

ABTECH PUBLICATIONS LIST

1. Sean I. Brahim, Kenneth Tuan Huang, Nyan Win and Anthony Guiseppi-Elie “Interaction of Colloidal Gold Nanoparticles with Molecularly Engineered Surfaces” *Langmuir* (**submitted for publication**)
2. Erhard Bieberich and **Anthony Guiseppi-Elie** “Neuronal differentiation and synapse formation of PC12 and embryonic stem cells on interdigitated microelectrode arrays: Contact structures for neuron-to-electrode signal transmission (NEST)” *Biosensors and Bioelectronics* (**submitted for publication**)
3. Rosalyn Hobson, Amber Clausi, Thomas Oh and **Anthony Guiseppi-Elie** “Temperature Correction to Chemoresistive Sensors in an e-NOSE-ANN System” *IEEE Sensors Journal* (**submitted for publication**).
4. Marin Gheorghe and **Anthony Guiseppi-Elie** “Electrical Frequency Dependent Characterization of DNA Hybridization” *Biosensors and Bioelectronics* (**submitted for publication**).
5. **Anthony Guiseppi-Elie**, Chenghong Lei and Ray H. Baughman “Direct Electron Transfer to Glucose Oxidase at Carbon Nanotube Electrodes” *Nanotechnology* (**accepted for publication**)
6. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie**, “Bio-smart Hydrogels: Co-joined Molecular Recognition and Signal Transduction in Biosensor Fabrication and Drug Delivery” *Biosensors and Bioelectronics* (**accepted for publication**)
7. Sean I. Brahim, Dyer Narinesingh and Anthony Guiseppi-Elie, “Kinetics of glucose oxidase immobilized in p(HEMA)-hydrogel microspheres in a packed-bed bioreactor” *Journal of Molecular Catalysis B: Enzymatic* (**accepted for publication**)
8. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie** “Bio-smart materials: Kinetics of immobilized enzymes in p(HEMA)/p(Pyrrole) hydrogels in amperometric biosensors” *J. Macromolecular Science: IUPAC Symposium Proceedings* (**accepted for publication**).
9. Anthony Guiseppi-Elie, Sean I. Brahim and Dyer Narinesingh “A chemically synthesized artificial pancreas: Release of insulin from glucose-responsive hydrogels” *Advanced Materials* (**2002**) 14(10): 743-746.
10. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie** “Influence of Interfering Substances on Novel Polypyrrole-containing Hydrogel Biosensors” *Electroanalysis* **2002** 14(9), 627-633. (**Featured Article**)
11. Sean Brahim, Dow Maharajh, Dyer Narinesingh and **Anthony Guiseppi-Elie** “Design and Characterization of a Galactose Biosensor Using a Novel Polypyrrole-hydrogel Composite Membrane” *Analytical Letters* (**2002**) 35(5) 797-812.
12. Chenhong Lei, Ulla Wollenberger, Nikitas Bistolas, **Anthony Guiseppi-Elie** and Frieder W. Scheller “Electron Transfer of Hemoglobin at Electrodes Modified with Colloidal Clay Nanoparticles” *J. Analytical and Bioanalytical Chem.* (**2002**) 372: 235-239.
13. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie**, “Polypyrrole-Hydrogel Composites for the Construction of Clinically Important Biosensors” *Biosensors and Bioelectronics* (**2002**) 17:1-2:53- 9.
14. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie** “Amperometric determination of cholesterol in serum using a cholesterol oxidase biosensor with a polypyrrole / hydrogel membrane” *Analytica Chimica Acta* (**2001**) 448: 27-36.
15. **Anthony Guiseppi-Elie**, Sean Brahim and Dyer Narinesingh and “Composite Hydrogels Containing Polypyrrole as Support Membranes for Amperometric Enzyme Biosensors” *J. Macromolecular Science - Pure and Applied Chemistry* (**2001**) A38(12), 1575-1591.
16. **Anthony Guiseppi-Elie**, Norman F. Sheppard, Jr., Sean Brahim and Dyer Narinesingh “Enzyme Microgels in Packed-bed Bioreactors with Downstream Amperometric Detection Using Microfabricated Interdigitated Microsensor Electrode Arrays” *Biotechnology and Bioengineering* (**2001**), 75(4) 475 - 484.
17. Rosalyn Hobson and **Anthony Guiseppi-Elie** “The Applicability of Temperature Correction to Chemoresistive Sensors in an e-NOSE-ANN System” **In**, Proceedings of the Conference on Modeling and Simulation of Microsystems: MSM 2001. Computational Publications, Cambridge, MA pg. 314-317.

