



**Curriculum Vitæ**  
**(updated February 28, 2017)**

*Name* Marco Atzori  
*Work address* Univ. Autonoma de San Luis Potosi  
Av. Salvador Nava Martinez s/n  
Zona Universitaria, Campus Poniente  
Facultad de Ciencias, Ed. II, Room 315  
San Luis Potosi, S.L.P. 78290, Mexico  
*Status* married  
*Citizenship* Italian  
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[marco\\_atzori@hotmail.com](mailto:marco_atzori@hotmail.com)

**Education**

**1989 B.S. in Physics**, University of Trieste, Italy  
Experimental thesis on: "N.M.R., physical principles and methods of imaging: texture analysis-based image processing".

**1993 M.Sci. in Biophysics** (S.I.S.S.A./I.S.A.S., Trieste) with a thesis on: "The effect of repeated stimulation of the optic nerve on evoked field potentials in the frog optic tectum".

**1995 Ph.D. in Biophysics** (S.I.S.S.A./I.S.A.S., Trieste) with a thesis on: "Mechanisms of control and modulation of the GABAergic system in the rat hippocampus"

**Languages**

Italian, Spanish, English

**Present position**

**Profesor de Tiempo Completo, Nivel 6, SNI 2**  
**Posgrado: Investigacion Biomedica Aplicada a la Salud (IBAS)**  
**PTC Licenciatura en Biologia**  
**Facultad de Ciencias, UASLP**  
**Perfil PRODEP deseable (vence julio 2017)**  
**Cuerpo Academico en formación:**  
**Fisiologia Molecular y Celular**

**Citations**

Google Scholar: 1320, h-index: 20, i-10: index 26

<b><u>Past and current Memberships</u></b>	Society for Neurosciences (SfN) Association for Research in Otolaryngology (ARO)
<b><u>Grant reviewer</u></b>	NIH, NSF, MRC, CONACyT
<b><u>Associate editor</u></b>	Frontiers in Synaptic Neuroscience, Frontiers in System Neuroscience, Neurotransmitter
<b><u>Ad-hoc reviewer</u></b>	Brain Research, Cerebral Cortex, Developmental Neuroscience, Environmental Toxicology and Pharmacology, Experimental Biology and Medicine, European Journal of Neuroscience, Frontiers in Synaptic Neuroscience, Frontiers in System Neuroscience, Hippocampus, Journal of Chemical Neuroanatomy, Journal of Neurochemistry, Journal of Neurophysiology, Journal of Neuroscience, Journal of Physiology London, Medical Science Monitor, Molecular Pain, Molecular and Cellular Neuroscience, Molecular Neurobiology, Molecular Neurodegeneration, Molecular Pharmacology, Neurobiology of Disease, Neuropharmacology, Neuroscience, Neuroscience and Biobehavioral Reviews, Neuroscience Letters, PLOS One, Synapse.

### **Current Research: Stress and the Cortical GABAergic system**

**Sixty percent of the human brain and a large part of all mammals' brain is constituted by the cortical mantle**, which elaborates sensory information, and uses it to coordinate motor activity and behavior according to the biological, metabolic, and cognitive needs of the animal. Neurons releasing the amino acid GABA (**GABAergic**) are a large class of cortical cells comprising of **4-20% of cortical neurons**, which in the adult individual are typically inhibitory, **whose malfunction is associated with numerous neurological and psychiatric conditions**. Because of their biochemical and morphological properties, **GABAergic neurons are particularly vulnerable to physical, chemical, and psychological stress**, increasing the risk –in genetically predisposed individuals- for the occurrence of **neurological and psychiatric conditions including epilepsy, psychoses, attention deficit disorders, schizophrenic psychoses, as well as of disorders in the anxiety and in the autistic spectrums**. Our laboratory is fully equipped to carry out **in vitro electrophysiology (2 patch-clamp set up systems) as well as rodent behavioral tests**.

We are interested in determining the role and molecular nature of the interaction between stress and the GABAergic system in the pathophysiology of neuropsychiatric conditions. We pursue this aim using **electrophysiological, pharmacological, and behavioral techniques in animal models, mainly rat and mouse**. In the last years we extensively studied the way in which monoamine and catecholamines –particularly norepinephrine- **modulate cortical synaptic network**, particularly in the **temporal and prefrontal cortices**. Our current focus is on the prefrontal cortex, on the molecular nature of the pathophysiology of the GABAergic system, and on the development of possible therapeutic means to recover stress-induced loss-of-function of the GABAergic system. Our present projects use genetically modified mouse models to **evaluate the consequence of stress-induced elevation in the levels of pro-inflammatory cytokines as alterations in the local balance between synaptic inhibition/excitation**.

## **Publications published or in press**

- (48) R. Cuevas-Olguin, E. Esquivel-Rendon, J. Vargas-Mireles, F. Garcias-Oscos, M. Miranda-Morales, H. Salgado, S. Rose-John, **M. Atzori**  
*Interleukin 6 trans-signaling regulates basal synaptic transmission and sensitivity to pentylentetrazole-induced seizures in mice*  
Synapse 2017, in press
- (47) R. Cuevas-Olguin, S. Roychowdhury, A. Banerjee, F. Garcia-Oscos, E. Esquivel-Rendon, M.E. Bringas, M.P. Kilgard, F. Flores, **M. Atzori**  
*Cerebrolysin prevents deficits in social behavior, repetitive conduct, and synaptic inhibition in a rat model of autism*  
Journal of Neuroscience Research 2017, in press
- (46) **M. Atzori**, R. Cuevas-Olguin, E. Esquivel-Rendon, F. Garcia-Oscos, R.C. Salgado-Delgado, N. Saderi, M. Miranda-Morales, M. Treviño, J.C. Pineda-Cortes, H. Salgado  
*Locus Ceruleus Norepinephrine release: a Central Regulator of CNS Spatio-Temporal Activation?*  
Frontiers in Synaptic Neuroscience, 2016 Aug 26;8:25. doi: 10.3389/fnsyn.2016.00025. eCollection 2016
- (45) **M. Atzori**, F. Garcia-Oscos, H. Arias  
 *$\alpha_7$  Nicotinic Acetylcholine Receptor-mediated Anti-inflammatory Actions Modulate Brain Functions*  
Neurotransmitter 2016; 3: e1303. doi: 10.14800/nt.1303
- (44) H. Salgado Burgos, M. Treviño-Villegas, **M. Atzori**  
*Layer- and area-specific actions of norepinephrine on cortical synaptic transmission*  
Brain Research, 2016, 1641, 163-76.
- (43) **M. Atzori**, M. Mejia-Torres  
*Nicotine for psychiatric disease: from nuisance to novel treatment?*  
Future Medicinal Chemistry 2015, 7(10), 1217-20
- (42) F. Garcia-Oscos, D. Peña, M. Housini, D. Cheng, D. Lopez, R. Cuevas Olguin, N. Saderi, R. Salgado Delgado, L. Galindo Charles, H. Salgado, S. Rose-John, G. Flores, M. Kilgard, **M. Atzori**  
*Activation of the anti-inflammatory reflex blocks lipopolysaccharide-induced decrease in synaptic inhibition in the temporal cortex of the rat*  
Journal of Neuroscience Research 2015, Jan 27. doi: 10.1002/jnr.23550.
- (41) F. García-Oscos, O. Torres-Ramírez, L. Dinh, L. Galindo-Charles, J.C. Pineda, **M. Atzori**, H. Salgado  
*Activation of 5-HT receptors inhibits GABAergic transmission by pre-and post-synaptic mechanisms in layer II/III of the juvenile rat auditory cortex*  
Synapse 2015, Mar;69(3):115-27. doi: 10.1002/syn.21794. Epub 2015 Jan 8.

