

Curriculum Vitae

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Education

- 2016-Present Department of Neurobiology, University of Pittsburgh, Urban lab,
PA, USA, Postdoctoral Research Associate
- 2012-2016 HHMI Janelia farm, Spruston lab, VA, USA
Postdoctoral Research Associate
- 2007-2012 Department of Physiology, McGill University, Chacron lab, Montreal,
Quebec, Canada
Ph.D.
- 2005-2007 Dept. of Neuroscience, Memorial Univ. of Newfound land, NF, Canada
M.Sc.
- 1996-2003 Kermanshah University of Medical Sciences, Kermanshah, Iran
M.D.

Research Experience

- 2012-Present *In vitro* multi patch-clamp recordings from glial cells and interneurons,
viral injection, calcium imaging and optogenetics to investigate the
underlying mechanism of persistent firing in the hippocampus.
- 2007-2012 *In vitro* intracellular and *in vivo* extra and intracellular recordings from the
brain (electrosensory lobe) of the weakly electric fish to study the effect of
serotonin on neuronal signal processing and aggressive behaviors.
- 2005-2007 *In vitro* patch clamp recording from ventral tegmental area to investigate
burst firing in dopaminergic cells and pre-pulse inhibition deficit in a
developmental model of schizophrenia in rat.
- 2005-2007 Immunohistochemistry for potassium and calcium channels in ventral
tegmental area in a developmental model of schizophrenia in rat.
- 2000-2005 *In vitro* electrophysiology study of the effect of selective serotonin
reuptake inhibitor (SSRI) drugs on ouabaine-induced arrhythmia in
isolated atria of guinea pigs.

Scholarships and Awards

- 2007-2012 International Doctoral Award (MIDAs), McGill University
- 2010 Great travel award, McGill University
- 2009 Computational Neuroscience Fellowship, University of Ottawa Summer
School
- 2007 McGill graduate student (MGSS) fellowship, McGill University
- 2007 National travel award, McGill University

2007 National neuroscience recruitment prize, Hotchkiss brain institute, University of Calgary

Relevant Experience

2015 Supervising undergraduate student to finish the summer 2014 project and writing the manuscript.

2014 Supervising undergraduate student for the summer project involving in vitro patch clamp recording from interneurons in the hippocampus

2010- 2011 Teaching assistant of Introductory Physiology Lab, McGill University

2009 Computational Neuroscience Summer School, University of Ottawa

2006 Brain Bee competition coordination team member, Memorial University of Newfoundland

2004-2005 Research associate, Department of Pharmacology, Tehran University of Medical Sciences, Iran

2003-2004 Physician, Imam Hospital, Iran

Publications and Abstracts

Peer Reviewed Papers

Deemyad T, Spruston N. Astrocytes drive persistent neuronal firing (under preparation).

Deemyad T*, Jole Luthi*, Spruston N. *Retroaxonal barrage firing a common property of neuropeptide Y cells in hippocampus and cortex* (under preparation).

Sheffield ME, Edgerton GB, Heuermann RJ, **Deemyad T**, Mensh BD, Spruston N. *Mechanisms of retroaxonal barrage firing in hippocampal interneurons*. J. Physiol. 2013, 591(Pt 19):4793-805.

Deemyad T, Metzen MG, Pan Y, Chacron MJ. *Serotonin selectively enhances perception and sensory neural responses to stimuli generated by same-sex conspecifics*. PNAS. 2013, 110(48):19609-14.

Deemyad T, Jens Kroeger, Chacron MJ. *Sub and Suprathreshold Adaptation Currents have opposite Effects on Frequency Tuning*. J. Physiol. 2012, 590 (19):4839-58.

Deemyad T, Maler L, Chacron MJ. *Inhibition of SK and M channel-mediated currents by 5-HT enables parallel processing by bursts and isolated spikes*. J Neurophysiol. 2011, 105(3):1276-94.

Pousti A, Bakhtiarian A, Najafi R, **Deemyad T**, Brumand K, Hosseini MJ. *Effect of sertraline on ouabain-induced arrhythmia in isolated guinea-pig atria*. Depress Anxiety. 2009, 26(8):E106-10. (*)

Pousti A, **Deemyad T**, Malihi G, Brumand K. *A preliminary study on the interaction of fluvoxamine and adenosine receptor on isolated Guinea-pig atria*. Int J Neurosci. 2006, 116(12):1491-9. (*)

Pousti A, **Deemyad T**, Malihi G, Brumand K. *Involvement of adenosine in the effect of fluoxetine on isolated guinea-pig atria*. Pharmacol Res. 2006, 53(1):44-8 (*)

- Pousti A, **Deemyad T**, Brumand K, Bakhtiarian A. *The effect of fluvoxamine on ouabain-induced arrhythmia in isolated guinea-pig atria*. Pharmacol Res. 2005, 52(2):151-3.(*)
- Pousti A, **Deemyad T**, Malihi G. *Mechanism of inhibitory effect of citalopram on isolated guinea-pig atria in relation to adenosine receptor*. Hum Psychopharmacol. 2004, 19(5):347-50. (*)

(* By regulation of Tehran U. of Med. Sci. the name of principal investigator has to appear as the first author in all publications for funding purposes. The name of the rest of the authors would follow the name of principal investigator in the order of their contribution. In all of the publications I carried out the experiments, the statistical analysis and prepared the graphs and tables for the paper. The research was carried out in the laboratory of Dr A. Pousti.

