**VALBER DE ALBUQUERQUE PEDROSA**

|  |  |
| --- | --- |
| ***vpedrosa@ibb.unesp.br****+55(14)-38116255* | ***Work Address****Institute of Bioscience**Distrito de Rubiao Jr.**Botucatu-SP-Brazil* |

**EDUCATION**

2001-2005 **University of Sao Paulo, Sao Carlos, Brazil**

Ph.D. in Analytical Chemistry,

 Thesis title “Study of potentiality and application of diamond electrodes in the electroanalytical determination of pesticides and correlated compounds”

1996-2000 **University Federal of Alagoas, Maceió, Brazil**

Bachelor in Chemistry

**PROFESSIONAL EXPERIENCE**

Jun 2015 – **Institute of Bioscience, Sao Paulo State University (UNESP)**

*Associate professor*

May 2010 – **Institute of Bioscience, Sao Paulo State University (UNESP)**

*Assistant professor*

Fev 2008- April 2010 **Department of Material Engineering, Auburn University (EUA)**

 *Research fellow II*

Pursued advanced research and teaching in environmental chemistry and nanotechnology research group working with Professor Dr. Simonian.

***Research Interests***

⦁ Application of biosensors for environmental analysis.

⦁ Plasmon Resonance Spectroscopy for biomolecules/surface interaction analysis and biosensing

⦁ Biopolymer films for sensing applications

⦁ Carbon nanotubes for sensing applications

⦁ Real-time monitoring of biological toxins

⦁ Presented results to funding agencies (NSF, Office of Naval Research) and prepared written summaries of progress for National Science Foundation.

Jan 2007 – Dec 2007 **Biodesign Institute, Arizona State University (EUA)**

*Post-Doctoral Fellow*

 Performed research in nanotechnology working with Professor Dr. Wang.

***Research Interests***

⦁ Nanoparticle-based bioassays

⦁ Development of smart material

⦁ Preparation, characterization, and applications of novel nanomaterial

May 2005-Dec 2006 **University of Sao Paulo, Sao Paulo, Brazil**

*Post-Doctoral Fellow*

Performed research under supervision of Professor Dr. Bertotti.

***Research Interests***

⦁ Development and characterization of biosensor

⦁ Flow injection analysis and microfluidic system

⦁ Development, evaluation, and application of biosensors for environmental analysis,

Jan 2006-Dec 2006 **Oswald Cruz University, Sao Paulo, Brazil**

*Collaborate Professor*

Teaching and research in chemistry

**TEACHING EXPERIENCE**

⦁ *General Chemistry I,* State University of Sao Paulo (2011-2015)

⦁ *General Chemistry I Lab,* State University of Sao Paulo (2011-2015)

⦁ *Analytical Chemistry Lab,* State University of Sao Paulo (2010-2015)

⦁ *Biosensor: principles and applications* (Graduate courses), State University of Sao Paulo (2010-2015)

⦁ *Chemical Sensor* (**MATL 7416/7410**), Auburn University (2009)

⦁ *Biosensor: principles and applications* (**MATL 7600/7606**), Auburn University (2008).

⦁ *Analytical Chemistry Qualitative* (**QI-226**), Oswald Cruz University, Sao Paulo, Brazil (2006).

⦁ *Analytical Chemistry Quantitative* (**QI-227**), Oswald Cruz University, Sao Paulo, Brazil (2006).

⦁ *Environmental Chemistry* (**QI-255**), Oswald Cruz University, Sao Paulo, Brazil (2006).

⦁ Teaching Assistant, University of Sao Paulo, Brazil, (2004-2005).

**AWARDS**

CNPq **Faculty Early Career Development** 2010-2015 *(less than 5% of the professor at Brazil has been awarded with fellowship)*

CNPq **Post-doctoral fellowship** 2007, (project was realized at Arizona State University).

**Excellent Graduate scholarship** of University of Sao Paulo, 2001-2005.

FAPESP **Post-doctoral scholarship** 2005-2006, Brazil.

FAPESP **Graduate scholarship** 2001-2005, Brazil.

Best scientific contribution at Brazilian Symposium of Electrochemistry and Electroanalytical (SIBEE), Araraquara, Brazil 2002.