- (40) F. Garcia-Oscos, D. Peña, M. Housini, D. Cheng, D. Lopez, M.S. Borland, R. Salgado, H. Salgado, S. D'Mello, M.P. Kilgard, S. Rose-John, **M. Atzori**  
*Vagal nerve stimulation blocks interleukin 6-dependent synaptic hyperexcitability induced by lipopolysaccharide-induced acute stress in the rodent prefrontal cortex.*  
Brain Behav Immun. 2015 Jan;43:149-58. doi: 10.1016/j.bbi.2014.07.020.
- (39) S. Roychowdhury, A.N. Zwierchowski, F. Garcia-Oscos, R. Cuevas Olguin, R. Salgado Delgado, **M. Atzori**  
*Layer- and area-specificity of the adrenergic modulation of synaptic transmission in the rat neocortex*  
Neurochem. Res. 2014, 39 (Dec): 2377-84
- (38) N. Sosa-Díaz, M.E. Bringas, **M. Atzori**, G. Flores  
*Prefrontal cortex, hippocampus, and basolateral amygdala plasticity in a rat model of autism spectrum*  
Synapse. 2014 Oct;68(10):468-73. doi: 10.1002/syn.21759. Epub 2014 Jul 9.
- (37) G. Flores, **M. Atzori**  
*The potential of Cerebrolysin in the treatment of Schizophrenia.*  
Pharmacology and Pharmacy, 2014, 5: 691-704.
- (36) M.E. Bringas, F.N. Carvajal-Flores, T.A. López-Ramírez, **M. Atzori**, G. Flores  
*Rearrangement of the dendritic morphology in limbic regions and altered exploratory behavior in a rat model of autism spectrum disorder.*  
Neuroscience. 2013 Jun 25;241:170-87
- (35) A. Banerjee, F. García-Oscos, S. Roychowdhury, L.C. Galindo, S. Hall, M. Kilgard, **M. Atzori**  
*Impairment of cortical GABAergic synaptic transmission in an environmental rat model of autism*  
Int. J. Neuropsychopharmacology, 2013 Jul;16(6):1309-18
- (34) S. Roychowdhury, Z. Peña-Contreras, J. Tam, A. Yadlapalli, L. Dinh, J.A. Nichols, D. Basu, **M. Atzori**  
 *$\alpha_2$ - and  $\beta$ -adrenoceptors involvement in nortriptyline modulation of auditory sustained attention and impulsivity*  
Psychopharmacol., 2013 Jul: 16(6):1309-18
- (33) **M. Atzori**, F. Garcia-Oscos, J.A. Mendez  
*Role of Interleukin 6 in the etiology of hyper-excitable neuropsychiatric conditions: experimental evidence and therapeutical implications*  
Future Medicinal Chemistry, 2012 Nov;4(17):2177-92
- (32) D.C. Brown II, M.S. Co, R.C. Wolff, **M. Atzori**  
 *$\alpha$  Adrenergic receptors in auditory cue detection:  $\alpha_2$  receptor blockade suppresses false alarm responding in the rat*  
Neuropharmacol., 2012 62: 2178-83

- (31) F. Garcia-Oscos, H. Salgado, S. Hall, F. Thomas, G.E. Farmer, J. Bermeo, L. C. Galindo, R.D. Ramirez, S. D’Mello, S. Rose-John, **M. Atzori**  
*The stress-induced cytokine interleukin-6 decreases the inhibition/excitation ratio in the rat temporal cortex via trans-signaling*  
Biol. Psych. 2012, 71: 574-82
- (30) H.Salgado, L. Dinh, F. Garcia-Oscos, **M. Atzori**  
*Synaptic locus of action of norepinephrine in auditory cortex GABA synapses.*  
Synapse, 2012, 66:20-8
- (29) J. Nichols, A.R. Nichols, S. Smirnakis, N. Engineer, M. Kilgard, **M. Atzori**  
*Vagus nerve stimulation modulates cortical synchrony and excitability through the activation of muscarinic receptors*  
Neuroscience, 2011, 25:189-207
- (28) H. Salgado, F. Garcia-Oscos, L. Dinh and **M. Atzori**  
*Dynamic modulation of short-term synaptic plasticity in the auditory cortex: the role of norepinephrine.*  
Hearing Res. 2011, 271: 26-36
- (27) H. Salgado, F. Garcia-Oscos, A. Patel, L. Martinolich, J.A. Nichols, L. Dinh, K.Y. Tseng, S. Roychowdhury, **M. Atzori**  
*Layer specific Norepinephrine modulation of inhibition in cortical layer II/III*  
Cerebral Cortex, 2011, 21:212-21
- (26) C.D. Brown II, J.A. Nichols, F. Thomas, L. Dinh, **M. Atzori**  
*Nicotinic modulation of Auditory Attentional Shift in the Rat*  
Brain Research, 2010, 210:273-9
- (25) M. Bose, P. Munoz, S. Roychowdhury, J. Nichols, V.P. Jakkamsetti, B. Porter, R. Byrapureddy, H. Salgado, M.P. Kilgard, F. Aboitiz, A. Dagnino, **M. Atzori**  
*Effect of the environment on the dendritic morphology of the rat auditory cortex*  
Synapse, 2010, 64: 97-110.
- (24) A. Dagnino-Subiabre, P. Muñoz-Llancao, G. Terreros, U. Wyneken, G. Díaz-Véliz, B. Porter, M. Kilgard, **M. Atzori**, F. Aboitiz  
*Chronic Stress Induces Dendritic Atrophy in the Rat Medial Geniculate Nucleus: Effects on Auditory Conditioning*  
Behavioural Brain Research, 2009, 203, 88-96.
- (23) L. Dinh, T. Nguyen, H. Salgado, **M. Atzori**  
*Norepinephrine homogeneously inhibits AMPAR-mediated currents in all layers of the temporal cortex of the rat.*  
Neurochem. Res. 2009 34:1896-906.

