

List of Publications, Patents and Communications

Publications in international indexed journals:

1. Barbosa, D. C.; Melo, L. L.; Trava-Airoldi, V. J.; Corat E. J. . The Activation Energy for Nanocrystalline Diamond Films Deposited from an Ar/H₂/CH₄/ Hot-Filament Reactor. **Journal of Nanoscience and Nanotechnology**, v. 9, p. 3944-3948 (2009).
2. Zorzi, Janete E.; de Amorim, Cintia L.G. ; Milani, Raquel ; Figueroa, Carlos A. ; da Jornada, João A.H. ; Perottoni, Claudio A. "Ball milling-induced pyrochlore-to-tungsten bronze phase transition in RbNbWO" **Journal of Materials Research**, v. 24, p. 2035 (2009).
3. MARCIANO, F. R. ; D.A. Lima-Oliveira ; N.S. Da-Silva ; A.V. Diniz ; TRAVA-AIROLDI, V. J. ; E.J. Corat . Antibacterial activity of DLC films containing TiO₂ nanoparticles. **Journal of Colloid and Interface Science**, v. 340, p. 87 (2009).
4. MARCIANO, F. R. ; MARCIANO, F. R. ; L.F. Bonetti ; N.S. Da-Silva ; TRAVA-AIROLDI, V. J. ; E.J. Corat . Diamond-like carbon films produced from high deposition rates exhibit antibacterial activity. **Synthetic Metals**, v. 159, p. 2167 (2009).
5. MARCIANO, F. R. ; MARCIANO, F. R. ; J.S. Marcuzzo ; L.F. Bonetti ; TRAVA-AIROLDI, V. J. ; E.J. Corat . Use of near atmospheric pressure and low pressure techniques to modification DLC film surface. **Surface & Coatings Technology**, v. 204, p. 64 (2009).
6. Amorim, A. ; Nascente, P.A.P. ; Trava-Airoldi, V.J. ; Corat, E.J. ; Alves, A.R. ; Moro, J.R. . Two-step growth of HFCVD diamond films over large areas. **Vacuum**, v. 83, p. 1054 (2009).
7. Marciano, F.R. ; Bonetti, L.F. ; Pessoa, R.S. ; Massi, M. ; Santos, L.V. ; Trava-Airoldi, V.J. . Oxygen plasma etching of silver-incorporated diamond-like carbon films. **Thin** , v. 517, p. 5739 (2009).
8. Barbosa, D.C. ; Almeida, F.A. ; Silva, R.F. ; Ferreira, N.G. ; Trava-Airoldi, V.J. ; Corat, E.J. . Influence of substrate temperature on formation of ultrananocrystalline diamond films deposited by HFCVD argon-rich gas mixture. **Diamond and Related Materials**, v. 18, p. 1283 (2009).
9. Marciano, F.R. ; Bonetti, L.F. ; Da-Silva, N.S. ; Corat, E.J. ; Trava-Airoldi, V.J. . Wettability and antibacterial activity of modified diamond-like carbon films. **Applied Surface Science**, v. 255, p. 8377 (2009).
10. Marciano, F.R. ; Bonetti, L.F. ; Santos, L.V. ; Da-Silva, N.S. ; Corat, E.J. ; Trava-Airoldi, V.J. . Antibacterial activity of DLC and Ag DLC films produced by PECVD technique. **Diamond and Related Materials**, v. 18, p. 1010 (2009).
11. Statuti R.P.C.C. ; RADI, P. A. ; SANTOS, L. V. ; TRAVA-AIROLDI, V. J. ; SANTOS, L. V. . A tribological study of the hybrid lubrication of DLC films with oil and water. **Wear**, v. 267, p. 1208 (2009).
12. Basso, R.; Candal, R.; Figueroa, C. A.; Wisnivesky, D.; Alavarez, F. "Influence of microstructure on the corrosion behavior of nitrocarburized AISI H13 tool steel obtained by pulsed DC plasma" **Surface and Coatings Technology**, v. 203, p. 1293 (2009).
13. Aguzzoli, C.; Tentardini, E. K.; Figueroa, C. A.; Kwietniewski, C.; Miotti, L.; Baumvol, I. J. R. "Atomic transport and chemical reaction in TiN/Ti nanolayers on plasma nitrided steel" **Applied Physics. A, Materials Science & Processing**, v. 94, p. 263 (2009).
14. Portolan, E.; Baumvol, I.J.R.; Figueroa, C. A. "Electronic structure and mechanical properties of plasma nitrided ferrous alloys" **Applied Surface Science**, v. 255, p. 6661 (2009).

