CURRICULUM VITAE (April 2025)

JAVAD FROUNCHI, Ph.D.

Professor of Microsystem Design and Neural Engineering
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Personal Details

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Education

1995-1999 : Ph.D. in Electrical Engineering (Integrated Circuit Design) , Dept. of Electrical Engineering and Electronics, UMIST, Manchester, England
1991-1993 : M.Sc. in Electrical Engineering (Electronics), Iran University of Technology, Tehran, Iran
1985-1989 : B.Sc. in Electrical Engineering (Electronics), Sharif University of Technology, Tehran, Iran

Employment

2016-present: Professor**,** Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran
2013- 2014 : Adjunct Professor**,** Faculty of Electrical Engineering, Pardis of Urmia University, Urmia, Iran
2012-present: Adjunct Professor**,** Neuroscience Department, School of Advanced Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran
2009- 2016 : Associate Professor**,** Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran
2011- 2012 : Adjunct Professor**,** Faculty of Electrical Engineering, Sciences & Research Branch, Azad University, Tabriz, Iran
2008- present : Founder of Danesh Electronic Designers, Tabriz, Iran (www.ded-co.com)
2003- present : Director of Microelectronic and Microsensor Research Laboratory, Faculty of Electrical and Computer Engineering, University of Tabriz, Tabriz, Iran.
2001- 2009 : Assistant Professor**,** Faculty of Electrical and Computer Engineering, University of Tabriz , Tabriz, Iran
1999- 2001 : Post-doctoral Scholar, Institute of Microsystems, Department of Micro-Engineering, Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland.
1996- 1998 : Teaching Assistant, Department of Electrical Engineering & Electronics, UMIST, Manchester, England.
1993- 1995 : Lecturer-Instructor , Electrical Engineering Dept., Faculty of Engineering, University of Tabriz, Tabriz, Iran.
1991-1993 : Research Engineer, Computer & Communication Dept., Iran Telcom. Research Center (ITRC), Tehran, Iran.

Supervised Theses

1. **Ali-Reza Bazzazi**, M.S. Thesis, *An Electrical Capacitance Tomography (ECT) system & a Magnetic Scanner*, 2003
2. **Fahimeh Dehkhoda**, M.S. Thesis, *Design and implementation of a capacitive scanner*, 2004
3. **Mohammad Reza Majidpour**, M.S. Thesis, *Design and implementation of a tomographic flow analyzer*, 2005
4. **Mahdi Samin**, M.S. Thesis, *Design and implementation of multiprocessor MP3 decoder*, 2006
5. **Hamid Soltani**, M.S. Thesis, *Design and implementation of three-dimension electrical resistance tomography*, 2006
6. **Ayoub Nowroozi**, M.S. Thesis, *Zooming mechanism in capacitance scanner implemented on a chip*, 2006