- (22) J. Flores-Hernandez, H. Salgado, M. Bose, T. Avila-Ruiz, T. Hernandez-Flores, V. De la Rosa, O. Torres-Ramirez, and **M. Atzori**  
*Cholinergic direct block of N-methyl-D aspartate receptor-mediated currents in the rat auditory cortex.*  
Synapse, 2009, 63, 308-18.
- (21) R.D. Paz, S. Tardito, **M. Atzori**, K.Y. Tseng  
*Glutamatergic Dysfunction in schizophrenia: from basic neuroscience to clinical psychopharmacology*  
Eur. Neuropsychopharm. 2008, 18, 773-86.
- (20) H. Salgado, T. Bellay, J. A. Nichols, M. Bose, L. Martinolich, L. Perrotti, and **M. Atzori**  
*M<sub>2</sub> muscarinic receptors decrease the release of GABA in the auditory cortex by modulating Ca<sup>2+</sup> channels through activation of PI<sub>3</sub>K/PKC*  
J. Neurophysiol. 2007, 98: 952-65.
- (19) J. Nichols, V. Jakkamsetti, H. Salgado, L. Dinh, M. Kilgard, **M. Atzori**  
*Environmental enrichment selectively increases excitatory synaptic transmission to layer 2/3 in the temporal cortex*  
Neuroscience, 2007, 145, 832-40.
- (18) F. Dufour, Q. Liu, **M. Atzori**  
*Effects of cholesterol-rich diet on the rat on spatial memory*  
Brain Res. 2006, 1103, 88-98.
- (17) C. Cui, M. Xu, **M. Atzori**  
*Voltage-dependent Block of NMDA Receptors by Dopamine D1 Receptor Ligands*  
Molecular Pharm. 2006, 70, 1761-70.
- (16) **M. Atzori**, P.O. Kanold, J.C. Pineda and J. Flores-Hernandez, R. Paz  
*Dopamine prevents muscarinic-induced decrease of glutamate release in the auditory cortex*  
Neuroscience, 2005, 134, 1153-65.
- (15) **M. Atzori**, J.F. Hernandez, J.C. Pineda  
*Interlaminar differences of activation threshold in the aud. cortex of the rat.*  
Hearing Res. 2004, 189, 101-6.
- (14) **M. Atzori**, P.O. Kanold, J.C. Pineda and J. Flores-Hernandez  
*Dopamine-acetylcholine interactions in the modulation of glutamate release*  
NY Acad. Sci. 2003, 1003, 346-8.
- (13) M. Grimaldi, **M. Atzori**, P. Ray, and D. Alkon  
*Mobilization of Calcium from Intracellular Stores, Potentiation of Neurotransmitter-Induced Calcium Transients, and Capacitative Calcium entry by aminopyridine*  
J. Neurosci. 2001, 21 3135-43

- (12) **M. Atzori**, S. Lei, D. Evans, P. Kanold, E. Tansey, O. Intyre and C.J. McBain  
*Differential synaptic processing separates stationary from transient inputs to the auditory cortex*  
Nature Neurosci. 2001, 12:1230-7
- (11) **M. Atzori**, D. Lau, E. Tansey, A. Chow, A. Ozaita, B. Rudy and C.J. McBain  
*H<sub>2</sub> histamine receptor phosphorylation of Kv3.2 modulates interneuron fast spiking*  
Nature Neurosci. 2000, 3:791-8
- (10) F. Strata, **M. Atzori**, M. Molnar, G. Ugolini and E. Cherubini  
*Nitric Oxide Sensitive Depolarization-Induced Hyperpolarization: a possible role for gap junctions during development*  
Eur. J. Neurosci. 1998, 10:397-403
- (9) G.I. Frolenkov, **M. Atzori**, F. Kalinec, F. Mammano and B. Kachar  
*The membrane-based mechanism of cell motility in cochlear outer hair cells*  
Mol. Biol. Cell, 1998, 9:1961-8
- (8) F.Strata, **M. Atzori**, M.Molnar, G. Ugolini, F. Tempia and E. Cherubini  
*A pacemaker current in dye-coupled hilar interneurons contributes to the generation of Giant GABAergic Potentials in developing hippocampus.*  
J. Neuroscience, 1997, 17:1435-46
- (7) **M. Atzori**  
*"Pyramidal cells and Stratum Lacunosum-Moleculare interneurons in the CA1hippocampal region share a GABAergic spontaneous input"*  
Hippocampus, 1996, 6:72-78
- (6) **M. Atzori** and A. Nistri  
*"Effects of Thyrotropin Releasing Hormone on the GABAergic synaptic transmission of the rat hippocampus"*  
European J. Neuroscience, 1996, 8:1299-1305
- (5) J. Györi, **M. Atzori** and E. Cherubini  
*Post synaptic induction of mossy fibre Long Term Depression in developing rat hippocampus*  
Neuroreport, 1996, 7:1660-4
- (4) **M. Atzori** and A.Nistri  
*"Non-monotonic decay of excitatory synaptic transmission in the frog optic tectum following repetitive stimulation of the optic nerve in vitro"*  
Experimental Brain Research, 1994, 102:287-296
- (3) **M. Atzori**  
*"Cl<sup>-</sup> transporter block enhances GABAergic spontaneous activity in rat hippocampal CA3 cells"*  
NeuroReport, 1994, 5:2509-2512
- (2) R.Toffanin, B.J.Kvam, A.Flaibani, **M. Atzori**, F.Biviano and S.Paoletti

*"N.M.R. studies of oligosaccharides derived from hyaluronate: complete assignment of <sup>1</sup>H and <sup>13</sup>C NMR spectra of di- and tetrasaccharides, and study of chemical shifts of oligosaccharides of increasing degree of polymerisation"*  
Carbohydrate Research, 1993, 245:113-128

- (1) B.J.Kvam, **M. Atzori**, R.Toffanin, S.Paoletti and F.Biviano  
*"<sup>1</sup>H- and <sup>13</sup>C-NMR studies of solutions of hyaluronic acid esters and salts in DMSO: comparison of hydrogen bond patterns and conformational behavior"*  
Carbohydrate Research, 1992, 230:1-13