15. Milani, R.; Cardoso, R.P.; Belmonte, T.; Figueroa, C. A.; Perottoni, C.A.; Zorzi, J.E.; Soares, G.V.; Baumvol, I.J.R. "Nitriding of yttria-stabilized zirconia in atmospheric pressure microwave plasma" **Journal of Materials Research**, v. 24, p. 2021 (2009).
16. Kauling, A. P.; Soares, G. V.; Figueroa, C. A.; de Oliveira, R.V.B.; Baumvol, I. J.R.; Giacomelli, C.; Miotti, L. "Polypropylene surface modification by active screen plasma nitriding" **Materials Science & Engineering. C, Biomimetic Materials, Sensors and Systems**, v. 29, p. 363 (2009).
17. Basso, R. L. O.; Pimentel, V. L.; Weber, S.; Marcos, G.; Czerwiec, T.; Baumvol, I. J. R.; Figueroa, C. A. "Magnetic and structural properties of ion nitrided stainless steel" **Journal of Applied Physics**, v. 105, p. 124914 (2009).
18. HOLMBERG, Kenneth ; RONKAINEN, Helena ; LAUKKANEN, Anssi ; WALLIN, Kim ; Hogmark, Sture ; JACOBSON, Staffan ; WIKLUND, Urban ; Souza, Roberto M. ; Ståhle, Per, "Residual stresses in TiN, DLC and MoS₂ coated surfaces with regard to their tribological fracture behavior", **Wear** 267, 2142 (2009).
19. SANCHEZ, C. M., COSTA, M. E. H. M., FONSECA FILHO, Henrique D, FREIRE JUNIOR, F. L. Nitrogen incorporation into titanium diboride films deposited by dc magnetron sputtering: structural modifications. **Thin Solid Films.** , v.517, p.5683 (2009).
20. CHEMALE, L. T.; VASCONCELLOS, M. A. Z. ; HINRICHS, R ; CUNHA, J. B. M. ; CHEMALE JR, F. . Phase quantification in iron ore. **Transactions. Institution of Mining and Metallurgy. Section C. Mineral Processing & Extractive Metallurgy**, v. 118, p. 168 (2009).
21. Wolle, Carlos Frederico Brilhante ; VASCONCELLOS, M. A. Z. ; Hinrichs, Ruth ; Becker, Alex Niederauer ; Barletta, Fernando Branco . The Effect of Argon and Nitrogen Ion Implantation on Nickel-Titanium Rotary Instruments. **Journal of Endodontics**, v. 35, p. 1558 (2009).
22. Pureza, J.M.; LACERDA, M. M. ; De Oliveira, A.L. ; Fragalli, J.F. ; Zanon, R.A.S. . Enhancing accuracy to Stoney Equation. **Applied Surface Science** , v. 255, p. 6426 (2009).
23. A. Hentz, G. S. Parkinson, P. D. Quinn, M. A. Muñoz-Márquez, D. P. Woodruff, P. L. Grande, G. Schiwietz, P. Bailey, and T. C. Q. Noakes, Direct Observation and Theory of Trajectory-Dependent Electronic Energy Losses in Medium-Energy Ion Scattering, **Physical Review Letters**, 102, 096103 (2009).
24. J.M.J. Lopes, U. Littmark, M. Roeckerath, E. Durgun Özben, S. Lenk, U. Breuer, A. Besmehn, A. Stärk, P.L. Grande , M.A. Sortica, C. Radtke, J. Schubert, S. Mantl, Isotopic labeling study of oxygen diffusion in amorphous LaScO₃ high-k films on Si(100) and its effects on the electrical characteristics, **Applied Physics A** 96 447 (2009).
25. M. Shubeita, R. C. Fadanelli, J. F. Dias, P. L. Grande, C. D. Denton and I. Abril, R. Garcia-Molina, N. R. Arista, Role of electronic excitations in the energy loss of H₂ projectiles in high-k materials, **Physical Review B** 80, 205316 (2009).
26. M. A. Sortica, P. L. Grande, G. Machado, and L. Miotti, Characterization of nanoparticles through medium-energy ion scattering, **Journal of Applied Physics**, 106 1 (2009).
27. M. H. Oliveira, D.S. Silva, S. D. S. Côrtes, Diamond like carbon used as antireflective coating on crystalline silicon solar cells, **Diamond and Related Materials**, V. 18, 1028 (2009).
28. ALVES C. ; GALVÃO, N. K. DE A. M.; T Belmonte ; G Henrion . OES During Reforming Of Methane By Microwave Plasma At Atmospheric Pressure. **Journal of Analytical Atomic Spectrometry**, v. 24, p. 1459 (2009).