7. **Mahdi Bahramzadeh**, M.S. Thesis, *Image optimization in the rotary electrical capacitance tomography system,* 2006
8. **Hamed Taghipour Farshi**, M.S. Thesis, *Design and implementation of a dynamically reconfigurable structure for mp3 decoder on a FPGA,* 2007
9. **Mehrdad Sarrafi**, M.S. Thesis, *Design and implementation of bluetooth baseband layer,* 2007
10. **karim Samad Zamini**, M.S. Thesis, *A hardware accelerator for electrical resistance tomography system,* 2008
11. **Seyyed Reza Eshaghi Sardrood** ,M.S. Thesis, *Design and implementation of bluetooth security on a FPGA,* 2008
12. **Sanaz Asgarifar**, M.S. Thesis, *Image reconstruction of electrical resistance tomography using intelligent algorithm,* 2008
13. **Nasser Ghayedzadegan** , M.S. Thesis, *Design and implementation of a custom processor for pseudo coloring of medical images,* 2008
14. **Mohammad Hossein Zarifi**, Ph.D. Thesis, *Design of a reconfigurable front-end for neural signal recording of a high-density multi electrode implantable array,* 2009
15. **Morteza Safaie Baghbany**, M.S. Thesis, *Design and implementation of RF system for orientation tracking,* 2009
16. **Mohammad Fardad**, M.S. Thesis, *Digital calibration processor design for pipeline analog to digital converter,* 2010
17. **Nabi Allah Shiri Asmangerdi**, M.S. Thesis, *A low power pipeline ADC design for receiving neural signal,* 2010
18. **Mohammad Saeed Khadivar**, M.S. Thesis, *Reconfigurable low noise amplifier design,*2010
19. **Zahra Haddad Derafshi**, M.S. Thesis, *Design of a front-end logarithmic amplifier for neural signal recording system,* 2011
20. **Saber Behkami**, M.S. Thesis, *Design and implementation of magnetic induction imaging system,* 2011
21. **Navid Vafaei**, M.S. Thesis, *Design and implementation a fault tolerant ALU employing ARM structure*, 2012.
22. **Mir Majid Ghasemi**, M.S. Thesis, *Simultaneous detection of two or more elements using Nuclear Magnetic Resonace Biosensor,* 2012.
23. **Maryam Forouhan**, M.S. Thesis, *Hardware designing of the compressor of neural signals extracted from implanted electrodes in a living body*, 2012.
24. **Masoud Malekzadeh**, M.S. Thesis, *Design and implementation of an evolvable processor for noise cancellation of neural signal extracted from implanted probes*, 2012.
25. **Fahimeh Dehkhoda**, Ph.D. Thesis, *Design of a RF Receiver for a Micro-MRI System*, 2012.
26. **Nima Lotfi,** M.S. Thesis, *Design of a low power floating-point analog to digital converter for signal recording from implantable neural probes*, 2013.
27. **Iman Aghtar,** M.S. Thesis, *Design of a front-end for a multichannel neural signal microstimulation system*, 2013.
28. **Saeed Mahmoodi,** M.S. Thesis, *Evolvable neuroprocessor design on FPGA*, 2013.
29. **Omid Adljuy,** M.S. Thesis, *Design and Feasibility study of a 3D reconfigurable sensor to record ECG signal*, 2013.
30. **Fatemeh Es.haghi**, M.S. Thesis, *Design and implementation of a system for early detection of epileptic seizure onset from electrocardiography signals on a FPGA*, 2013.
31. **Said hiderzadeh,** M.S. Thesis, A wideband array vibration meter design and implementation, 2014.
32. **Roghayeh Aghazadeh Habeshi,** M.S. Thesis, A Hardware *implementation of epileptic seizure early detection from EEG signals on a FPGA*, 2014.
33. **Zeynab Mohamadi Yengijeh,** M.S. Thesis, *Implementation of an emotion recognition system using physiological signals on a FPGA*, 2014.
34. **Adnan Ghadri,** M.S. Thesis, *Implementation of a stress detection system using physiological signals on FPGA*, 2014.
35. **Sevda Gharehbaghi**, M.S. Thesis**,** *Design and feasibility study of a µEIS system for biological cell analysis*, 2014.
36. **Soheil Gharavi Hamedani**, M.S. Thesis, M.S. Thesis, *Designing and Implementation of a Biological Signal Processor on a FPGA,* 2015.
37. **Omid Bazgir,** M.S. Thesis, *Design and Implementation of Tremor Measuring and Classification System Using Physiological Signals*, 2015.
38. **Hamed Taghipour Farshi**, Ph.D. Thesis, *Design and feasibility study of a neural booster,* 2015.
39. **Hamidreza Kazemi,** M.S. Thesis, *Design and implementation of a system for detection of nervefascicles in EIT images,* 2015.
40. **Hamed Golnejad,** M.S. Thesis, *Design and feasibility study of system to analyse lubricant oil quality,* 2015.
41. **Reza Hosseini,** M.S. Thesis, *Design and Implementation of cardiac arrhythmia detection system in newborn on a FPGA*, 2015.
42. **Seyedeh Mina Hosseini Asl,** M.S. Thesis, *Design and implementation of a system for µ-EIT image reconstruction on FPGA*, 2016.
43. **Sepide Asgari,** M.S. Thesis, *Design of a low-offset and low power bio-potential amplifier,* 2016.
44. **Seyyedeh Farzaneh Saadatmand**, M.S. Thesis, *Design and Layout of a Biomedical Signal Coprocessor,* 2017.
45. **Karim Samad Zamini**, Ph.D. Thesis, *Design and implementation of ERT touch screen sensor,* 2017.
46. **Saber, Behkami**, Ph.D. Thesis, *Design and feasibility study of Density Measurement System of Peripheral Nerve based of Mirco-Electrical Impedance Tomography,* 2017.