**RESEARCH GRANTS**

⦁ PI “Development of a biosensor on a microchip platform for analysis of immune influence on cancer cells”, SP, Brazil, FAPESP, $ 80000,00, Brazil, **funded**, 2014-2016.

⦁ PI “Amplification biocatalytic responses using nanostructures by localized surface plasmon resonance”, SP, Brazil, FAPESP, $ 120000,00, Brazil, **funded**, 2011-2014.

⦁ PI “Using the biointerface nanowires/enzymes for biosensor development nanostructured”, SP, Brazil, CNPq, $ 20000,00, Brazil, **funded**, 2011-2013.

⦁ PI, “*Impact study Hydroelectric Ilha Solteira to evaluate the potential physical, biological and water use impacts of water withdrawals*”, SP, Brazil, CNPq, $ 350,000.00, **funded**, 2010-2013.

⦁ Co-PI “*Interlaced Layers of DNA and Enzyme Coated Single-Walled Carbon Nanotubes for biochemical analysis”* no funded**,** 2009**.**

⦁ Co-PI “*Microfabricated biosensor platform for monitoring of cell metabolism*”. NIH, $169,592.00 2006-2008, **funded**, 2008**.**

⦁ PI “*Development of biosensor for detection of organophosphate in water and food*”. FAPESP- Brazil, $15,000.00, 2005-2006, **funded**.

**PUBLICATIONS (ÍNDEX JOURNAL)**

**Google scholar**

<https://scholar.google.com/citations?user=hbTB22AAAAAJ&hl=pt-BR>

**Citation 1650 and H-index -22**

54. Silva, A. C. P. ; Jorgetto, A. O. ; Wondracek, M. H. P. ; Saeki, M. J. ; Schneider, J. F. ; Pedrosa, V. A. ; Martines, M. A. U. ; Castro, G. R. . Characterization of corn (Zea mays) leaf powder and its adsorption properties regarding Cu(II) and Cd(II) from aqueous samples. Bioresources (Raleigh, N.C), v. 10, p. 1099-1114, 2015.

53. Pereira, S. P. ; Silva, R. V. I. ; Saeki, M. J. ; Martines, M. A. U. ; Pedrosa, V. A. ; Castro, G. R. . Application of mesoporous SBA-15 silica functionalized with 4-amino-2-mercaptopyrimidine for the adsorption of Cu(II), Zn(II), Cd(II), Ni(II) and Pb(II) from water. Acta Chimica Slovenica (Print ed.), v. 62, p. 111-121, 2015.

52. Jorgetto, Alexandre De O. ; Da Silva, Adrielli C.P. ; Wondracek, Marcos H.P. ; Silva, Rafael I.V. ; Velini, Edivaldo D. ; Saeki, Margarida J. ; Pedrosa, Valber A. ; Castro, Gustavo R. . Multilayer adsorption of Cu(II) and Cd(II) over Brazilian Orchid Tree (Pata-de-vaca) and its adsorptive properties. Applied Surface Science, v. 345, p. 81-89, 2015.

51. Basso, Caroline ; Sempionatto, Juliane ; Tozato, Claudia ; Castro, Gustavo ; Junior, Joao Pessoa ; Pedrosa, Valber . Effects of Protein A in Detection of Canine Distemper Virus through immunosensor construction. IEEE Sensors Journal, v. 99, p. 1-1, 2015.

50. Sempionatto, Juliane R. ; Gamella, Maria ; Guz, Nataliia ; Pingarrón, José M. ; Pedrosa, Valber A. ; Minko, Sergiy ; Katz, Evgeny . Electrochemically Stimulated DNA Release from a Polymer-Brush Modified Electrode. Electroanalysis (New York, N.Y.), v. 55, p. n/a-n/a, 2015.

49. Recco, L. C. ; Tokarev, I. ; Minko, S. ; Pedrosa, V. A. . Plasmonic Nanobiosensor with Chain Reaction Amplification Mechanism. Chemistry - A European Journal, v. 20, p. 1226-1230, 2014.

48. [Fleuri, L. F.](http://lattes.cnpq.br/6495148747049688) ; Delgado, C. O. ; Novelli, P. K. ; [Lima, G. P. P.](http://lattes.cnpq.br/8104143593771412) ; Pedrosa, V. A. ; C, F. V. B. ; G, A. . Enzymatic Production of Functional Oligosaccharides A Review. International Sugar Journal, v. 25, p. 453-459, 2014.

