
BIOGRAPHICAL SKETCH

NAME

Nathalia Peixoto

POSITION TITLEAssociate Professor of Electrical and
Computer Engineering

(a) Professional Preparation

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Univ. Campinas, Sao Paulo, Brazil	B.S.	1991-1995	Electrical Engineering
Univ. Campinas, Sao Paulo, Brazil	M.S.	1996	Biomedical Engineering
Univ. Sao Paulo, Sao Paulo, Brazil	Ph.D.	1997-2001	Microelectronics
Stanford University, CA	Postdoc	2001-2002	Electrical Engineering
George Mason University, Fairfax, VA	Postdoc	2003-2006	Neuroscience

(b) Appointments

08/2012-present: Associate Professor, Electrical and Computer Engineering, George Mason University and Affiliate Professor, Bioengineering Department, George Mason University, Fairfax, VA.

08/2006-07/2012: Assistant Professor of Electrical and Computer Engineering, GMU, Fairfax, VA.

09/2003-07/2006: Research Assistant Professor, George Mason University, Fairfax, VA.

08/2001-09/2002: Postdoctoral Researcher, Stanford University, Stanford, CA.

04/2001-07/2001: Lecturer, Univ. Washington, Seattle, WA.

01/2000-03/2001: Teacher, Univ. Sao Camilo, Sao Paulo, Brazil.

01/1998-08/1998: Lecturer, Computer Sciences, Univ. Bonn, Germany.

12/1995-12/1996: R&D Engineer, Promon Engineering, Sao Paulo, Brazil.

(c) Products (in chronological order)**(i) Closely related to the project**

1. **Peixoto, N.**, Lima, V.M.F., Hanke, W., *Correlation of the electrical and intrinsic optical signals in the spreading depression phenomenon*, Neuroscience Letters, 299(1), 89-92, 2001.
2. Minnikanti, S., Skeath, P., **Peixoto, N.**, *Electrochemical Characterization of Carbon Nanotube Electrodes for Biological Applications*, Carbon, 47, pg 884-893, 2009.
3. Minnikanti S, Pereira MG, Jaraiedi S, Jackson K, Costa-Neto CM, Li Q, **Peixoto, N.**, *In vivo electrochemical characterization and inflammatory response of multiwalled carbon nanotube-based electrodes in rat hippocampus*. J. Neural Engineering, 2;7(1):016002 (10 pages), 2010.
4. Hamilton F, Berry T, **Peixoto N**, Sauer T. *Real-time tracking of neuronal network structure using data assimilation*. Physical Review ;88(5):052715, 2013.
5. Minnikanti, S, Diao, G, Pancrazio, JJ, Xie, X, Rieth, L, Solzbacher, F, **Peixoto, N.** "Lifetime Assessment of Atomic-Layer-Deposited Al₂O₃-Parylene C Bilayer Coating for Neural Interfaces Using Accelerated Age Testing and Electrochemical Characterization." Acta Biomaterialia 10 (2): 960-67, 2014.

(ii) Other significant products

6. Sunderam S, Chernyy N, **Peixoto N** et al., Seizure entrainment with polarizing low-frequency electric fields in a chronic animal epilepsy model, J. Neural Engineering, 6(4):046009 (9 pages), 2009.
7. Boquete L., Rodriguez-Ascariz J.M. Artacho, I., Cantos-Frontela J., **Peixoto N.**, *Dynamically programmable electronic pill dispenser system*, Journal of Medical Systems, DOI

- 10.1007/s10916-008-9248-3, 2009.
8. Berry T, Hamilton F, **Peixoto N**, Sauer T, *Detecting connectivity changes in neuronal networks*, Journal of Neuroscience Methods, 209(2), 388-397, 2012.
 9. Charkhkar H., Frewin C., Nezafati M., Knaack G. L., **Peixoto N.**, Sadow S. E., and Pancrazio J. J., “*Use of cortical neuronal networks for in vitro material biocompatibility testing*,” Biosensors and Bioelectronics, 53, 316–323, 2014.
 10. Mandal HS, Knaack GL, Charkhkar H, McHail DG, Kastee J, Dumas TC, **Peixoto N**, Rubinson JF, Pancrazio JJ, *Improving the performance of poly(3,4-ethylenedioxythiophene) (PEDOT) for brain machine interface applications*. Acta Biomaterialia 10: 2446-2454, 2014.

(d) Synergistic activities

- TV interview (with PI and students) aired on Verizon Fios TV (“Push Pause”) from July through September, 2010. Available at <http://www.youtube.com/thevolgenauschool>
- Radio interview with the Public Radio (Program: “With Good Reason”) aired on February 5th, 2011. Interview available online at <http://withgoodreasonradio.org> and mp3 file at http://bioengineering.gmu.edu/images/news_and_events/Brain-show.mp3 .
- Girl scout badge “Fun in Engineering” development (2010 on) for daisies and brownies (5 to 7 year old elementary school girls).
- Media coverage of NSF-funded (Garde, 2012-2016) senior design projects: <http://www.livescience.com/24687-engineering-assistive-technology-nsf-bts.html>; <http://about.gmu.edu/senior-design-team-builds-automatic-arm-to-assist-fellow-student/>
- Undergraduate senior design projects selected as finalists in several competitions: (1) RESNA, Rehabilitation Engineering and Assistive Technology Society of North America) conf. (<http://resna.org/conference/proceedings/2012/StudentDesign/FeedingDevice.html>) and (2) Business Plan competition at GMU (<http://about.gmu.edu/business-plan-competition-rewards-entrepreneurism-across-the-disciplines/>)

(e) Collaborators & other affiliations

- Collaborators: Sridhar Sunderam (KSU), Sergiy Yakovenko (WVU), Laszlo Grand (JHU).
- at GMU: Tim Sauer (Math), John Cressman (Physics), Vicky Ikonomidou (Bioengineering), Joseph Pancrazio (Bioengineering), Kevin Terry (Rehabilitation), P. Seshayer (Math). J. Suh (Education).
- Advisors: Javier Ramirez (USP, Brazil), R.Eckmiller (Bonn, Germany), G.Kovacs (Stanford), Bruce Gluckman, Steve Schiff (PSU).
- Advisees (current): Franz Hamilton, Alireza Akhavian, Neil Moser, Salma Mahmoud, Hossein Ghaffari Nik, Joseph Majdi.
- Previous advisees: Saugandhika Minnikanti (NIST)