47. **Majid Memarian Sorkhabi**, Ph.D. Thesis, *MEMS Based Brain Stimulation for the Treatment of Parkinson Disease*, 2017.
48. **Raziyeh Foroumandi**, M.S. Thesis, *Design and Layout of a Biomedical Signal Processor*, 2017.
49. **Nahid Shirdel,** M.S. Thesis, *Design and hardware implementation of epileptic seizure early detection in human from ECoG signals on a FPGA*, 2018.
50. **Mohammad Hossein Karimi,** M.S. Thesis, Low power SRAM design for implantable Micro-systems, 2018.
51. **Abbas Moutab Majid,** M.S. Thesis, *The effect of control of blood flow signals on the cerebral cortex in animal*, 2018.
52. **Behnam Mohammadi Nojadeh,** M.S. Thesis, *An on-chip switched-capacitor DC-DC converter*, 2018.
53. **Idris Shahijan,** M.S. Thesis, *Design and Implementation of a Dimension Reduction algorithm for EEG-based Epileptic Seizure detection*, 2019.
54. **Najme Permeh,** M.S. Thesis, *Design and Implementation of a Pain Measuring System from Brain Signals on a FPGA*, 2020.
55. **Pegah Ramezani,** M.S. Thesis, *Design of an EEG-based System for assessment of Reaction to a demand for Change in Gate Speed*, 2021.
56. **Hoora Mohseni,** M.S. Thesis, *Design of a detection system for neuropathic pain evaluation in rats induced by tibial nerve transection using ECOG signals and its implementation on FPGA*, 2021.
57. **Hamed Rashidi,** M.S. Thesis, *Design of a System to Detect Ventricular Septal Defects (VSD) from ECG Signal using Deep Learning Methods and its Hardware Implementation on FPGA*, 2021.
58. **Pooya Estakhri,** M.S. Thesis, *Design of an EEG-based System for Gait Adaptation*, 2021.
59. **Roghayeh Aghazadeh Habashi**, Ph.D. Thesis, *Design of a Patient-specific Low-power and Implantable System on Chip for Epileptic Seizure Detection using EEG*, 2021.
60. **Mohammad Jafari,** M.S. Thesis, *Design and hardware implementation of a consciousness detection system based on ECOG signals of rat on FPGA*, 2022.
61. **Mostafa Piran,** M.S. Thesis, *Design of epileptic activity detection system using deep learning methods from electrocorticographic signals in rats*, 2023.
62. **Maysam Mousanasab,** M.S. Thesis, *Design and Implementation of 4K bytes Multiport static RAM in 65nm CMOS Technology*, 2023.
63. **Arash Narimani,** M.S. Thesis, *Designing a System for artifact removal from EEG Signals using Deep Learning Methods and Hardware Implementation*, 2024.