29. Sá, J.C.; de Brito, R.A.; Moura, C.E.; Silva, N.B.; Alves, M.B.M.; Júnior, C. Alves. Influence of argon-ion bombardment of titanium surfaces on the cell behavior. **Surface and Coatings Technology**, v. 203, p. 1765 (2009).
30. Tavares, J.C.M.; Cornélio, Deborah A.; da Silva, Naisandra Bezerra; Bezerra de Moura, Carlos Eduardo; de Queiroz, Jana Dara Freires; Sá, Juliana C.; Alves Jr. C.; de Medeiros, Silvia Regina Batistuzzo. Effect of titanium surface modified by plasma energy source on genotoxic response in vitro. **Toxicology (Amsterdam)**, v. 262, p. 138 (2009).
31. GUERRA NETO, C. L. B.; SILVA, M. A. M. DA; ALVES C.. Osseointegration evaluation of plasma nitrided titanium implants. **Surface Engineering**, v. 25, p. 434 (2009).
32. GUERRA NETO, C. L. B.; da Silva, M. A. M.; Alves, C.. Experimental study of plasma nitriding dental implant surfaces. **Surface Engineering**, v. 25, p. 430 (2009).
33. SOUZA, R. M. S.; ARAUJO, F. O.; COSTA, J. A. P.; Dumelow, T.; OLIVEIRA, R. S.; ALVES C.. Nitriding in Cathodic Cage of Stainless Steel AISI 316: Influence of Sample Position. **Vacuum**, v. 83, p. 1 (2009).
34. GUERRA NETO, C. L. B.; SILVA, M. A. M.; ALVES C.. In vitro study of cell behaviour on plasma surface modified titanium. **Surface Engineering**, v. 25, p. 146 (2009).
35. SÁ, J. C.; BRITO, R. A. DE; C.E.MOURA; N.B.SILVA; ALVES, M. B. DE M.; ALVES JUNIOR, C. Influence of bombardment of titanium surfaces on the cell behavior, **Surface and Coatings Technology**, v. 203, p. 1765 (2009).
36. Oliviero, E., David, M. L., Fichtner, P. F. P. Interaction of interstitials with buried amorphous layer in silicon. **Physica Status Solidi (c)**, v.6, p.1969 (2009).
37. REBOH, S., de Mattos, A. A., Barbot, J. F., Declémy, A., Beaufort, M. F., Papale?o, R. M., Bergmann, C. P., Fichtner, P. F. P. Localized exfoliation versus delamination in H and He coimplanted (001) Si. **Journal of Applied Physics**, v.105, p.093528 (2009).
38. Masunaga, S. H., Jardim, R. F., Fichtner, P. F. P., Rivas, J. Role of dipolar interactions in a system of Ni nanoparticles studied by magnetic susceptibility measurements. **Physical Review. B, Condensed Matter and Materials Physics**, v.80, p.184428 (2009).
39. SILVEIRA, F.; Alves, Maria do Carmo Martins; STEDILE, F. C.; PERGHER, S. B. C.; SANTOS, J. H. Z. Microporous and mesoporous supports and their effect on the performance of supported metallocene catalysts. **Journal of Chemical Catalysis. A, Chemical**, v. 315, p. 213 (2009).
40. Fisch, Adriano G.; Cardozo, Nilo S.M.; Secchi, Argimiro R.; Stedile, Fernanda C.; Radtke, Cláudio; De Sá, Denise S.; da Rocha, Zênis N.; Santos, João Henrique Z. dos; SANTOS, J. H. Z.. Immobilization of
41. Zirconocene within Silica-tungsten by Entrapment: Tuning Electronic Effects Of The Support On The Supported Complex. **Applied Catalysis. A, General**, v. 370, p. 114 (2009).
42. FISCH, A; CARDOZO, N; SECCHI, A; STEDILE, F; LIVOTTO, P; DESA, D; DAROCHA, Z; DOSSANTOS, J. Immobilization of metallocene within silica titania by a non-hydrolytic sol gel method. **Applied Catalysis. A, General**, v. 354, p. 88 (2009).

43. Silveira, Fernando ; Alves, Maria do Carmo Martins ; Stedile, Fernanda C. ; Pergher, Sibebe B. C. ; dos Santos, João Henrique Zimnoch . The Role of the Support in the Performance of Grafted Metallocene Catalysts. **Macromolecular Reaction Engineering**, v. 3, p. 139 (2009).
44. Brambilla, Rodrigo ; Radtke, Cláudio ; Dos Santos, João H. Z. ; Miranda, Márcia S. L. ; SANTOS, J. H. Z. . An investigation on structure and texture of silica-magnesia xerogels. **Journal of Sol-Gel Science and Technology**, v. 51, p. 70 (2009).
45. GOLLMANN, M. A. C. ; CAPELETTI, L. ; MIRANDA, M. S. L. ; SANTOS, J. H. Z. . Modified-sorbents for acetone adsorption: application in ethylene polymerization process. **Chemical Engineering Journal**, v. 147, p. 383 (2009).
46. PETKOWICZ, D ; BRAMBILLA, R ; RADTKE, C ; SILVADASILVA, C ; DAROCHA, Z ; PERGHER, S ; DOSSANTOS, J . Photodegradation of methylene blue by in situ generated titania supported on a NaA zeolite. **Applied Catalysis. A, General**, v. 357, p. 125 (2009).
47. SILVEIRA, F. ; ALVES, M. C. M. ; STEDILE, F. C. ; PERGHER, S. B. C. ; RIGACCI, A. ; SANTOS, J. H. Z. Effect of the silica texture on the structure of supported metallocene catalysts. **Journal of Chemical Catalysis. A, Chemical**, v. 298, p. 40 (2009).
48. Franceschini, Fernando C. ; Tavares, Tatiana T. da R. ; Bianchini, Daniela ; Alves, Maria do Carmo M. ; Ferreira, Maria Lujan ; Dos Santos, João H. Z. ; SANTOS, J. H. Z. . Characterization and evaluation of supported - dimethylsilylenebis(indenyl)zirconium dichloride on ethylene polymerization. **Journal of Applied Polymer Science**, v. 112, p. 563 (2009).
49. Borsali, R. Thermo-Responsive Copolymers Based on Poly(-isopropylacrylamide) and Poly[2-(methacryloyloxy)ethyl phosphorylcholine]: Light Scattering and Microscopy Experiments. **Macromolecular Chemistry and Physics** 210, 1726 (2009).
50. Fritzen-Garcia, M.B.; Oliveira, I.R.W.Z.; Zanetti-Ramos, B.G.; Fatibello-Filho, O.; Soldi, V.; Pasa, A.A.; Creczynski-Pasa, T.B. Carbon paste electrode modified with pine kernel peroxidase immobilized on pegylated polyurethane nanoparticles. **Sensors and Actuators. B, Chemical** 139, 570 (2009).
51. Salmoria, G; Ahrens, C; Beal, V; Pires, A; Soldi, V. Evaluation of post-curing and laser manufacturing parameters on the properties of SOMOS 7110 photosensitive resin used in stereolithography. **Materials and Design** 30, 758 (2009).
52. Domenech, S.C.; Bendo, L.; Mattos, D.J.S.; Borges, N.G.; Zucolotto, V.; Mattoso, L.H.C.; Soldi, V.. Elastomeric composites based on ethylene-propylene-diene monomer rubber and conducting polymer-modified carbon black. **Polymer Composites** 30, 897 (2009).
53. Fritzen-Garcia, M.B.; Zanetti-Ramos, B.G.; de Oliveira, C.S.; Soldi, V. ; Pasa, A. A.; Creczynski-Pasa, T.B. Atomic force microscopy imaging of polyurethane nanoparticles onto different solid substrates. **Materials Science & Engineering. C, Biomimetic Materials, Sensors and Systems** 29, 405 (2009).
54. RIGO, R. T.; PERGHER, S. B. C. ; PETKOWICZ, D. I. ; SANTOS, J. H. Z. . Um novo procedimento de síntese de zeólita A empregando argilas naturais. **Química Nova**, v. 32, p. 21 (2009).

