

Iyad Obeid

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Educational Experience

- 1998 - 2004 Duke University (Durham, NC)
Ph.D., Department of Biomedical Engineering, Experimental Electrophysiology Lab
- 1997 - 1998 Massachusetts Institute of Technology (Cambridge, MA)
Master of Engineering, Electrical Engineering and Computer Science
- 1993 - 1997 Massachusetts Institute of Technology (Cambridge, MA)
Bachelor of Science, Electrical Engineering and Computer Science

Research Experience

- 1998 - 2004 *Doctoral Student* – Hardware and software design, development, and testing of a wearable multichannel, high bandwidth digital neural telemetry system with autonomous spike detection. Development of analog VLSI for processing signals from implanted neural electrodes – Dr. Patrick Wolf, Department of Biomedical Engineering, Duke University, Durham, NC
- 1997 - 1998 *Masters Student* – Development and Characterization of low noise CMOS preamplifier for magnetoresistive hard disk drive read head – Mr. Ken Maggio, Mixed Signal Design Group, Texas Instruments, Dallas, TX; Dr. Charles Sodini, Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA
- 1996 *Summer Intern* – Characterization of magnetoresistive hard disk drive read heads – Mr. Sami Kiriaki, Mixed Signal Design Group, Texas Instruments, Dallas, TX
- 1995 *Summer Intern* – Development of a multivalued logic-to-binary converter using resonant tunneling diodes – Dr. Alan Seabaugh, Nanoelectronics Group, Texas Instruments, Dallas, TX

Teaching Experience

- 2004 *Instructor* – Biomedical Signals and Measurements. Responsible for all aspects of the course including selection of curriculum, lecturing three times per week, and oversight of four teaching assistants. – Department of Biomedical Engineering, Duke University, Durham, NC.
- 1999 - 2000 *Teaching Assistant* – Bioelectricity (Spring 1999), Biomedical Signals and Measurements (Fall 1999, Spring 2000) – Department of Biomedical Engineering, Duke University, Durham, NC.
- 1998 - 1999 *Tutor* – Calculus – Athletic Department, Duke University, Durham, NC.
- 1997 - 1998 *Teaching Assistant* – Probabilistic Systems Analysis (Spring 1997), Biomedical Signal and Image Processing (Spring 1998) – Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA

Awards, Fellowships, and Distinctions

- 2002 Summer Course in Neural Engineering – Accepted to and attended annual two-week workshop presented by Arizona State University.
- 1999 - 2002 National Defense Science and Engineering Graduate Fellowship recipient.
- 2001 Neuromorphic Engineering Workshop – Accepted to and attended annual month-long workshop
- 2001 Certified North Carolina Emergency Medical Technician - Basic
- 1996 European Patent # 96116660.0-2214 – Analog to Digital Converter Using Resonant Tunneling Diode Devices

Publications

1. Obeid I, Wolf P, “Evaluation of Spike Detection Algorithms for a Brain Machine Interface Application”, *IEEE Transactions in Biomedical Engineering*, vol 51, no 6, pp905-911, June 2004.
2. Obeid I, Nicolelis M, Wolf P, “A Low Power Multichannel Analog Front End for Portable Neural Signal Recordings”, *J Neurosci Meth*, v133, no1-2, pp27-32, February 2004.
3. Obeid I, Nicolelis, M, Wolf P, “A Multichannel Telemetry System for Single Unit Neural Recordings”, *J Neurosci Meth*, v133, no1-2, pp33-38, February 2004.
4. Obeid I, Morizio, J, Moxon K, Nicolelis M, Wolf P, “Two Multichannel Integrated Circuits for Neural Recording and Signal Processing”, *IEEE Transactions in Biomedical Engineering*, vol 50, no 2, pp 255-258, February 2003.

5. Niebur E, Elhilali M, Obeid I, et.al, “Research, Robots, and Reality : A Statement on Current Trends in Biorobotics”, *Behavioral and Brain Sciences*, vol 24, no 6, pp 1072-1073, December 2001.

Conference Proceedings

1. Obeid I, Nicolelis M, Wolf P, “A Multichannel Neural Telemetry System”, Society for Neuroscience Annual Meeting, Orlando, FL, November 2002.
2. Lehew G, Krupa D, Oliveira L, Morizio J, Wolf P, Obeid I, Nicolelis M, “A Compact High Density Multi - Electrode Array For Long - Term Chronic Recording Of Large Ensembles Of Single Unit Neuronal Activity”, Society for Neuroscience Annual Meeting, Orlando, FL, November 2002.
3. Won D, Obeid I, Morizio J, Nicolelis M, Wolf P, “A Multichannel CMOS Analog Front End for Neural Recordings”, IEEE Engineering in Medicine and Biology Society Annual Meeting, Houston, TX, October 2002.
4. Obeid I, Morizio J, Nicolelis M, Wolf P, “A 16-Channel Analog Front End for Multi-Neuron Recordings”, Biomedical Engineering Society Annual Meeting, Raleigh, NC, October 2001.
5. Nicolelis M, Obeid I, Morizio J, Wolf P, “Towards Wireless Multi-Electrode Recordings in Freely Behaving Animals”, Society for Neuroscience Annual Meeting, New Orleans, LA, November 2000.
6. Obeid I, Morizio J, Wolf P, Meng Q, Moxon K, Chapin J, Nicolelis M, “Integrated Headstage for Population Neuron Data Acquisition”, IEEE Engineering in Medicine and Biology Society Annual Meeting, Chicago IL, July 2000.
7. Wolf P, Obeid I, Lim M, Arora H, Nicolelis M, “Design for Wireless High Speed Neural Data Acquisition System”, IEEE Engineering in Medicine and Biology Society Annual Meeting, Chicago, IL, July 2000.

Practical Skills

Matlab, HSPICE, C, TCP/IP, VHDL, PCB Design, Analog IC design using Mentor, Electronics Workbench, Unix, Windows, PIC development.

References

1. Patrick D. Wolf, Ph.D. – Dept of Biomedical Engineering, 136 Hudson Hall, Duke University, Durham, NC 27708 – (919)660-5114 – patrick.wolf@duke.edu
2. Miguel A.L. Nicolelis, M.D., Ph.D. – Dept of Neurobiology, 327E Bryan Research Building, Box 3209 Medical Center, Durham, NC 27710 – (919) 684-4580 – nicoleli@neuro.duke.edu