Research Projects

1. *High-detectivity magnetic sensor microsystem* MINAST (Swiss Priority Program in Micro & NanoSystem Technology) MAGCHOP project, Swiss Federal Institute of Technology (EPFL), 1999.
2. *High Accuracy Magnetic Sensors*, MINAST MAGSENS project, Swiss Federal Institute of Technology (EPFL), 1999.
3. *High-accuracy integrated magnetic sensor based on nano-meter Hall devices*, TOP Nano 21 program, Swiss Federal Institute of Technology (EPFL), 1999.
4. *Current Sensor*, MINAST CURSENS project, Swiss Federal Institute of Technology (EPFL), 2000.
5. *Surface Parallel Sensitive Hall System*, a multinational European project, Swiss Federal Institute of Technology (EPFL), 2000.
6. *An Electrical Capacitance Tomography (ECT) system & a Magnetic Scanner*, University of Tabriz, 2002.
7. *Electronic control of fuel current in diesel and gas-diesel motors*, National Project, University of Tabriz, 2002.
8. *Electrical Impedance Spectroscopic system*, University of Tabriz, 2006.
9. *Characterization of human normal and malignant bladder tissues using the electrical impedance measurements*, Tabriz University of Medical Sciences, 2008.
10. *Design and hardware implementation of a hardware system for early detection of epileptic seizure onset from electrocardiography signals*, Tabriz University of Medical Sciences, 2012.
11. *Design and Implementation of a hardware system to early detection of epileptic seizure onset from electroencephalography signals*, Tabriz University of Medical Sciences, 2012.
12. *Neural Signal Booster*, Tabriz University of Medical Sciences, 2012.

Research Interests

- Neural Recording and Stimulation Microsystem design
- Micro MRI and NMR Microsystem design
- Bio-inspired digital chip design
- Bio-chip and Bio-Microsystem design
- Neural signal processor design on FPGAs
- Tomographic system design (ERT, ECT, EIT, and EIS)

- Sensor Interface Electronic
- RF Application Specific Integrated Circuit design

Awards And Honors

- PTL/TOMOFLOW AWARD For *Innovation in Tomographic Instrumentation*, At the 3rd World Congress on Industrial Process Tomography, Banff, Canada, September 2003.
- Distinguished Researcher at Faculty of Electrical Engineering, University of Tabriz, Tabriz, Iran, 2003.
- Distinguished Researcher (second place) at Faculty of Electrical & Computer Engineering, University of Tabriz, Tabriz, Iran, 2009.

Professional Service

- Editor-in-Chief, *Journal of Advanced Signal Processing*, 2020-2021.
- Editor, *Journal of Nonlinear Systems in Electrical Engineering*, 2013-present.
- Referee/Reviewer
  - **Journals**: *International Journal of Circuit Theory and Applications, COMPEL, Australasian Physical & Engineering Sciences in Medicine, International Journal of Electronics and Communications, International Journal of Engineering, Iranian Journal of Electrical and Computer Engineering, Journal of the Iranian Association of Electrical and Electronics Engineers, Tabriz Journal of Electrical Engineering, Journal of Circuits, Systems, and Computers*
  - **Conferences:** *4th and 5th world congress on industrial process tomography, Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 5th Iranian Conference on Machine Vision and Image Processing, 2008 International Symposium on Intelligent Signal Processing and Communication Systems, , Annual International Conference on Electrical Engineering,* 20th *International Conference on Biomedical Engineering*

Publications

Book Chapters

1. J. Frounchi , Mohammad Hossein Zarifi and F. Dehkhoda, "An Integrated Differential Current Source for High Frequency Biomedical Applications Implemented in a 0.5 μm CMOS Integrated Circuit Technology", chapter in *IFMBE Proceedings*, Hermann Scharfetter and Robert Merwa , Editors, vol. 17, pp. 217–220, Springer Verlag, 2007.
2. J. Frounchi , Mohammad Hossein Zarifi and F. Dehkhoda, "A Custom-made Demodulation Technique for EIT/EIS Systems", chapter in *IFMBE Proceedings*, Hermann Scharfetter and Robert Merwa , Editors, vol.. 17, pp. 284–287, Springer Verlag, 2007.
3. Farshi H.T., Frounchi J., "Design, Simulation and Implementation of a Selective Recording System from Peripheral nervous system." Chapter in: Badnjevic A. (eds) CMBEBIH 2017. *IFMBE Proceedings*, vol. 62., pp. 104-9, Springer, Singapore