55. Melo, A.; Bet, A.C.; Assreuy, J ; Debacher, N. A. ; Soldi, V . Adhesion of L929 mouse fibroblast cells on poly(styrene)/poly(methyl methacrylate) films. **Journal of the Brazilian Chemical Society** 20, 1753 (2009).
56. Lima, A.M.F.; Soldi, V; Borsali, R. Dynamic light scattering and viscosimetry of aqueous solutions of pectin, sodium alginate and their mixtures: effects of added salt, concentration, counterions, temperature and chelating agent. **Journal of the Brazilian Chemical Society** 20, 1705 (2009).
57. Oliveira, A.F.; Soldi, V; Coelho, C.M.M; Miqueloto, A.; Coimbra, J.L.M. Preparation, characterization and properties of polymeric films with potential application in seed coatings. **Química Nova** 32, 1845-1849, 2009.
58. Cristiano CMZ; Fayad, S. J.; Porto, L. C.; Soldi, V. Protein-Based Films Cross-Linked with 1-Ethyl-3-(3-dimethylamino-propyl) carbodiimide hydrochloride (EDC): Effects of the Cross-Linker and Film Composition on the Permeation Rate of p-Hydroxyacetanilide as a Model Drug. **Journal of the Brazilian Chemical Society** 21, 340 (2010).
59. Soares, Rosane M.D.; Soldi, Valdir. The influence of different cross-linking reactions and glycerol addition on thermal and mechanical properties of biodegradable gliadin-based film. **Materials Science & Engineering. C, Biomimetic Materials, Sensors and Systems** 30, 691 (2010).
60. Caon, T.; Zanetti-Ramos, B.G.; Lemos-Senna, E.; Cloutet, E.; Cramail, H.; Borsali, R.; Soldi, V.; Simões, C.M.O. Evaluation of DNA damage and cytotoxicity of polyurethane-based nano- and microparticles as promising biomaterials for drug delivery systems. **Journal of Nanoparticle Research** 12, 1655 (2010).
61. Vasques C.T.; Domenech, S.C.; Barreto, P. L. M.; Soldi, V. Polypyrrole-modified starch films: structural, thermal, morphological and electrical characterization. **E-Polymers** 026, (2010)
62. Andreani, L; Cercená, R.; Ramos, B.G.Z. ; Soldi, V. Development and characterization of wheat gluten microspheres for use in a controlled release system. **Materials Science & Engineering. C, Biomimetic Materials, Sensors and Systems** 29, 524 (2009).
63. BRAMBILLA, R. ; RADTKE, C. ; Santos, João Henrique Z. ; MIRANDA, M. S. L. . Silica-magnesia mixed oxides prepared by a modified Stöber route: Structural and textural aspects. **Powder Technology**, v. 198, p. 337 (2010).
64. Silveira, Fernando ; Brambilla, Rodrigo ; Silveira, Nadya Pesce ; do Carmo Martins Alves, Maria ; Stedile, Fernanda C. ; Pergher, Sibebe B. C. ; dos Santos, João Henrique Zimnoch . Effect of textural characteristics of supported metallocenes on ethylene polymerization. **Journal of Materials Science**, v. 45, p. 1760 (2010).
65. Rossetto, Enéderson ; Petkowicz, Diego I. ; dos Santos, João H.Z. ; Pergher, Sibebe B.C.; Penha, Fábio G. ; dos Santos, João Henrique Zimnoch . Bentonites impregnated with TiO₂ for photodegradation of methylene blue. **Applied Clay Science** v. 48, p. 602 (2010).
66. ZELAYA, E., Schryvers, D., Tolley, A., Fichtner, P. F. P. Cavity nucleation and growth in Cu:Zn:Al irradiated with Cu+ ions at different temperatures. **Intermetallics** v.18, p. 493 (2010).
67. Fernandes, V, Schio, P, de Oliveira, A J A, Ortiz, W A, Fichtner, P, AMARAL, L, Graff, I L, Varalda, J, Mattoso, N, Schreiner, W H, Mosca, D H Ferromagnetism induced by oxygen and cerium vacancies above the percolation limit in CeO. **Journal of Physics: Condensed Matter** . , v.22, p.216004 (2010).