### **Manuscripts submitted**

none

### **Manuscripts in preparation**

- (1) E. Esquivel-Rendon, J. Vargas-Mireles, R. Cuevas-Olguin, J. Maldonado, M. Miranda-Morales, **M. Atzori**  
*Stress affects prefrontal cortex synaptic transmission through interleukin-6 dependent mechanisms*
- (2) S. Roychowdhury, **M. Atzori**  
*Adrenergic treatment improves social interactions and anxiety in an environmental rat model of autism*
- (3) R. Cuevas Olguin, M. Miranda-Morales, E. Esquivel Rendon, **M. Atzori**  
*Nicotine acutely decreases inhibitory transmission in the prefrontal cortex of the mouse*

### **Books edited**

K. Tseng and **M. Atzori** editors  
Monoaminergic Modulation of Cortical Excitability  
ed. Springer; ISBN-10: 0387722548; ISBN-13: 978-0387722542

### **Book chapters**

**M. Atzori** and R. Paz  
*Interplay between Dopamine and Acetylcholine in the Modulation of Attention in "Monoaminergic Modulation of Cortical Excitability"*  
ed. Springer; ISBN-10: 0387722548; ISBN-13: 978-0387722542

**M. Atzori**, H Salgado and K.Y. Tseng  
*Regulation of Cortical Functions by the Central Noradrenergic System in "Monoaminergic Modulation of Cortical Excitability"*  
ed. Springer; ISBN-10: 0387722548; ISBN-13: 978-0387722542

J.A. Nichols, M. Bose, V.P. Jakkamsetti, M.Kilgard and **M. Atzori**



*Auditory environment-induced brain plasticity  
in "Limbic system and stress"*

ed. F. Aboitiz and A. Dagnino

Research Signpost/Transworld Research Network, ISBN 978-81-0202-2

**International  
Symposium  
organizer**

UTD 2012 Neuroscience Research Conference  
Corticostriatal Circuits in Neuropsychiatric Disorders  
School for Behavioral and Brain Sciences  
Kusch Auditorium, FN 2.102  
April 13, 2012

**Awards and  
Grants obtained**

**Post-doctoral awards**

1996 J. William Fulbright scholarship by USIA/CIES: 2,000.00 USD

1996/1997 Post-doctoral fellowship by FY96-67 University of Tennessee  
Neuroscience Center: 15,000.00 USD

1999 NIH FARE -- The Fellows Award for Research Excellence: 1,000.00 USD

**Research awards, University of Texas at Dallas**

2003 National Alliance for Research in Schizophrenia and Depression: Young  
Investigator Award, First installment: 30,000.00 USD

*Role of Dopamine in the Sensitization of Inhibitory Response in the Temporal Cortex*

2004 National Institute of Health, 5R01DC005986-01: Acetylcholine and dopamine  
modulation in auditory cortex, 224,154.00 USD

2004 National Alliance for Research in Schizophrenia and Depression: Young  
Investigator Award, Second installment: 30,000.00 USD

*Role of Dopamine in the Sensitization of Inhibitory Response in the Temporal Cortex,  
Second installment*

2005 National Institute of Health, 5R01DC005986-02: Acetylcholine and dopamine  
modulation in auditory cortex: 298,240.00 USD

2006 American Audiology Association: 5,000.00 USD

*Physiological and Anatomical characterization of the Tectal Commissural Column*  
(mentor M. Atzori, PI Justin Nichols)

2006 National Institute of Health, 5R01DC005986-03: 297,595.00 USD

*Acetylcholine and dopamine modulation in auditory cortex*

2007 National Institute of Health, 5R01DC005986-04: 383,867.00 USD  
*Acetylcholine and dopamine modulation in auditory cortex*

2008 National Institute of Health, 5R01DC005986-04 extension  
*Acetylcholine and dopamine modulation in auditory cortex*  
end august 31, 2009

2010 University of Texas at Dallas: 10,000.00 USD  
Brain and Behavioral Sciences Research Development Award  
*Cerebrolysin in the treatment of autism spectrum disorders*

2011 University of Texas at Dallas: 12,000.00 USD  
Brain and Behavioral Sciences Research Development Award  
*Synaptic effects of interleukin-6*

### **Universidad Autonoma de San Luis Potosi**

2013 Fondos Fomento A la Investigacion (FAI), 50,000 MN  
*Efectos de los antidepresivos tricíclicos sobre la atencion*

2013 Fondos PROMEP, 567,637.00 MN  
*Papel de la quinasa de la sintetasa del glicógeno (GSK) en la enfermedad bipolar*

2015-2016 Fondos Ciencia Basica CONACyT CB -2013-01 221653: 1,412,000 MN  
*Modulación adrenérgica y papel del sistema inhibidor neocortical en un modelo animal de conducta psicótica impulsiva*

2016-2017 Fondos Ciencia Basica CONACyT CB -2013-02 221653: 457,000 MN  
*Modulación adrenérgica y papel del sistema inhibidor neocortical en un modelo animal de conducta psicótica impulsiva*

### **Invited talks**

January 2001, **Howard University, Washington D.C., Dept. of Physiology.**  
Host: Prof. Cloyd Truth

February 2001, **Universidad Nacional Autonoma de Mexico, Unidad de Ixtacala.**  
Mexico. Host: Prof. Jaime Barral

April 2001: **Centro de Investigaciones Regionales Hideyo Noguchi, Merida, Yucatan, Mexico.** Host: Prof. Juan Carlos Pineda

March 2002: **University of Maryland at College Park, Center for Acoustic and Auditory Research, Electrical and Computer Engineering Dept., Inst. for System Research.** Host: Prof. Shihab Shamma

October 2002: **University of Maryland at Baltimore, Dept. of Neurosciences**

Host: Prof. Didier Depireux  
October 2003, Johns Hopkins University, The David Bodian seminar in Neuroscience  
Host: Dr. Alfredo Kirkwood.

January 2004, **Univ. Autonoma de Mexico, Inst. of Physiology. Dep. Seminar**  
Host: Dr. Jose' Bargas.

February 2004, **Benemerita Universidad Autonoma de Puebla, Inst. de Fisiologia.**  
Host: Dr. Jorge Flores.  
March 2004, **University of Texas at Dallas, Institute of Brain and Behavior.**  
Host: Dr. Michael Kilgard.