47. Crulhas, B. P. ; Sempionatto, J. R. ; Carbral, Murilo Feitosa ; Minko, S. ; Pedrosa, V. A. . Stimuli-Responsive Biointerface Based on Polymer Brushes for Glucose Detection. Electroanalysis (New York, N.Y.), p. n/a-n/a, 2014.

46. Lima, Giuseppina Pace Pereira ; Machado, Tatiana Marquini ; Oliveira, Luciana Manoel De ; Borges, Luciana Da Silva ; Pedrosa, Valber De Albuquerque ; Vanzani, Paola ; Vianello, Fabio . Ozonated water and chlorine effects on the antioxidant properties of organic and conventional broccoli during postharvest. Scientia Agricola (USP. Impresso), v. 71, p. 151-156, 2014.

45. Sempionatto, J. R. ; Recco, L. C. ; Pedrosa, V. A. . Polymer Brush Modified Electrode with Switchable Selectivity Triggered by pH Changes Enhanced by Gold Nanoparticles. Journal of the Brazilian Chemical Society (Online), v. 25, p. 453, 2014.

44. Crulhas, B. P. ; Ramos, N. P. ; Basso, C. R. ; Costa, V. E. ; Castro, G. R. ; Pedrosa, V. A. . Fabrication and Characterization of Ferrocenece Containing Hydrogel for Glucose Biosensor Application. International Journal of Electrochemical Science (Online), v. 9, p. 7596-7604, 2014.

43. Santos, B. L. ; Takahashi, G. S. ; [Fleuri, L. F.](http://lattes.cnpq.br/6495148747049688) ; Pedrosa, Valber A. . Diferentes técnicas de imobilização enzimática para obtenção de catalisadores. Trends in Bioscience & Biotechnology, v. 1, p. 16-21, 2014.

42. Basso, Caroline R. ; Tozato, Claudia C. ; Junior, João Pessoa A. ; Pedrosa, Valber A. . A fast and highly sensitive method for the detection of canine distemper virus by the naked eye. Analytical Methods, v. 6, p. 2264-2267, 2014.

41. Gerola, G. P. ; Takahashi, G. S. ; Perez, G. G. ; Recco, L. C. ; Pedrosa, V. A. . Glucose biosensor based on multisegment nanowires exhibiting reversible magnetic control.. Talanta (Oxford), p. xx, 2014.

40. Coffiane, L. ; [Fleuri, L. F.](http://lattes.cnpq.br/6495148747049688) ; [Lima, G. P. P.](http://lattes.cnpq.br/8104143593771412) ; Pedrosa, Valber A. . Determination of Total Nitrosamines in Vegetables Cultivated Organic and Conventional Using Diamond Electrode. Food Analytical Methods (Print), v. 6, p. 1122-1127, 2013.

39. Antonio, T. R. T. A. ; Basso, C. R. ; [Cabral, Murilo Feitosa](http://lattes.cnpq.br/5659343912325720) ; Pedrosa, V. A. . Electrochemical Studies Based on Local Interfacial pH Changes of Gold Nanoparticles Immobilized on Polystyrene Brushes. International Journal of Electrochemical Science (Online), v. 8, p. 4150-4159, 2013.

38. Basso, C. R. ; Tozato, C. C. ; Ribeiro, M. C. M. ; Araujo Junior, J. P. ; Pedrosa, V. A. . A Immunosensor for the Diagnosis of Canine Distemper Virus Infection using SPR and EIS. Analytical Methods (Print), p. 5089-5095, 2013.

37. Caetano, Josiane ; Dragunski, D. ; Pedrosa, V. A. ; S.A.S. Machado . Quantification of methomyl levels in cabbage, tomato, and soya milk using a renewable amperometric biosensor. International Journal of Electrochemical Science (Online), v. 8, p. 7795-7805, 2013.

36. Antonio, Tamara R.T.A. ; Cabral, Murilo F. ; [Cesarino, Ivana](http://lattes.cnpq.br/1263168595959203) ; Machado, Sergio A.S. ; Machado, S. A. S. ; [Pedrosa, V. A.](http://lattes.cnpq.br/7781282422851911) . Towards pH-controllable bioelectrocatalysis for hydrogen peroxide based on polymer brushes. Electrochemistry Communications, v. 29, p. 41-44, 2013.