Journals

1. Safa Talebi, Javad Frounchi, and Behzad Mozaffari Tazehkand, "A novel channel selection approach for human neonate's pain EEG data analysis", *Signal, Image and Video Processing*, vol. 19, no. 5, pp. 364, 2025.
2. P Nosratkhah and J Frounchi, "A comprehensive QRS detection method based on exclusive mother wavelet and artificial neural network", *Biomedical Engineering: Applications, Basis and Communications*, vol. 34, no. 04, pp. 2250014, 2022.
3. R Aghazadeh, J Frounchi, F Montagna, S Benatti, "Scalable and energy efficient seizure detection based on direct use of compressively-sensed EEG data on an ultra low power multi-core architecture", *Computers in Biology and Medicine*, vol. 125, pp. 104004, 2020.
4. Tayebeh Azadmousavi, Esmaeil Najafi Aghdam, and Javad Frounchi, "A Power-Efficient Configurable FSK–OOK Transmitter with Scalable Data Rate for Wireless Medical Applications", *Circuits, Systems, and Signal Processing*, vol. 39, pp. 2776-2795, 2020.
5. Tayebeh Azadmousavi, Esmaeil Najafi Aghdam, and Javad Frounchi, "Design of an Efficient Circuit for Data Rate Configuration in Power Amplifier Dedicated to Wireless Medical Applications", *Journal of Nonlinear Systems in Electrical Engineering*, vol. 6, no. 2, pp. 16-31, 2020.
6. K Samadzamini and J Frounchi, "Reconfigurable Computing Platform for Real-Time Image Reconstruction in 3-D Electrical Resistance Tomography", *Electronics Engineering Letters*, vol. 1, no. 1, 2019.