November 2005, **Univ. de los Andes, Santiago, Chile, Escuelas de Psicologia.**  
Host: Dr. Rodrigo Paz

November 2005, **Instituto Psiquiatrico Horwitz Barak, Santiago, Chile.**  
Host Dr. Rodrigo Paz

January 2006, **Winter Conference on Brain Research, Steamboat Springs, Colorado,** Panel organizer

September 2006, **Neurobiology Seminar Series, UTSA, San Antonio, Texas**  
Host: Dr. Charles Wilson

October 2006, **Prog. in Neurosci. Seminar Series, Indiana University, Bloomington, Indiana**  
Host: Dr. Laura Hurley

April 2007, **Seminar series at the Southern Research Institute, Birmingham, AL**  
Host: Dr. Maurizio Grimaldi

October 2007, **IBRO meeting, Merida, Yucatan, Mexico**  
Host: Dr. Juan Carlos Pineda Cortez

November 2007, **SfN 35<sup>th</sup> Annual Meeting, San Diego, CA, Slide session on excitatory aminoacid receptor modulation**

February 2008, **ARO 31<sup>st</sup> Midwinter meeting, Phoenix, AZ**  
**Slide session on noradrenergic modulation of GABAergic release**

May 2009, **Univ. Texas Southwestern, Psychiatry seminar series, Dallas, TX**  
Host: Dr. Ege Kavalali

June 2009, **BUAP, Institue of Physiology Seminar, Puebla, Mexico**  
Host: Prof. Jorge Flores-Hernandez

August 2009, **3<sup>rd</sup> Intl Conference on the Auditory Cortex, Magdeburg, Ge.**  
Host: Dr. Eike Budinger

March 2012, **Semana del Cerebro, Colima, Mexico**

Host: Dr. Humberto Cruzblanca

October 2013, **XVIII Reunion de la rama de Bioenergetica y Biomembranas**  
**Hotel Hacienda Jurica, Queretaro, Mexico. Slide session**

April 2015, **Seminario del Instituto de Neurobiologia, Queretaro**

Host: Dr. Fernando Peña

April 2015, **Seminario del Inst. de Neurociencias, Universidad de Guadalajara,**  
Guadalajara, Jalisco, Mexico

Host: Dr. Mario Treviño Villegas

August 2016, **Seminario de Neurociencias, Universidad Autonoma de Yucatan,**  
Merida, Yucatan, Mexico

Host: Dr. Humberto Salgado

### **Abstract presentations:**

- (1) Bon L., **Atzori M.** and Lucchetti C.:  
Joint meeting S.I.B.S.-S.I.F.-S.I.N.U.  
Alghero September 26-28 1988.  
*The effect of attention on features of eye movement of the monkey*
- (2) Pinto I., Bravar D., **Atzori M.** and Giribona P.:  
Eighth annual meeting of the society of Magnetic Resonance in Medicine  
Amsterdam November 12-18 1989  
*Assessment of a protocol for M.R. scanners performance measurements*
- (3) **Atzori M.**, Kvam J.B., Toffanin R., Paoletti S.  
First Joint Meeting  
Società Chimica Italiana:  
Gruppo Interdivisionale dei Carboidrati  
Società Italiana di Biochimica: Gruppo dei Glicconiugati  
Alghero May 27-28 1991  
*Behaviour of Hyaluronates: a comparison of hydrogen bond pattern and Conformation*
- (4) **Atzori M.**, Toffanin R., Kvam J.B. and Paoletti S.:  
International Union of Pure and Applied Chemistry  
Slovak Academy of Sciences  
International Conference on Polymers  
Bratislava High Tatras Czeco-Slovakia, June 10-14 1991  
*<sup>1</sup>H and <sup>13</sup>C study of solution properties of hyaluronan derivatives*
- (5) Toffanin R., **Atzori M.**, Kvam J.B., Flaibani A. and Paoletti S.:  
AIRM-GIRM-GDRM Congresso di Risonanza Magnetica  
C.N.R. Area di Ricerca  
Milano October 23-25 1991  
*Study on Oligosaccarides of Hyaluronic Acid*
- (6) Toffanin R., Kvam J.B., **Atzori M.**, Cescutti P. and Paoletti S.:  
AIRM-GIRM-GDRM Congresso di Risonanza Magnetica  
C.N.R. Area di Ricerca  
Milano October 23-25 1991

*N.M.R. spectra of the trisaccharide by Smith degradation from the capsular polysaccharide extracted from Klebsiella 40*

- (7) **Atzori M.** and Nistri A.:  
XVII Conférence en Neurobiologie de Gif  
Mechanism and Regulation of Neurotransmitter Release  
Gif-sur-Yvette December 3-4 1992  
*An unusual feature in the fatigue-dependent process of synaptic transmission in the frog optic tectum*
- (8) **Atzori M.** and Nistri A.:  
Physiological Society Meeting  
Southampton September 27-29 1993  
Journal of Physiology 473,168P 1993  
*Synaptic fatigue in the Rana temporaria optic tectum in vitro following repetitive stimulation of the optic nerve*
- (9) **Atzori M.** and Nistri A.  
Life Science Meeting 1995  
Physiological and Biophysical Societies of Slovenia  
Gozd Martuljek September 23-28 1995  
*Modulation of GABA transmission in the rat hippocampus by the neuropeptide TRH*
- (10) **Atzori M.**, Nistri A., Sciancalepore M. and Stocca G.  
25<sup>th</sup> Annual Meeting  
Society for Neuroscience  
S. Diego U.S.A. November 11-16 1995  
*Effects of TRH on GABAergic synaptic transmission of the rat hippocampus*
- (11) Strata F., **Atzori M.** and Molnar M.  
25<sup>th</sup> Annual Meeting  
Society for Neuroscience  
S. Diego U.S.A. November 11-16 1995  
*Nitric Oxide "paces" giant GABAergic activity in the developing rat hippocampus through a transiently expressed neuronal structure*
- (12) Strata F., **Atzori M.** and Cherubini E.  
26<sup>th</sup> Annual Meeting  
Society for Neuroscience  
Washington DC U.S.A. November 16-21 1996  
*Developmental regulation of intrinsic membrane oscillation in rat CA3 hippocampal neurons*
- (13) **Atzori, M.** and Kachar B.  
22<sup>nd</sup> ARO Annual Meeting  
Association for Research in Otorinolaryngology  
St. Petersburg, FL U.S.A. February 1998  
*Insensitivity of the Outer Hair Cell motor to voltage-gated channel blockers*
- (14) **Atzori, M.** and Tansey E.  
23<sup>rd</sup> ARO Annual Meeting  
Association for Research in Otorinolaryngology  
St. Petersburg, FL U.S.A. February 1999  
*Local Circuitry in Auditory Cortex studied by Neuron-Pair Patch-Clamp Recording*
- (15) **Atzori M.**, E. Phillips-Tansey, D. Lau, A. Ozaita, A. Chow, B. Rudy and C.J. McBain  
27<sup>th</sup> Annual Meeting, Society for Neuroscience  
Miami, FL, U.S.A., October 1999.  
*PKA phosphorylation of Kv3.2 modulates high frequency firing in hippocampal interneurons.*