35. Basso, Caroline R. ; Santos, Bruna L. ; Pedrosa, Valber A. . Switchable Biosensor Controlled by Biocatalytic Process. Electroanalysis (New York, N.Y.), v. 28, p. n/a-n/a, 2013.

34. França, Rafaela F. ; de Oliveira, Hueder Paulo M. ; Pedrosa, Valber A. ; [CODOGNOTO, Lucia](http://lattes.cnpq.br/3696430664952773) . Electroanalytical Determination of Carbendazin and Fenamiphos in Natural Waters Using a Diamond Electrode. Diamond and Related Materials, v. x, p. xx-59, 2012.

33. [Moraes, Fernando C.](http://lattes.cnpq.br/8597473049054728) ; [Cesarino, Ivana](http://lattes.cnpq.br/1263168595959203) ; COELHO, DYOVANI ; MACHADO, Sergio A. S. ; [PEDROSA, V. A.](http://lattes.cnpq.br/7781282422851911) ; MACHADO, S. A. S. . Highly Sensitive Neurotransmitters Analysis at Platinum-Ultramicroelectrodes Arrays. Electroanalysis (New York, N.Y.), v. 24, p. 1115-1120, 2012.

32. Mirian Marcolan, Priscila Alfonso Martins, **Valber A. Pedrosa**,; Maira R. Rodrigues, Hueder P. M. Oliveira, Lucia Codognoto . “*Spectrofluorimetric Determination Of Coumarin In Commercial Tablets” Journal of Fluorescence, 2011, accepted.*

31., Jun Yan; **Valber A. Pedrosa**, James. Enomoto, Aleksandr L. Simonian; Alexander Revzin, “*A. “Detecting Hydrogen Peroxide Release From Macrophages Using Micropatterned Electrochemical Biosensors” Biomicrofluidics*, *2011, accepted*.

30. Tony J. Gnanaprakasa, , Omar A. Oyarzabal, Eric V. Olsen, **Valber A. Pedrosa**, Aleksandr L. Simonian, *“Tethered Dna Scaffolds On Optical Sensor Platforms For Detection Of Hipo Gene From Campylobacter Jejuni” Sensors And Actuators. B, Chemical, 2011, accepted.*

29. **Valber A. Pedrosa**, Jun Yan, Aleksandr L. Simonian, Alexander Revzin, “*Micropatterned Nanocomposite Hydrogels For Biosensing Applications”. Electroanalysis 2011, accepted*.

28. **Valber. A. Pedrosa**; Marcos Pita, Dmitri Melnikov, Vladimir Privman, Aleksandr L. Simonian, Evgeny Katz, “*Enzymatic Logic Gates with Noise-Reducing Sigmoid Response” International Journal of Unconventional Computing*, 6 (2010) 451-460.

27. Saroja Mantha, **Valber A. Pedrosa**, Eric V. Olsen, Virginia A. Davis, Aleksandr L. Simonian, “*Renewable Nanocomposite Layer-By-Layer Assembled Catalytic Interfaces For Biosensing Applications” Langmuir,* 26 (2010) 19114-19119.

26. Jun Yan, **Valber A. Pedrosa**, Aleksandr L. Simonian, Alexander Revzin, “*Enzyme-Carrying Hydrogel Microstructures Integrated with Miniature Gold Electrode Arrays for Simultaneous Detection of Glucose and Lactate*” *Applied Materials & Interfaces*, 2 (2010) 748-755.

25. **Valber A. Pedrosa,** Sheetal Paliwal, Shankar Balasubramanian, Dhriti Nepal, Virginia Davis, James Wild, Aleksandr Simonian, “*Enzyme Modified Carbon Nanotubes for Amperometric Detection of Organophosphate Pesticides*” *Colloids and Surface B: Biointerface, 77* (2010) 69-74.

24 **Murilo Feitosa Cabral, Valber A. Pedrosa** **and Sergio A. S. Machado, “**Deposition of selenium thin layers on gold surfaces from sulphuric acid media: Studies using electrochemical quartz crystal microbalance, cyclic voltammetry and AFM” *Electrochimica Acta*, 55 (2010) 1184-1192.