7. Parisa Mahmoudi, Hadi Veladi, Firouz Ghaderi Pakdel, Javad Frounchi, “Low-cost optical splitter for neural stimulations using off-the-shelf ultraviolet adhesives”, *Journal of Micro/Nanolithography, MEMS, and MOEMS*, vol. 18, no. 1, pp. 015502 , 2019.
8. Tayebeh Azadmousavi, Mostafa Azadbakht, Esmaeil Najafi Aghdam, Javad Frounchi, “A novel zero dead zone PFD and efficient CP for PLL applications”, *Analog Integrated Circuits and Signal Processing*, vol. 95, no. 1, pp. 83–91, 2018.
9. Saber Behkami, Javad Frounchi, Firouz Ghaderi Pakdel, Thomas Stieglitz, “Simulation of effects of the electrode structure and material in the density measuring system of the peripheral nerve based on micro-electrical impedance tomography”, *Biomedical Engineering/Biomedizinische Technik*, vol. 63, no. 2, pp. 151-161, 2018.
10. Majid Memarian Sorkhabi, Javad Frounchi, Parviz Shahabi, Hadi Veladi, “Measurement of transcranial magnetic stimulation resolution in 3-D spaces”, *Measurement*, vol. 116, pp. 326-340, 2018.
11. Saber Behkami, Javad Frounchi, Firouz Ghaderi Pakdel, Thomas Stieglitz, “Investigations on effects of the hole size to fix electrodes and interconnection lines in polydimethylsiloxane”, *Journal of Micromechanics and Microengineering*, vol. 27, no. 11, pp. 115008, 2017.
12. H Taghipour-Farshi, J Frounchi, N Ahmadi-asl, P Shahabi, M Farhoudi, “Designing and implementation of a neural rehabilitation system for peripheral nervous system”, *Journal of the Neurological Sciences*, vol. 381, pp. 1137-8, 2017.
13. Zeynab Mohammadi, Javad Frounchi, and Mahmood Amiri, “Wavelet-based emotion recognition system using EEG signal, *Neural Computing & Application*, vol. 28, no. 8, pp. 1985-1990, 2017.
14. Majid Memarian Sorkhabi, Javad Frounchi, Parviz Shahabi, Hadi Veladi, “Deep-Brain Transcranial Stimulation: A Novel Approach for High 3-D Resolution”, *IEEE Access*, vol. 5, pp. 3157-3171, 2017.
15. Karim Samadzamini, Javad Frounchi, Hadi Veladi, “A High Optical Transmittance and Low Cost Touch Screen without Patterning”, *Advances in Electrical and Computer Engineering*, vol. 17, no.1, pp. 109-114, 2017.
16. Siavash Zargari, Hadi Veladi, Behnaz Sadeghzadeh, Parviz Shahabi, Javad Frounchi, M. Pashaei-asl, “Design and Fabrication of a Microfluidic Chip for In Vitro Oocyte Maturation”, *Tabriz Journal of Electrical Engineering*, vol. 46, no. 3, pp. 211-220, 2016.
17. Mir Majid Ghasemi, Javad Frounchi, Fahimeh Dehkhoda, “A New Receiver Front-End for Simultaneous Dual-Frequency NMR Applications”, *Journal of Circuits, Systems and Computers*, vol. 25, no. 9, pp. 1650109, 2016.
18. Siavash Zargari, Hadi Veladi, Behnaz Sadeghzadeh, Parviz Shahabi, Javad Frounchi, “A Microfluidic Chip for In Vitro Oocyte Maturation”, *Sensor Letters*, vol. 14, no. 4, pp. 435-440, 2016.
19. Hamed Taghipour, Javad Frounchi, Naser Ahmadi Asl, Parviz Shahabi, and Yaghoub Salek Zamani,” Assessment on selectivity of multi-contact cuff electrode for recording peripheral nerve signals using Fitzhugh-Nagumo model of nerve excitation”, *Journal of Back and Musculoskeletal Rehabilitation*, vol. 29, no. 4, pp. 749-756 , 2016.
20. Roghayeh Aghazadeh Habeshi, Parviz Shahabi, and Javad Frounchi, and Mina Sadighi” An autonomous real-time single-channel detection of absence seizures in WAG/Rij rats”, *General Physiology and Biophysics*, vol. 34, pp. 285-291, 2015.
21. Fatemeh Es.haghi, Parviz Shahabi, Javad Frounchi, and Hadi Yousefi, "Investigation of ECG changes in absence epilepsy on WAGRij rats", *Basic and Clinical Neuroscience*, vol. 6, no. 2, pp. 123-131, 2015.
22. Hamed Taghipour, Javad Frounchi, Naser Ahmadi Asl, Parviz Shahabi, and Yaghoub Salek Zamani,” Effect of contacts configuration and location on selective stimulation of cuff electrode”, *Bio-Medical Materials and Engineering*, vol. 25, pp. 235-248 , 2015.
23. Roghayeh Aghazadeh Habeshi, Parviz Shahabi, and Javad Frounchi,”Prediction of absence seizures in animal models”, *Journal of Nonlinear Systems in Electrical Engineering*, vol. 2, no 2., pp. 25-37, 2015.
24. Fahimeh Dehkhoda, Javad Frounchi and Said Al-Sarawi, “A low-power, area-efficient multichannel receiver for micro MRI”, *International Journal of Circuit Theory and Applications*, no. 42, pp. 858-869, 2014.
25. Zahra Haddad Derafshi and Javad Frounchi,”Low-Noise Low-Power True Logarithmic Amplifier for Neural Recording System”, *International Journal of Circuit Theory and Applications*, no. 42, pp. 437–451, 2014.
26. Fahimeh Dehkhoda, Javad Frounchi and Mohammad Mohammadzadeh, “Design of a low cross-talk micro-coil array for micro-scale MRI”, *International Journal of Imaging Systems and Technology*, vol. 23, no. 4, pp. 353–9, 2013.
27. Fahimeh Dehkhoda, Javad Frounchi, and Mohammad Mohammadzadeh, “Investigation of Magnetic Resonance Surface Microcoils Using Finite Element Simulations”, *Biomedical Engineering: Applications, Basis and Communications*, vol. 24, no. 5, pp. 1-6, 2012.
28. Mohammad Fardad, Javad Frounchi and Ghader Karimian., “A Digital Processor for Full Calibration of Pipelined ADCs”, *Analog Integrated Circuits and Signal Processing*, vol. 70, no. 3, pp. 347–356, 2012.
29. Mohammad Hossein Zarifi, Shahin Farshchi , and Javad Frounchi, ”Analog to digital converter for high density neural signal recording front-end in 90 nm”, *Analog Integrated Circuits and Signal Processing*, vol. 68, no.6, pp. 349–355, 2011.
30. Mohammad Hossein Zarifi, Javad Frounchi, Mohammad A. Tinati, Shahin Farshchi and Jack W. Judy, “A Low-Power Small-Area 10-bit Analog to Digital Converter for Neural-Recording Applications”, *International Journal of Circuit Theory and Applications*, no. 39, pp.385–395,2011.
31. Sanaz Asgari Far, Javad Frounchi, Mohammad Hossein Zarifi, and Amin Mahdizadeh, “A Novel Two - Stage Genetic Algorithm for Image Reconstruction of Electrical Resistance Tomography”, *International Journal of Modeling, Simulation, and Scientific Computing*, vol. 1, no. 4, 2010.