18. Dietmar H. Blohm and **Anthony Guiseppi-Elie** “New developments in microarray technology” *Current Opinion in Biotechnology: Analytical Biotechnology* (2001) 12: 41-47.
19. Chenghong Lei, Marin Gheorghe and **Anthony Guiseppi-Elie** “DNA immobilization and bioelectronic detection based on conducting polymers” *Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering* 2000 Vol. 83, 552.
20. Marin Gheorghe, Chenghong Lei, and **Anthony Guiseppi-Elie** “Low-density arrays of DNA-doped polypyrrole” *Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering* 2000 Vol. 83, 550.
21. Sean Brahim, Dyer Narinesingh and **Anthony Guiseppi-Elie** “Electroactive hydrogels for the construction of clinically important biosensors” *Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering* 2000 Vol. 83, 514.
22. E. Iwuoha, A. M. Wilson, D. Narinesingh, **A. Guiseppi-Elie** “Electrorelease of divalent cations from electroconductive hydrogels” *Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering* 2000 Vol. 83, 508.
23. **Anthony Guiseppi-Elie** “Biotechnical Applications of Electroconductive Polymers: Electronic Noses, Biosensors, and Controlled Electrorelease Devices”. In, Proceedings of the International Symposium on Instrumentation in Agriculture December 1998, ANAIS DO II SIERGO, Editors Paulo E. Cruvinel, Luiz A. Colongo and André T. Neto. EMBRAPA, Sao Carlos, Brazil. 2000. Pg. 26.
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26. Norman F. Sheppard, Jr. and **Anthony Guiseppi-Elie** “pH Measurement” In The Measurement, Instrumentation and Sensors Handbook; John Webster, Editor-in-Chief; CRC Press and IEEE Press, Florida, 1999. **Chapter 10**, Section 10.2.
27. Sheldon P. Wesson, Rafael Chou, Ann M. Wilson and **Anthony Guiseppi-Elie**. “Impedance Spectroscopy and Inverse Phase Gas Chromatography for Evaluating Probe/Polymer Interactions in Cured Latex Coatings”. *Proceedings of the Second International Symposium on Acid-Base Interactions: Relevance to Adhesion.* October 19 - 21, 1998. Newark, NJ.
28. **Anthony Guiseppi-Elie***, Ann M. Wilson and Andrew S. Sujdak, “Electroconductive Gels for Controlled Electrorelease of Bioactive Peptides”. In, *Tailored Polymeric Materials for Controlled Delivery Systems*, Iain A. McCulloch and Shalaby W. Shalaby, Eds.; ACS Symposium Series 709, Washington DC. 1998. **Ch. 15, pg. 185- 202.**
29. Norman F. Sheppard, Jr. and **Anthony Guiseppi-Elie** “Enzyme Sensors Based on Conductimetric Measurement”; In “Enzyme and Microbial Biosensors: Techniques and Protocols” Ashok Mulchandani and Kim R. Rogers, Eds.; Humana Press, Totowa, NJ, 1998. **Chapter 12**, pp. 150-173.
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34. **Anthony Guiseppi-Elie**, James M. Tour, David L. Allara and Norman F. Sheppard, Jr. "Bioactive Polypyrrole Thin Films with Conductimetric Response to Analyte" **In**, Electrical, Optical, and Magnetic Properties of Organic Solid State Materials, Eds. A. K-Y. Jen, C. Y-C. Lee, L. R. Dalton, M. F. Rubner, G. E. Wnek, L. Y. Chiang, Mat. Res. Soc. Symp. Proc. Vol. 413; Materials Research Society, Pittsburgh, 1996, pp 439- 444.
35. **A. Guiseppi-Elie**, A. M. Wilson, J. M. Tour, T. W. Brockmann, P. Zhang, D. L. Allara "Specific Immobilization of Electropolymerized Polypyrrole Thin Films onto Interdigitated Microsensor Array Electrodes" *Langmuir* (1995), 11(45), 1768.
36. **Anthony Guiseppi-Elie** and Norman F. Sheppard, Jr "Conferring Biospecificity to Electroconductive Polymer-based Biosensor Devices" *Proceedings of the Symposium on Polymers of Biological Significance*; ACS Northeast Regional Meeting (NERM), University of Rochester, Rochester, NY: October 22- 25, 1995.
37. **A. Guiseppi-Elie*** and A M. Wilson, "Electroconductive Polymer Thin Films with Internal Bioactive Moieties for Biosensor Applications" *Proceedings of the American Chemical Society Division of Polymeric Materials: Science and Engineering* (1995), Vol. 72, 404.
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41. **A. Guiseppi-Elie** "Conductimetric Biosensors Developed Using the Electroactive Polymer Sensor Interrogation System - EPSIS™" *Current Separations* (1993), 12:2, 107.

ABTECH SCIENTIFIC, INC. PATENTS

IMPEDIMETRIC DETECTION OF DNA HYBRIDIZATION

Inventor: Anthony Guiseppi-Elie
US Patent Application

DNA BOCHIPS

Inventor: Anthony Guiseppi-Elie
US Patent Application

CONTROLLED ELECTRORELEASE MATERIALS AND METHODS FOR THEIR PRODUCTION

Inventor: Anthony Guiseppi-Elie
US Patent Application

CONTROLLED ELECTRORELEASE DEVICE AND MTHEODS FOR THEIR PRODUCTION

Inventor: Anthony Guiseppi-Elie
US Patent Application

CHEMICAL AND BIOLOGICAL SENSOR DEVICES HAVING ELECTROACTIVE POLYMER THIN FILMS ATTACHED TO MICROFABRICATED DEVICES AND POSSESSING IMMOBILIZED INDICATOR MOIETIES

US Patent No.
Inventor: Anthony Guiseppi-Elie
US Patent Serial No. 08/318,494
Allowed on: August 8, 1996
Assignee: Anthony Guiseppi-Elie

ELECTROACTIVE POLYMERS WITH IMMOBILIZED ACTIVE MOIETIES

US Patent No. 5,352,574
Inventor: Anthony Guiseppi-Elie
Issue Date: October 4, 1994
Assignee: Anthony Guiseppi-Elie

METHOD OF MEASURING AND ANALYTE BY MEASURING ELECTRICAL RESISTENCE OF A POLYMER FILM REACTING WITH THE ANALYTE

US Patent No. 5,312,762
Inventor: Anthony Guiseppi-Elie
Issue Date: May 17, 1994
Assignee: Anthony Guiseppi-Elie

SURFACE FUNCTIONALIZED LANGMUIR-BLODGETT FILMS FOR IMMOBILIZATION OF ACTIVE MOIETIES

U.S. Patent No. 5,102,798
Inventor: Anthony Guiseppi-Elie
Issue Date: April 07, 1992.
Assignee: Anthony Guiseppi-Elie