68. Cornejo, D.R., Peixoto, T.R.F., REBOH, S., Fichtner, P. F. P., de Franco, V.C., Villas-Boas, V., Missell, F.P. First-order-reversal-curve analysis of Pr:Fe:B-based nanocomposites. **Journal of Magnetism and Magnetic Materials**, v.322, p.827 (2010).
69. REBOH, S., Barbot, J. F., Beaufort, M. F., Fichtner, P. F. P. H-induced subcritical crack propagation and interaction phenomena in (001) Si using He-cracks templates. **Applied Physics Letters**, v.96, p.031907 (2010).
70. REBOH, S., Schaurich, F., Declémy, A., Barbot, J. F., Beaufort, M. F., Cherkashin, N., Fichtner, P. F. P. On the microstructure of Si coimplanted with H⁺ and He⁺ ions at moderate energies. **Journal of Applied Physics**, v.108, p.023502 (2010).
71. Pureza, J.M.; Neri, F.; Lacerda, M.M. . Stoney equation limits for samples deformed as a cylindrical surface. **Applied Surface Science**, v. 256, p. 4408 (2010).
72. M.A.Z. Vasconcellos, R. Hinrichs, J.B.M. da Cunha e M.R.F. Soares, Mössbauer spectroscopy characterization of automotive brake disc and polymer matrix composite (PMC) pad surfaces. **Wear**, Volume 268, p. 715 (2010).
73. Gavini, Giulio ; Pessoa, Oscar Faciola ; Barletta, Fernando Branco ; Vasconcellos, M.A.Z. ; Caldeira, Celso Luiz . Cyclic Fatigue Resistance of Rotary Nickel-Titanium Instruments Submitted to Nitrogen Ion Implantation. **Journal of Endodontics**, v. 36, p. 1183 (2010).
74. COSTA, M. E. H. M., FREIRE JUNIOR, F. L., Deuterated amorphous carbon films: film growth and properties. **Surface & Coatings Technology**, v.203, p.1193 (2010).
75. VIANA, G.A, Motta EF, COSTA, M. E. H. M., FREIRE JUNIOR, F. L., MARQUES, Francisco das Chagas, Diamond-like carbon deposited by plasma techniques as a function of methane. **Diamond and Related Materials**, v.19, p.756 (2010).
76. Gómez, A.G. ; Recco, A.A.C. ; Lima, N.B. ; Martinez, L.G. ; Tschiptschin, A.P. ; Souza, R.M., "Residual stresses in titanium nitride thin films obtained with step variation of substrate bias voltage during deposition", **Surface & Coatings Technology** 204, 3228 (2010).
77. Marlla Vallerius da Costa ; T L Menezes ; Dalla Corte D. A.; OLIVEIRA, C. T. ; Malfatti C F., Iduvirges Lourdes Müller . Silane film obtained from a sol constituted with TMSPMA and TEOS and the hexavalent chromate conversion film: The comparative performance as a post-treatment of zinc coating. **ECS transactions**, v. 25, p. 123 (2010).
78. Marlla Vallerius da Costa; OLIVEIRA, C. T. ; Dalla Corte D. A. ; RIEDER E S ; Iduvirges Lourdes Müller ; Malfatti C. F. . Silane film obtained by sol gel process with cerium addition for post-treatment on zinc-talc composite coatings. **ECS transactions**, v. 25, p. 113 (2010).
79. Ramos, S.C. ; Vasconcelos, G. ; Antunes, E.F. ; Lobo, A.O. ; Trava-Airoldi, V.J. ; Corat, E.J. . Wettability control on vertically-aligned multi-walled carbon nanotube surfaces with oxygen pulsed DC plasma and CO₂ laser treatments. **Diamond and Related Materials**, v. 19, p. 752 (2010).
80. Aguzzoli, C.; Marín, C.; Figueroa, C. A.; Soares, G. V.; Baumvol, I. J. R. "Physicochemical, structural, and mechanical properties of Si₃N₄ films annealed in O₂" **Journal of Applied Physics**, v. 107, p. 073521 (2010)