32. Fahimeh Dehkhoda, Javad Frounchi, and Hadi Veladi, “Capacitive proximity sensor design tool based on finite element analysis”, *Sensor Review*, vol. 30, no. 4, pp. 297–304, 2010.
33. Mohammad Hossein Zarifi, Javad Frounchi, Mohammad A. Tinati, Shahin Farshchi and Jack W. Judy, “A Low-Noise Low-Power Front-End Amplifier for Neural-Recording Applications”, *Biomedical Engineering: Applications, Basis and Communications*, vol. 22, no. 4, pp. 301–306, 2010.
34. Mohammad H. Zarifi, Javad Frounchi, Mohammad A. Tinati, Jack W. Judy, “Platinum-based cone microelectrodes for implantable neural recording applications”, *Biomedical Engineering: Applications, Basis and Communications*, vol. 22, no. 3, pp. 249-254, 2010.
35. Mohammad H. Zarifi, Javad Frounchi, Shahin Farshchi, Jack W. Judy, “A novel time-based low-power pipeline analog to digital converter”, *Analog Integrated Circuits and Signal Processing*, vol. 62, no. 3, pp. 281-289, 2009.
36. J. Frounchi , G. Karimian, and A. Keshtkar, “An Artificial Neural Network Hardware for Bladder Cancer”, *European Journal of Scientific Research*, vol.27, no.1, pp. 46-55, 2009.
37. J. Frounchi , F. Dehkhoda, and Mohammad Hossein Zarifi, “A Low-Distortion Wideband Integrated Current Source for Tomography Applications”, *European Journal of Scientific Research*, vol.27, no.1, pp. 56-65, 2009.
38. M. Samin and J. Frounchi, “Low-Power MP3 Decoder Implemented in a Xilinx Virtex-4 FPGA”, *European Journal of Scientific Research*, vol.15, no.3, pp. 386-395, 2006.
39. Michel Demierre, Sergio Pesenti, Javad Frounchi, P.A. Besse and R.S. Popovic, **“**Reference Magnetic Actuator for self-Calibration of a very small Hall Sensor Array”, *Sensors and Actuators A*, 97-98, pp. 39-46., 2002.
40. G. Boero, J. Frounchi, B. Furrer, P.-A. Besse, and R. S. Popovic, **“**Fully Integrated Probe for Proton Nuclear Magnetic Resonance Magnetometry”, *Review of Scientific Instruments*, vol. 72, no. 6, pp. 2764-2768, June 2001.
41. J. Frounchi and S. Harrold, “Process and Temperature Insensitive GaAs Voltage Reference,” *Electronics Letters*, vol. 34, no. 4, pp. 356-358, Feb 1998.
42. J. Frounchi and S. Harrold, “Adaptive Threshold Voltage Insensitive FET Current Source,” *Electronics Letters*, vol. 33, no. 22, pp. 1902-1904, Oct. 1997**.**
43. J. Frounchi and S. Harrold, “Very Fast GaAs HEMT Analogue Switch,” *Electronics Letters*, vol. 33, no. 17, pp. 1499-1501, Aug. 1997.