- (16) Grimaldi M., **Atzori M.**, Ray P. and Alkon D.  
NIH Research Festival  
October, 1999  
*4-Aminopyridine activates phospholipase C and enhances calcium mobilization in cortical type I rat astrocytes: effects unrelated to K<sup>+</sup> channel blockade.*
- (17) **Atzori M.**, P. Kanold, E. Phillips-Tansey, C.J. McBain  
24<sup>th</sup> ARO Annual Meeting  
Association for Research in Otolaryngology  
St. Petersburg, FL U.S.A. February 2000  
*Short term synaptic plasticity in pairs of connected cells of the auditory cortex.*
- (18) C.J. McBain, P.Kanold, E. Phillips-Tansey and **Atzori M.**  
28<sup>th</sup> Annual Meeting  
Society for Neuroscience  
New Orleans, LA, U.S.A., November 2000.  
*Short-term synaptic plasticity in connected pairs of auditory cortex neurons.*
- (19) **Atzori M.**, E. Phillips-Tansey, D. Lau, A. Ozaita, A. Chow, B. Rudy and C.J.McBain  
28<sup>th</sup> Annual Meeting, Society for Neuroscience, New Orleans, LA, U.S.A., November 2000.  
*Histamine modulates high frequency firing in hippocampal interneurons through PKA phosphorylation of Kv3.2.*
- (20) **Atzori M.**, P. Kanold, E. Phillips-Tansey, C.J. McBain  
25<sup>th</sup> ARO Annual Meeting, Association for Research in Otolaryngology  
St. Petersburg, FL U.S.A. February 2001  
*High-p and low-p synapses connect pyramidal neurons in layer II/III of the mouse auditory cortex*
- (21) A. Huttner, **Atzori M.**, C.J.McBain and R.D.G. McKay  
29<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2001.  
*Transplanted neural precursor cells form functionally active circuits*
- (22) **Atzori M.**  
25<sup>th</sup> ARO Annual Meeting  
Association for Research in Otolaryngology  
St. Petersburg, FL U.S.A. January 2002  
*Effects of dopamine on the glutamatergic transmission in the auditory cortex*
- (23) **Atzori M.**, P.O. Kanold  
Association for Research in Otolaryngology 26<sup>th</sup> Annual Meeting  
Daytona Beach, FL U.S.A. February 2003  
*Dopamine Blocks Acetylcholine-induced Reduction of Glutamate Currents in the Auditory Cortex*
- (24) **Atzori M.**, P.O. Kanold, J.Flores-Hernandez and J.C. Pineda  
New York Academy of Science  
Meeting on Glutamate and Disorders of Cognition and Motivation  
New Haven, CT U.S.A. April 2003  
*Dopamine prevents the reduction of glutamatergic synaptic currents induced by acetylcholine*
- (25) **Atzori M.**, R. Paz  
31<sup>st</sup> Annual Meeting, Society for Neuroscience  
New Orleans, LA, U.S.A., November 2003.  
*Blockage by dopamine of the muscarinic depression of glutamate release: a psychotogenic mechanism?*
- (26) **Atzori M.**, J. Flores- Hernandez, J.C. Pineda

- 27<sup>th</sup> ARO Annual Meeting  
Association for Research in Otolaryngology  
Daytona Beach, FL U.S.A. February 2004  
*Interlaminar differences of spike activation threshold in the auditory cortex of the rat.*
- (27) Flores-Hernández J, Couto Roldán E, González Sánchez JC, García Moreno Elizondo G, Avila Ruíz T, **Atzori M**  
17<sup>th</sup> Meeting of the Mexican Society of Physiological Sciences  
Boca del Rio, Veracruz, Mexico, August 2004  
*Modulation of glutamatergic currents in dissociated cells of prefrontal cortex, temporal cortex and Nucleus Accumbens*
- (28) **Atzori M.**, Couto-Roldan E., Gonzales-Sanches J.C., Avila-Ruiz T., Flores-Hernandez J.  
32<sup>nd</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., October 2004  
*Fast modulation of NMDAR-mediated current by acetylcholine and dopamine*
- (29) Cui C. and **Atzori M.**  
Gordon Conference on Excitatory Amino Acid and Brain Function  
Assois, France, September 2005  
*Voltage-dependent block of NMDA receptor by dopamine D1 receptor ligands*
- (30) Mancera B.D., Flores-Hernandez J., **Atzori M.**, Ponce-Perez L., Martinez-Rodriguez M.G., Monjaraz E.  
32<sup>nd</sup> Annual Meeting, Society for Neuroscience, San Diego, CA, U.S.A., October 2004  
*Long-term treatment with GHRP-6 enhances functional expression of sodium channels in the tumor cell line GC*
- (31) Bellay T., Nichols J., Byrapureddy R, Gibbons B, **Atzori M**  
33<sup>rd</sup> Annual Meeting, Society for Neuroscience  
Washington, DC, U.S.A., November 2005  
*Dopamine impairs muscarinic depression of GABAergic currents in the temporal cortex*
- (32) J. Nichols, V. Jakkamsetti, R. Byrapureddy, B. Roof, T. Thompson, M. Kilgard, **M. Atzori**  
Association for Research in Otolaryngology 29<sup>th</sup> Annual Meeting  
Baltimore, February 2006  
*Effect of Enriched Environment on Synaptic Transmission in the Rat Auditory Cortex*
- (33) J. Nichols, V. Jakkamsetti, M. Kilgard, **M. Atzori**  
34<sup>th</sup> Annual Meeting, Society for Neuroscience  
Atlanta, GA, U.S.A., November 2006  
*Enriched Environment selectively increases excitatory synaptic transmission in layer 2/3 of the Rat Auditory Cortex*
- (34) Salgado H., Bellay T., Nichols J., Perrotti L., Martinolich L., **Atzori M**  
34<sup>th</sup> Annual Meeting, Society for Neuroscience  
Atlanta, GA, U.S.A., November 2006  
*Decrease of GABA release by Muscarinic M2 receptors and PIP2 kinase activation*
- (35) Flores Hernandez J., **Atzori M**  
34<sup>th</sup> Annual Meeting, Society for Neuroscience  
Atlanta, GA, U.S.A., November 2006  
*Second-messenger independent cholinergic block of NMDA currents*
- (36) J. Nichols, V. Jakkamsetti, M. Kilgard, **M. Atzori**  
Neuroengineering Now, School of Engineering and Computer Science  
Dallas, TX, U.S.A., June 2006  
*Quantitation of the effects of environmental enrichment on auditory cortex synapses*