23. **Vladimir Privman, Valber** **Pedrosa, Dmitriy Melnikov, Marcos Pita, Aleksandr Simonian and Evgeny Katz**, “Enzymatic **AND**-gate based on electrode-immobilized glucose-6-phosphate dehydrogenase: Towards digital biosensors and biochemical logic systems with low noise” *Biosensor and Bioelectronics*, 25 (2009) 695-701.

22. **Valber A. Pedrosa,** Tony Gnanaprakasa, Shankar Balasubramanian Eric V. Olsen, Virginia A. Davis, Aleksandr Simonian, “*Electrochemical Properties of Interface Formed by Interlaced Layers of DNA- and Lysozyme-Coated Single-Walled Carbon Nanotubes*” *Electrochemistry Communication,* 11(2009) 1401-1404.

21. Xiliang Luo, **Valber A. Pedrosa**, and Joseph Wang, “*Enzymatic nanolithography of polyaniline nanopatterns using peroxidase-modified AFM tips*” *Chemistry – A European Journal*, 15 (2009) 5191-5194.

20. **Valber A Pedrosa**; Rigved Epur; Jessica Benton; Ruel A Overfelt; Aleksandr L. Simonian, “*Copper Nanoparticles and Carbon Nanotubes-based Electrochemical Sensing System for Fast Identification of Tricresyl-phosphate in Aqueous Samples and Air*” *Sensors & Actuators: B. Chemical,* 140 (2009) 92-97.

19. **Valber A. Pedrosa**, Xiliang Liu, Joseph Wang, “*Nanofingers based on Binary Gold-Polypyrrole*”*Small,*4(2008) 738-740.

18. Murilo F. Cabral, Hugo B. Suffredini, **Valber A. Pedrosa**, Sonia T. Tanimoto, Sergio A.S. Machado, “*Electrodeposition and Characterization of Thin Selenium Films Modified with Lead Ad-Atoms”* *Journal of Applied Surface,*258(2008) 5612-5617.

17. **Valber A. Pedrosa**, Sergio A. S. Avaca, Mauro Bertotti, “*Determination of Parathion and Carbaryl Pesticides in Water and Food Samples Using a Self Assembled Monolayer/Acetylcholinesterase Electrochemical Biosensor*” *Sensor,* 8 (2008) 4600-4610.

16. Gustavo S. Garbellini, **Valber A. Pedrosa,** Giancarlo R. Salazar-Banda, Luis A. Avaca, “*Electroanalytical methodologies for the determination of triazine herbicides by square wave voltammetry and deconvolution techniques*” *Quimica. Nova*30(2007) 2025-2034.

15. **Valber A. Pedrosa**, Josiane Caetano, Sergio A. S. Machado, Renato S. Freire, Mauro Bertotti, “*Acetilcholinesterase immobilization on 3-mercaptopropionic acid self assembled Monolayer for determination of pesticides*” *Electroanalysis* 19 (2007) 1415-1420.

14. Valber A. Pedrosa, Thiago RC Paixao, Renato S. Freire, Mauro Bertotti, “*Electrochemical behavior of cystine self-assembled monolayer adsorved on gold electrodes*” *Journal of Electroanalytical Chemistry* 602 (2007) 149-155.

13. **Valber A. Pedrosa,** Mauro Bertotti, “*Electrochemical behavior of thin ruthenium–modified cobalt-hexacyanoferrate films immobilized on self assembled monolayer gold electrodes”* *International Journal of Electrochemical Science* 2 (2007) 113-122.

12. **Valber A. Pedrosa**, Douglas Miwa, Sergio A.S. Machado, Luis A. Avaca, “*On the utilization of boron doped diamond electrode as a sensor for parathion and as an anode for electrochemical combustion of parathion*” *Electroanalysis*18(2006) 1590-1597.

11. Murilo F. Cabral, **Valber A. Pedrosa**, Hugo B. Suffredini, Rogério M. B. Moreno, Luis H. C. Mattoso e Sergio A. S. Machado “*Characterization of Conductive Natural Rubber by Cyclic Voltammetry and Electrochemical Impedance Spectroscopy*” *Zaštita Materijala* 47 (2006) 41-45.