Conferences

1. Roghayeh Aghazadeh, Fabio Montagna, Simone Benatti, Davide Rossi, Javad Frounchi, “Compressed Sensing Based Seizure Detection for an Ultra Low Power Multi-core Architecture”, Proceedings of 2018 International Conference on High Performance Computing & Simulation (HPCS), Orleans, France, July 2018.
2. Tayebeh Azadmousavi, Esmaeil Najafi Aghdam, Javad Frounchi, “A Low Power Current-Reuse LC-VCO with Self Body-Bias Schema”, Proceedings of the 26th Iranian Conference on Electrical Engineering (ICEE2018), Mashhad, Iran, May 2018.
3. Hamed Golnejad and Javad Frounchi, “Development and assessment of a lubricant oil quality monitoring system”, Proceedings of the 25th Iranian Conference on Electrical Engineering (ICEE2017), Tehran, Iran, May 2017.
4. Sohila Gharavi, A Ramezani, J Frounchi, “Implementation of a PSoC-based flexible and low-power processor”, Proceedings of the 24th Iranian Conference on Electrical Engineering (ICEE2016), Shiraz, Iran, May 2016.
5. Nima Omidsajedi and Javad Frounchi, “CMOS LC-oscillator with simulated inductor for QPSK”, ”, Proceedings of 2nd International Conference on Knowledge-Based Engineering and Innovation Tehran (KBEI 2015), Iran, November 2015.
6. Siavash Zargari, Nima Talebzadeh, Hadi Veladi, Javad Frounchi, “Design and Finite Element Analysis of a Novel Microfluidic Chip for Motile Sperm Separation”, Proceeding of 2nd International Congress on Electrical Engineering, Computers and Information Technology, Iran, Aug. 2015.
7. Omid Bazgir, Javad Frounchi, Seyed Amir Habibi, Lorenzo Palma, and Paola Pierleoni, “A Neural Network System for Diagnosis and Assessment of Tremor in Parkinson Disease Patients”, Proceedings of the 22st Iranian Conference on Biomedical Engineering (ICBME 2015), Tehran, Iran, November 2015.
8. Adnan Ghaderi, Javad Frounchi, and Alireza Farnam, “Machine Learning-based Signal Processing Using Physiological Signals for Stress Detection”, Proceedings of the 22st Iranian Conference on Biomedical Engineering (ICBME 2015), Tehran, Iran, November 2015.
9. Sevda Gharebaghi, Javad Frounchi, and Saber Behkami “Investigation of the effect of different parameters on bioimpedance spectrum using wideband stimulation”, Proceedings of the 23th Iranian Conference on Electrical Engineering (ICEE2015), Tehran, Iran, May 2015.
10. Saber Behkami, Javad Frounchi, and Firouz Ghadri Pakdel, “The effect of electrode specification and topology in densitometry of peripheral nerve using µ-EIT”, Proceedings of the 23th Iranian Conference on Electrical Engineering (ICEE2015), Tehran, Iran, May 2015.

11. Hamed Taghipour, Javad Frounchi, Naser Ahmadi Asl, Parviz Shahabi, and Yaghoub Salek Zamani,"Selective activation of four fascicules using a four contact nerve-cuff electrode with anode steering electrode ", Proceedings of the 3rd International Conference on Future Bioengineering (ICFB 2014) , Kuala Lumpur, Malaysia, December 2014.
12. Zeynab Mohamadi Yengijeh, Javad Frounchi, and Alireza Farnam,"Emotion detection from EEG signal based on Discrete Wavelet Transform", Proceedings of the 21st Iranian Conference on Biomedical Engineering (ICBME 2014), Tehran, Iran, pp. 321-4, December 2014.
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