- (37) L. Dinh, **M. Atzori**  
Neuroengineering Now, School of Engineering and Computer Science  
Dallas, TX, U.S.A., June 2006  
*Development of a three-cell compartment realistic cortical neuronal model*
- (38) J. Nichols, A. Patel, M. Bose, A. Viñuela, M.A. Aparicio, E. Saldaña, **M. Atzori**  
Association for Research in Otolaryngology 30<sup>th</sup> Annual Meeting  
Denver, February 2007  
*Firing pattern of neurons from the Tectal Longitudinal Column.*
- (39) H. Salgado, **M. Atzori**  
International Congress on Schizophrenia Research, Colorado Springs, Colorado, March 2007  
*Dopaminergic-muscarinic interplay in the regulation of the temporal cortex excitation*
- (40) A. Patel, J. Nichols, M. Bose, A. Viñuela, M.A. Aparicio, E. Saldaña, **M. Atzori**  
35<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2007  
*Single-neuron membrane properties of the Tectal Longitudinal Column.*
- (41) R. Byrapureddy, M. Bose, **M. Atzori.**  
35<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2007  
*Dopamine blocks cholinergic increase in firing rate of neurons of the temporal cortex.*
- (42) M. Bose, V. Jakkamsetti, J. A. Nichols, R. Byrapureddy, M. Kilgard, **M. Atzori**  
35<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2007  
*Effect of sensory stimulation on the neuronal morphology in the auditory cortex*
- (43) J. Nichols, B. Roof, H. Salgado, V. Jakkamsetti, M. Kilgard, **M. Atzori**  
31st Midwinter Association for Research in Otolaryngology meeting  
Phoenix, AZ, U.S.A., February 2008  
*Acetylcholine increases time-locking without increasing S/N ratio in in vivo recordings from the primary auditory cortex of the anesthetized rat*
- (44) J.A. Nichols, A. Beckett, D. Brown, L. Dinh, and **M. Atzori**  
36<sup>th</sup> Annual Meeting, Society for Neuroscience  
Washington, D.C., U.S.A., November 2008  
*Saliency acutely modulates the inhibitory component of spectro-temporal receptive fields in the awake rat*
- (45) F. Garcia-Oscos, L.C. Galindo, H. Salgado, R. Ramirez, G. Flores, **M. Atzori**  
Autism satellite of the 38<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2010  
*Abnormal Adrenergic Modulation of GABAergic Synaptic Transmission in a Valproic Acid Animal Model of Autism*
- (46) A. Banerjee, M. Lee, S. Rao<sup>1</sup>, H. Salgado, **M. Atzori**  
38<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2010  
*Neurotensin decreases GABAergic currents in the temporal cortex of the rat*
- (47) S. Roychowdhury, L. Dinh, J. Nichols, J. Tam, A. Yadlapalli, **M. Atzori**  
38<sup>th</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA, U.S.A., November 2010  
*Role of  $\alpha_2$  adrenoceptors in modulation of sustained auditory attention*



- (48) F. Garcia-Oscos, S. Hall, H. Salgado, **M. Atzori**  
39<sup>th</sup> Annual Meeting, Society for Neuroscience  
Washington, D.C., U.S.A., November 2011  
*Interleukin-6 induces acute internalization of GABA<sub>A</sub> receptors in the temporal cortex*
- (49) S. Roychowdhury, J. Tam, A. Uzoma, **M. Atzori**  
39<sup>th</sup> Annual Meeting, Society for Neuroscience  
Washington, D.C., U.S.A., November 2011  
*The noradrenergic system as a target in the pharmacological treatment of anxiety and social interactions deficits in a rat model of autism*
- (50) A. Banerjee, S. Roychowdhury, S. Rao, F. Garcia-Oscos, **M. Atzori**  
39<sup>th</sup> Annual Meeting, Society for Neuroscience  
Washington  
D.C., U.S.A., November 2011  
*Cerebrolysin reverses deficits in behavior and synaptic inhibition in a rat model of autism*
- (51) M.E. Bringas-Tobón, F.N. Carbajal, T. Ramírez, **M. Atzori**, G. Flores  
40<sup>th</sup> Annual Meeting, Society for Neuroscience  
New Orleans, LA., U.S.A., November 2012  
*Prenatal exposure to valproic acid alter dendritic morphology in limbic regions*
- (52) S. Roychowdhury, J. Jackson, **M. Atzori**  
40<sup>th</sup> Annual Meeting, Society for Neuroscience  
New Orleans, LA., U.S.A., November 2012  
*Inter-regional differences in adrenergic modulation of GABA<sub>A</sub> receptor-mediated synaptic currents*
- (53) **M. Atzori**, R. Cuevas Olguín, E. Esquivel Rendón, M. Mejía, A. Méndez Cabañas, F. García-Oscos  
XVIII reunion de la rama de Bioenergetica y Biomembranas  
Queretaro, QRO, Mexico, October 2013  
*Interleukin 6 decreases inhibitory GABAergic synaptic responses through a glycogen synthase kinase dependent mechanism in cerebral cortex of rodents*
- (54) A. Zwierzchowski, S. Roychowdhury, A. Banerjee, I. Ogobuiro, G. Flores, **M. Atzori**  
41<sup>st</sup> Annual Meeting, Society for Neuroscience  
San Diego, CA., U.S.A., November 2013  
*Cerebrolysin recovers behavioral and physiologic impairments in an environmental rat model of autism*
- (55) F. Garcia-Oscos, D. Peña, M. Houssini, D. Cheng, J. Norwood, H. Salgado, S. D’Mello, M.P. Kilgard, S. Rose-John, **M. Atzori**  
41<sup>st</sup> Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2013  
*Vagal nerve stimulation prevents stress-induced interleukin-6-dependent cortical hyperexcitability*
- (56) M. E. Bringas, O. E. Aparicio, A. L. Sotomayor, S. R. Zamudio, F. De La Cruz, **M. Atzori**, G. Flores  
41<sup>st</sup> Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2013  
*Cerebrolysin administration restores altered anatomy and behavior in rat model of autism*
- (57) F. Garcia-Oscos, R. Cuevas Olguin, R. Salgado Delgado, N. Saderi, M.P. Kilgard, S. Rose-John, **M. Atzori**  
24<sup>th</sup> Pharmacological Conference: GABAergic signaling in health and disease  
Satellite meeting to Society for Neuroscience, Pentagon City VA, USA, November 2014  
*Interleukin-6 as a mediator of stress-induced disruption of GABAergic synaptic activity: cellular mechanisms and possible treatments*