10. **Valber A. Pedrosa**, Andréa R. Malagutti, Luiz H. Mazo, Luis A. Avaca, “*The use of boron-doped diamond electrodes for the amperometric determination of flavonoids in a flow injection system*” *Analytical Letters* 39 (2006) 2737-2748.

9. **Valber A. Pedrosa**, Denise Lowinsohn, Mauro Bertotti, “FIA determination of paracetamol in pharmaceutical drugs by using gold electrodes modified with a 3-mercaptopropionic acid monolayer” *Electroanalysis*18(2006) 931-934.

8. **Valber A. Pedrosa**, Sergio A. S. Machado, Luis A. Avaca, “*Application of a deconvolutive procedure to analysis several chlorophenols species in natural waters by square-wave voltammetry at a boron-doped diamond electrode*.” *Analytica letters*39(2006)1955-1965.

7. Lucia Codognoto, Sonia T. Tanimoto, Valber A. Pedrosa, Hugo B. Suffredini, Sergio A. S. Machado, Luis A. Avaca, “*Electroanalytical Determination of Carbaryl in Natural Waters on Boron Doped Diamond Electrode*” *Electroanalysis* 18 (2006) 253-258.

6. **Valber. A. Pedrosa**, Hugo B. Suffredini, Lucia Codognoto, Sonia T. Tanimoto, Sergio A. S. Machado, Luis A. Avaca, “*Carbon Surfaces for Electrochemical Applications. A Comparative Study*” *Analytical Letters*38(2005) 1115-1125.

5.Hugo B. Suffredini, **Valber A. Pedrosa**, Lúcia Codognoto, Romeu C. Rocha-Filho, Sergio A. S. Machado e Luis A. Avaca, *“Enhanced electrochemical response of boron-doped diamond electrodes brought on by a cathodic surface pre-treatment”**Electrochimica Acta*49(2004) 4021-4026.

4. **Valber A. Pedrosa**, Lucia Codognoto, Sergio A. S. Machado, Luis A. Avaca, *“Is the boron-doped diamond electrode a suitable substitute for mercury in pesticide analyses? A comparative study of 4-nitrophenol quantification in pure and natural waters”* *Journal Electronalytical Chemistry*573(2004)11-18.

3. Djenaine de Souza, Lúcia Codognoto, Andréa R. Malagutti, Renata A. Toledo, **Valber A. Pedrosa**, Robson T. S. Oliveira Júnior, Luiz H. Mazo, Luis A. Avaca e Sergio A. S. Machado, *“Voltametria de Onda Quadrada. Segunda Parte: Aplicações”* *Química Nova*27(2004) 790-797.

2. **Valber A. Pedrosa**, Lúcia Codognoto e Luis A. Avaca, *“Electroanalytical Determination of 4-Nitrophenol by Square Wave Voltammetry on Diamond Electrodes” Journal Brazilian Chemical Society*14 (2003) 530-536.

1. **Valber A. Pedrosa**, Lúcia Codognoto, Luis A. Avaca, “*Electroanalytical determination of 4-chilorophenol by square wave voltammetry on boron-doped diamond electrodes*” *Química Nova*26(2003) 844-849.

**CONFERENCE PAPERS AND PRESENTATIONS**

He has authored over 150 presentation all of the world.

**PUBLICATION REVIEW EXPERIENCE (INDEX JOURNALS)**

⦁ *Small*

*⦁ Analytical Chemistry*

*⦁ Langmuir*

*⦁ Biosensor and Bioelectronics*

⦁ *Electrochemistry communication*

⦁ *Nanotechnology*

*⦁ Biosensor and Bioelectronics*

*⦁ ACS Applied Materials Interfaces*

*⦁ Analyst*

*⦁ Journal of Environmental Management*

*⦁ Electroanalysis*

*⦁ Sensors and Actuators B: Chemical*

*⦁ Electrochimica Acta*

*⦁ Analytical and Bioanalytical Chemistry*

*⦁ Journal of the Brazilian Chemical Society*

*⦁ Quimica Nova*

*⦁ Sensor*

⦁ *Reaction Kinetics and Catalysis Letters*

⦁ Foundations: CNPq, FAPESP, CAPES (BRAZIL) and National Research Council, Canada.

**SCIENTIFIC AND PROFESSIONAL SOCIETIES**

⦁ Brazilian Chemistry Society (SBQ)

⦁ Electrochemistry Society (ECS)