 264–272.
59. E.P. Ferreira-Neto, F.L.S. De Carvalho, S. Ullah, V.C. Zoldan, A.A. Pasa, A.L. De Souza, L.C. Battirola, P. Rudolf, S.A. Bilmes, U.P. Rodrigues-Filho, Surface structure and reactivity study of phosphotungstic acid-nitrogenated ormosils, *J. Sol-Gel Sci. Technol.* 66 (2013) 363–371.
60. V.C. Zoldan, R. Faccio, C. Gao, A.A. Pasa, Coupling of Cobalt–Tetraphenylporphyrin Molecules to a Copper Nitride Layer, *J. Phys. Chem. C* 117 (2013) 15984–15990.
61. M.B. Fritzen-Garcia, V.C. Zoldan, I.R.W.Z. Oliveira, V. Soldi, A.A. Pasa, T.B. Creczynski-Pasa, Peroxidase immobilized on phospholipid bilayers supported on au (111) by DTT self-assembled monolayers: Application to dopamine determination, *Biotechnol. Bioeng.* 110 (2013) 374–382.

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67. M. Khalid, J.J.S. Acuña, M.A. Tumelero, J.A. Fischer, V.C. Zoldan, A.A. Pasa, Sulfonated porphyrin doped polyaniline nanotubes and nanofibers: synthesis and characterization, *J. Mater. Chem.* 22 (2012) 11340.