81. Barbosa, D.C.; Barreto, P.R.P. ; Trava-Airoldi, V.J. ; Corat, E.J. . Growth and characterization of diamond micro and nano crystals obtained using different methane concentration in argon-rich gas mixture. **Diamond and Related Materials**, v. 19, p. 768 (2010).
82. Ramos, S.C. ; Vasconcelos, G. ; Antunes, E.F. ; Lobo, A.O. ; Trava-Airoldi, V.J. ; Corat, E.J. . Total re-establishment of superhydrophobicity of vertically-aligned carbon nanotubes by CO₂ laser treatment. **Surface & Coatings Technology**, v. 204, p. 3073 (2010).
83. Marciano, F.R. ; Almeida, E.C. ; Lima-Oliveira, D.A. ; Corat, E.J. ; Trava-Airoldi, V.J. . Crystalline diamond particles into diamond-like carbon films: The influence of the particle sizes on the electrochemical corrosion resistance. **Surface & Coatings Technology**, v. 204, p. 2600 (2010).
84. Marciano, F.R. ; Lima-Oliveira, D.A. ; Da-Silva, N.S. ; Corat, E.J. ; Trava-Airoldi, V.J. . Antibacterial activity of fluorinated diamond-like carbon films produced by PECVD. **Surface & Coatings Technology**, v. 204, p. 2986 (2010).
85. Braga, N.A. ; Cairo, C.A.A. ; Ferreira, N.G. ; Baldan, M.R. ; Trava-Airoldi, V.J. . One-step CVD-diamond coating process on 3-D titanium substrates using reticulated vitreous carbon as a solid carbon source. **Diamond and Related Materials**, v. 19, p. 764 (2010).
86. Cemin, F.; Echeverrigaray, F. G.; Rovani, A. C.; Amorim, C. L.G. ; Basso, R. L. O. ; Baumvol, I. J. R.; Figueroa, C. A. "Influence of atomic and mechanical attrition on low temperature plasma nitriding of ferrous alloys" **Materials Science & Engineering. A, Structural Materials: properties, microstructure and processing**, v. 527, p. 3206 (2010).
87. Marciano, F.R. ; Almeida, E.C. ; Bonetti, L.F. ; Corat, E.J. ; Trava-Airoldi, V.J. . Improvement of diamond-like carbon electrochemical corrosion resistance by addition of nanocrystalline diamond. **Journal of Colloid and Interface Science**, v. 342, p. 636 (2010).
88. Rovani, A. C.; Fischer, R. R.; Cemin, F.; Echeverrigaray, F. G. ; Basso, R. L. O.; Amorim, C.L.G.; Soares, G.V.; Baumvol, I.J.R.; Figueroa, C. A. "Effect of hydrogen on plasma post-oxidation of ferrous alloys" **Scripta Materialia**, v. 62, p. 863 (2010).
89. Leite, M. V.; Figueroa, C. A.; Gallo, S. C.; Rovani, A.C.; Basso, R. L. O.; Mei, P. R.; Baumvol, I. J. R.; Sinatora, A. "Wear mechanisms and microstructure of pulsed plasma nitrided aisi H13 tool steel" **Wear** ,v. 269, p. 466 (2010).
90. Basso, R. L. O.; Pastore, H. O.; Schmidt, V.; Baumvol, I. J. R.; Abarca, S. A. C.; de Souza, F. S.; Spinelli, A.; Figueroa, C. A.; Giacomelli, C. "Microstructure and corrosion behaviour of pulsed plasma nitrided AISI H13 tool steel" **Corrosion Science**, v. 52, p.3133 (2010).
91. Radtke, C; Krug, C; Soares, GV; Baumvol, IJR; Lopes, JMJ; Durgun-Ozben, E; Nichau, A; Schubert, J; Mantl, S. 2010. Physicochemical and Electrical Properties of LaLuO₃/Ge(100) Structures submitted to Postdeposition Annealings. **Electrochemical and Solid State Letters** 13 (5): G37-(2010).

Book Chapters:

1. Marciano, F. R. ; L.F. Bonetti ; Pessoa, R.S. ; J.S. Marcuzzo ; MASSI, M ; Santos, L.V. ; E. J. Corat ; Trava-Airoldi, V.J. . Mass Spectrometry Evaluation of the Improvement of DLC Film Lifetime Using Silver Nanoparticles for Application on Space Devices: Material Review and Etching Experiments. In: Nova Publishers. (Org.). Handbook on Mass Spectrometry: Instrumentation, Data and Analysis, and Applications. New York: Nova Publishers, 2009.

2. Krug, Cristiano; RADTKE, C. Nanocristais semicondutores. In: Adriana Raffin Pohlmann; Carlos Otávio Petter; Naira Maria Balzaretti; Sílvia Staniscuaski Guterres. (Org.). Tópicos em Nanociência e Nanotecnologia. 1 ed. Porto Alegre: Editora da UFRGS, 2010, v. 2 .

Communications presented in International Conferences:

1. Figueroa, C. A.; Portolan E.; Maia da Costa, M. E. H.; Dotto M. E. R.; Soares G. V.; Baumvol, I. J.R. ; Aguzzoli, C "Structural and mechanical properties of vanadium carbide obtained by dc reactive magnetron sputtering" 10th International Workshop on Plasma-Based Ion Implantation & Deposition, 2009, São José dos Campos – SP.
2. Amorim C. L. G.; Figueroa, C. A.; Zorzi, J. E.;Basso, R. L. O., Baumvol, I. J. R.; Perottoni, C. A. "RF-induced plasma nitriding of zirconia" 10th International Workshop on Plasma-Based Ion Implantation & Deposition, 2009, São José dos Campos – SP.
3. Strapasson G. ; Figueroa, C. A.; Soares G. V.; Baumvol, I. J. R.; Tentardini, E. K. "Low-friction TiN/MoS2 nano-structured coatings investigated before and after tribological application" 10th International Workshop on Plasma-Based Ion Implantation & Deposition, 2009, São José dos Campos – SP.
4. Aguzzoli, C.; Soares G. V.; Figueroa, C. A.; Baumvol, I. J. R. "Tribological and structural characterization of TiC and VC thin films deposited by DC magnetron sputtering" 10th International Workshop on Plasma-Based Ion Implantation & Deposition, 2009, São José dos Campos – SP.
5. Figueroa, C. A.; Baumvol, I. J. R.; C. Aguzzoli; Soares G. V. "Physicochemical and tribological investigations of TiC and VC thin films deposited on Si by DC reactive magnetron sputtering" 11th International Conference on Advanced Materials, 2009, Rio de Janeiro – RJ.
6. Gasparin A.; Baumvol, I. J. R.; Umpierre A. P.; Crespi A. E.; Figueroa, C. A.; Cemin F.; Nunes R. C. R.; Giacomelli, C "Adhesion measurement of Cu thin films on polyamide and polypropylene substrates" 11th International Conference on Advanced Materials, 2009, Rio de Janeiro – RJ.
7. Strapasson G.; Figueroa, C. A.; Soares G. V.; Basso, R. L. O.; Baumvol, I. J.R.; Tentardini, E. K. "Low-Friction TiN/ MoS2 Nano-structured coatings investigated before and after tribological application" 11th International Conference on Advanced Materials, 2009, Rio de Janeiro – RJ.
8. Cemin F.; Amorim C.L.G.;Basso, R. L. O.; Baumvol, I. J.R. ; Figueroa, C. A. "Mechanical and atomic attrition effects on low temperature plasma nitriding of ferrous alloys" 11th International Conference on Advanced Materials, 2009, Rio de Janeiro - RJ.
9. Rovani, A. C.; Cemin F. ; Echeverrigaray F.G.; Basso, R. L. O.; Fischer R.; G. Dropke ; Baumvol, I. J. R. ; Amorim C. L. G. ; Figueroa, C. A. "Plasma nitriding and post-oxidation mechanisms in ferrous alloys" 11th International Conference on Advanced Materials, 2009, Rio de Janeiro
10. Malfatti C. F.. Elaboration of YSZ films on porous substrates. In: Seventh International Latin-American Conference on Powder Tecnology, 2009, Atibaia. Seventh International Latin-American Conference on Powder Tecnology, 2009
11. Marlla Vallerius da Costa ; OLIVEIRA, C. T. ; Malfatti C. F. ; Bonino J P ; Iduvirges Lourdes Müller ; T L Menezes . Influence of Silane Films in the Zinc coating post-treatment. In: Seventh International Latin-Conference on Powder Tecnology, 2009, Atibaia. Seventh International Latin-Conference on Powder Tecnology, 2009.
12. Marlla Vallerius da costa ; OLIVEIRA, C. T. ; T L Menezes ; Iduvirges Lourdes Müller ; Malfatti C. F. . Electrochemical study of silane films and chromate conversion coatings applied on zinc coatings. 11th Internations Conference on Advanced Materials, 2009, Rio de Janeiro..
13. FREIRE JR, F.L.. Nanostructured carbon based-materials: thin films, nanotubes and composites (Palestra convidada no Indo-Brazil Symposium on Avanced Materials, Rio de Janeiro, 2009).