Oral presentations

- Deemyad T***, Spruston N. *Calcium signaling in the astrocyte network promotes retroaxonal barrage firing in hippocampal interneurons*. IAS , Italy, 2015
- Deemyad T***. *Serotonergic modulation of potassium channels: implications for signal processing in electrosensory neurons*. Lab of Dr. Rafael Yuste. Dept. of Neuroscience, Columbia University, 2012.
- Deemyad T***. *Neuromodulation of early electrosensory processing in apteronotus leptorhynchus*. Invited by Dr. Nelson Spruston. Dept of Neuroscience, North Western University, 2012.
- Deemyad T***, Chacron MJ. *Down-regulation of SK and M channels by serotonin : Implications for sensory processing*. Dept. of Physiology, McGill University, May 2010.
- Deemyad T***, Jens Kroeger ,Chacron MJ. *Serotonin modification of neural coding of time-varying stimuli: spike triggered vs. subthreshold adaptation*. Annual meeting for research on electric fish, Mont Saint Hilaire, May 2010.
- Deemyad T***, Chacron MJ. *Serotonergic (5-HT) regulation of the SK channels in ELL pyramidal cells, implications for sensory processing*. Annual meeting for research on electric fish, Mont Saint Hilaire, May 2009.
- Deemyad T***, Chacron MJ. *Distribution of 5-HT in ELL and the control of pyramidal cell AHPs* . Annual meeting for research on electric fish, Merikville, May 2008.

Presentations by Co-Authors

- Joel Lüthi, ***Deemyad T**, Nelson Spruston. *Retroaxonal barrage firing in NPY+ interneurons of the stratum oriens of the CA1*. JUS, Janelia research campus (presented by my summer student).
- Chacron MJ*. **Deemyad T**. *Efficient computation via sparse coding in electrosensory neural networks*. McGill University, Montreal. Jan 2011.
- Chacron MJ*. **Deemyad T**. *Sub and Suprathreshold adaptation currents have opposite effects on frequency tuning*. Montreal General Hospital, Centre for Research in Neuroscience. Nov 2010.

Deemyad T, Chacron MJ*. *Gating of information processing by serotonin through the downregulation of suprathreshold and subthreshold adaptation* (Oral presentation) Serotonin club, Montreal, July 2010.

Poster Presentations

Deemyad T*, Spruston N. *Retroaxonal barrage firing in NPY interneurons of the hippocampus: A role for astrocytes*. Society for Neuroscience (SFN) meeting, Chicago, Oct 2015.

Deemyad T*, Spruston N. *Astrocytic calcium signaling plays an important role for generation of retroaxonal barrage firing in hippocampal NPY interneurons*. Society for Neuroscience (SFN) meeting, Washington DC, Nov 2014.

Deemyad T*, Chacron MJ. *Serotonin differentially affects coding of information in 'on' and 'off' neurons in the weakly electric fish*. Society for Neuroscience (SFN) meeting, New Orleans, Nov 2012.

Deemyad T*, Chacron MJ. *Contextual coding of aggressive signals in weakly electric fish*. International Congress of Neuroethology (ICN) meeting, Maryland, Aug 2012.

Deemyad T*, Jens Kroeger, Chacron MJ. *Serotonin reduces stimulus estimation and enhances feature detection in pyramidal neurons via a reduction in both supra and sub-threshold potassium currents*. Society for Neuroscience (SFN) meeting, San Diego, Nov 2010.

Deemyad T*, Jens Kroeger, Chacron MJ. *Opposite effects of downregulation of SK channels and M currents by serotonin on the frequency tuning of sensory neurons*. Meeting on the role of serotonin in signal processing ('Serotonin club'), Montreal, July 2010.

Deemyad T*, Chacron MJ. *Mechanisms for different modes of sensory processing in the central neurons of weakly electric fish*. Society for Neuroscience (SFN) meeting, Chicago, Nov 2009.

Deemyad T*, Chacron MJ. *Modulation of sensory processing by serotonin in ELL pyramidal cell*. Dept. of Physiology, McGill University. Montreal, May 2009.

Deemyad T*, Chacron MJ. *Modulation of sensory processing by serotonin in ELL pyramidal cell*. Society for Neuroscience (SFN) meeting, Washington DC., Nov 2008.

Deemyad T*, Chacron MJ. *Serotonin and modulation of information processing in weakly electric fish (*Apteronotus leptorhynchus*)*. 2nd Canadian Association for Neuroscience meeting. Montreal, May 2008.

Deemyad T*, McLean JH, Chen, X. *Expression of SK3 channels in the VTA in a rat model of schizophrenia following neonatal ventral hippocampus lesion*. Society for Neuroscience (SFN) meeting. San Diego. Nov 2007.

Deemyad T*, McLean JH, Chen, X. *Distribution of KCNQ3 channels in midbrain dopamine cells of a neurodevelopmental rat model of schizophrenia*. 1st Canadian Association for Neuroscience meeting. Toronto, May 2007.

Deemyad T*, Pousti A. *Involvement of adenosine receptors in inhibitory effects of fluvoxamine on ouabain-induced arrhythmia in isolated guinea pig atria*. Eurotox congress, Poland, Dec 2005.