14. Marcelo Eduardo Huguenin Maia da Costa, Marta Elisa Rosso Dotto , Fernando Lázaro Freire Junior. Effects of the pressure and the self-bias voltage on the doped and undoped amorphous hydrogenated carbon films properties. 11th Internations Conference on Advanced Materials, 2009, Rio de Janeiro..
15. A. Viana and F. C. Marques, Amorphous carbon deposited without vacuum pumping during deposition" ICMCTF – San Diego, CA- USA, 2009.
16. F.C. Marques, G. A. Viana, E. F. Motta, D. S. Silva, A. D. S. Côrtes, Tetrahedral amorphous carbon (t-aC) deposited by filtered cathodic vacuum arc (FCVA) bombarded by argon ions, ICMCTF – San Diego, CA- USA, 2010.
17. Grande P. Energy loss calculations for MEIS, 19th Internacional Conference on Ion Beam Analysis, Cambridge, UK, 2009.
18. Grande P. Characterization of nanoparticles through MEIS The influence of the symmetrical lineshape 5th International Workshop on High-Resolution Depth Profiling.. Kyoto, Japão, 2009.
19. D.F. Franceschini, F.P. Pereira, D.M. Souza – New framework for structural characterization of a-C:H films from single-wavelength optical constants – 11th International Conference on advanced materials – ICAM 2009 – Rio de Janeiro, 2009.
20. Carlos Manuel Sanchez Tasayco, Marcelo Eduardo Huguenin Maia da Costa, Dante Ferreira Franceschini - Pulsed Nd:YAG laser-deposition carbon thin films: Effect of the laser fluency - 11th International Conference on advanced materials – ICAM 2009, 2009.
21. Fabiano Pinto Pereira, Dácio Moreira Souza and Dante Ferreira Franceschini - In-situ optical characterization of plasma deposited a-C:H films during deposition by CH₄ plasmas and erosion by N₂-H₂ plasmas - - 11th International Conference on advanced materials – ICAM 2009 – Rio de Janeiro, 2009.
22. Weber, T. ; Basso, R. L. O. ; SOARES, G. V. ; BAUMVOL, I. J. R. ; VASCONCELLOS, M. A. Z. ; KRUG, C. . Hysteresis effect and film characterization in DC reactive sputtering of titania and alumina. In: 11th International Conference on Advanced Materials, 2009, Rio de Janeiro.
23. COSTA, M. E. H. M., FREIRE JUNIOR, F. L., Deuterated amorphous carbon films: film growth and properties. Symposium: Protective Coatings and Thin films. E-MRS Spring Meeting 2009, Strasbourg, 2009.
24. CAMPOS, R. A. ; BARQUETE, D. M. ; Edwards, E. R. ; Trava-Airoldi, V.J. ; CORAT, E. J. . Deposition of CVD diamond films on WC-Co-TiC inserts for machining. 11th International Conference on Advanced Materials, 2009, Rio de Janeiro.
25. Larrudé, D. G. ; F. H. Monteiro ; M. E. H. Maia da Costa ; Fernando Lázaro Freire Jr. . Multi-walled carbon nanotubes functionalized with silver nanoparticles. 11th International Conference on Advanced Materials, 2009, Rio de Janeiro.
26. Weber, T.; Basso, R. L. O. ; SOARES, G. V. ; BAUMVOL, I. J. R. ; VASCONCELLOS, M. A. Z. ; KRUG, C.. Deposition and characterization of DC reactive magnetron sputtered titania and alumina coatings. In: 10th International Workshop on Plasma-Based Ion Implantation and Deposition, 2009, São José dos Campos. 10th International Workshop on Plasma-Based Ion Implantation and Deposition, 2009.
27. Ruth Hinrichs, Marcos Vasconcellos, Werner Oesterle, Claudia Prietzel, Magnetite formation observed with TEM on brake discs. First TMS-ABM International Materials Congress. Rio de Janeiro 2010.

28. Vasconcellos, MAZ, Lima, S.C. Hinrichs, R. Hardness evaluation, stoichiometry and grain size of titanium nitride films obtained with plasma nitriding on TiAlV samples. First TMS-ABM International Materials Congress. Rio de Janeiro 2010.
29. MAIA da COSTA, M E H; HOLGADO, D. P. ; FREIRE JR, F. L., Hydrophobicity changes promoted by argon and CF4 plasma treatments on DLC films, Symposium L: Carbon -or nitrogen-containing nanostructured composite films. E-MRS spring Meeting 2010, Strasbourg, 2010.
30. Multi-walled carbon nanotubes functionalized with silver nanoparticles, F. H. Monteiro ; Larrudé, D. G. ; M. E. H. Maia da Costa ; F. L. Freire Jr., Tallarico E. 11th International Conference on the science and application of nanotubes 2010, Montreal.

Software:

1. PowerMEIS – analysis of NPs via ion scattering. The manual can be found in:

https://docs.google.com/fileview?id=0Bw24Rtu3Nv_VZmJmNzdkNzEtNGI2Ni00OWM2LWFINDMtYjRkNWU1NTUzNmUz&hl=pt_BR

Patents:

1. Kauling, A.P.; Figueroa, C.A.; Miotti, L; Giocamelli, C; Soares, G.V.; Baumvol, I.J.R. "Processo suportado por tela ativa em/sobre superfícies e estruturas obtidas a partir de tal processo" Instituto Nacional de Propriedade Industrial (INPI), 06.05.09, às 16:16 horas, protocolo nº 020090042881 (2009).
2. Filmes de carbono tipo diamante com partículas de diamante em sua estrutura: F.R. Marciano, L.F. Bonetti, E.J. Corat e V.J. Trava-Airoldi, patente depositada no INPI em 2009.
3. Patente depositada com a BRASKEM

Pub. No.: WO/2010/001298 International Application No.: PCT/IB2009/052681

Publication Date: 07.01.2010 International Filing Date: 22.06.2009

Chapter 2 Demand Filed: 28.04.2010

IPC: G01N 31/22 (2006.01), G01N 33/52 (2006.01)

Applicants: Braskem S.A. [BR/BR]; 1561, Eteno st. Complexo Químico de Camaçari Camaçari (BR) (All Except US).

Universidade Federal do Rio Grande do Sul [BR/BR]; 110, Paulo Gama Ave. Farroupilha Porto Alegre (BR) (All Except US).

ACEVEDO, Edwin, Moncada [CO/BR]; (BR) (US Only).

PIRES, Gilvan, Pozebon [BR/BR]; (BR) (US Only).

DOS SANTOS, João, Henrique, Zimnoch [BR/BR]; (BR) (US Only).

4. R. G. F. Gonçalves, R. G. Lacerda, A.S. Ferlauto, L.O. Ladeira, K. Krambrock, M. V. B. Pinheiro, A. S. Leal, G. A. Viana and F. C. Marques "Processo de fabricação de semente radioativa para braquiterapia através da ativação neutrônica de uma matriz de carbono amorfo dopado com xenônio-124 e produto". Pedido de patente PI 0802834-6. Instituto Nacional de Propriedade Industrial (INPI),