- (58) L.E. Azuara Alvarez, J.A. Hernández Maldonado, M.G. Mejía Torres, R.C. Salgado Delgado, S. Rose-John, **M. Atzori**  
 Reunion de la Sociedad Mexicana de Ciencias Fisiologicas  
 San Miguel de Allende, Guanajuato Septiembre 2015  
*El bloqueo del transignaling de interleucina-6 incrementa la susceptibilidad convulsiva en un modelo de epilepsia*
- (59) R. Cuevas-Olguin, E. Esquivel-Rendon, H.R. Arias, **M. Atzori**  
 43<sup>rd</sup> Annual Meeting, Society for Neuroscience, Chicago, IL., U.S.A., October 2015  
*Nicotine reduces inhibitory synaptic currents in the prefrontal currents by activating  $\alpha_7$  receptors*
- (60) M.E. Bringas-Tobón, M.A.M. Rojas, O.E. Aparicio, C. Jarquin; F. de la Cruz, **M. Atzori**, G. Flores  
 43<sup>rd</sup> Annual Meeting, Society for Neuroscience, Chicago, IL., U.S.A., October 2015  
*Cerebrolysin administration remodeling neuronal morphology in limbic system regions and also modified the typical behavior in rat model of autism*
- (61) E. Esquivel Rendón, R Cuevas Olguín, L. Azuara, S. Rose-John, **M. Atzori**  
 Sociedad Mexicana de Bioquímica, XIX Reunión de la rama de Bioenergética y Biomembranas  
 San Miguel de Allende, Guanajuato , November 2015  
*El trans-signaling asociado a la interleucina 6 reduce la inhibición sináptica basal en la corteza prefrontal del ratón*
- (62) R. Cuevas Olguín, E. Esquivel Rendón, J. Vargas Mireles, H. Arias, **M. Atzori**  
 Sociedad Mexicana de Bioquímica, XIX Reunión de la rama de Bioenergética y Biomembranas  
 San Miguel de Allende, Guanajuato, November 2015  
*Modulación nicotínica de las corrientes sinápticas inhibitorias en la corteza medial prefrontal del ratón*
- (63) E. Esquivel-Rendón, J. Vargas-Mireles, F. Medina-García, A.L. Maldonado Hernández, P. Acosta-Mares, R. Cuevas-Olguín, I. González-Nateras, M. Miranda-Morales, S. Rose-John, **M. Atzori**  
 44<sup>th</sup> Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2016  
*Synaptic effects of social defeat stress: interleukin-6-dependent contribution*
- (64) I. Gonzalez-Nateras, F. Montero-Amézcuca, R. Cuevas-Olguin, E. Esquivel-Rendon, J. Vargas-Mireles, S. Rose-John, **M. Atzori**  
 44<sup>th</sup> Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2016  
*Blockage of central interleukin 6 trans-signaling prevents predator stress in the mouse*
- (65) R. Cuevas-Olguín, E. Esquivel-Rendón, J. Vargas-Mireles, I. Gonzalez-Nateras, M. Miranda-Morales, H. Arias, **M. Atzori**  
 44<sup>th</sup> Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2016  
*Smoking-like nicotine levels increase excitatory synaptic response in the prefrontal cortex of the mouse*
- (66) E. Esquivel-Rendón, J. Vargas-Mireles, R. Cuevas-Olguín, P. Acosta-Mares, M. Miranda Morales, N. Saderi, R. Salgado-Delgado, S. Rose-John, **M. Atzori**  
 FALAN Buenos Aires, October 2016  
*Chronic stress alters synaptic excitatory-inhibitory ratio in an interleukin-6 trans-signaling-dependent manner in the prefrontal cortex of the mouse*

**Previous research,**  
**Continuing**  
**Education**  
**and work**  
**experience**

Fall 2013-Spring 2015: Adjoint Professor, UT Dallas

Spring 2010: Operating room intraoperative monitoring electrophysiologist (Monitoring Concepts, Dallas, TX)

Fall 2009 - Fall 2008: non-degree seeking biology student at UTD. Courses taken: Biochemistry I, Biochemistry workshop I, Biochemistry II, Biochemistry workshop II, Classic and Molecular Genetics, Classic and Molecular Genetics Workshop, Microbiology, Immunobiology.

August 2007 - September 2004: Assistant Professor, The University of Texas at Dallas (UTD, Richardson, TX).

June 2004 - May 2001: Research Assistant Professor at the Blanchette Rockefeller Neuroscience Institute (BRNI, Rockville, MD)

February 2001- April 2001 Visiting Professor at the Institute of Physiology at the “Centro de Investigaciones Regionales Hydeyo Noguchi” (UADY, Merida, Yucatan, Mexico)

January 2001 - May 1998: Visiting Fellow at the Lab. of Cell and Synaptic Physiology at Nat’l Inst. of Children and Human Development at NIH (NICHD/NIH, Bethesda, MD, USA)

April 1998 - April 1997: Visiting Fellow at the Lab. of Cell Biology at Nat’l Inst. of Deafness and other Communication Disorders at NIH (NIDCD/NIH, Bethesda, MD, USA)

March 1997 - February 1997: Visiting Fellow at the Instituto de Fisiologia Celular (Institute of Cell Physiology), Universidad Nacional Autonoma de Mexico (UNAM, Mexico City, Mexico)

January 1997 - January 1996: Post-doctoral Fellow at the University of Tennessee at Memphis (Memphis, TN)

November 1991 - February 1990: Magnetic Resonance Consultant, Polybios, Trieste Science Park.

January 1990 - November 1989: Teacher of Informatics and Systems Theory at the Techn. Industrial Inst. (Oristano, Italy)

October 1989 - September-1989: Professor of Mathematics and Physics at the Scientific Lycee (high-school, Oristano, Italy)

April 1988 – April 1989 Magnetic Resonance Imaging trainee at the Center of Evaluation of Biomedical Technologies (CEVAB) at Research Area, Trieste, Italy.

October 1987 - March 1988

Human Physiology Institute (University of Trieste)

Hon. Research Assistant

## **Past research**

- Electrophysiology and morphology of the GABAergic system of the hippocampus.
- Neuropeptide and monoamine modulation of GABAergic synaptic transmission.
- Dynamics and properties of cortical glutamatergic synaptic transmission
- Voltage gated  $K^+$  channels
- Physiology of auditory receptors
- Role of acetylcholine and monoamines in the temporal cortex
- Action of monoamines and cholinomimetics on auditory attention
- Effects of monoamines and cholinomimetics on attention
- Monoamine and acetylcholine direct modulation of NMDA receptors

## **Animal models and clinical applications**

- Auditory rehabilitation
- Attention Deficit Disorders
- Autistic Spectrum Disorders
- Epilepsy
- Schizophrenia
- Psychoses
- Disorders of the Anxiety Spectrum
- Lipopolysaccharide-induced inflammation (aseptic inflammation)
- Vagal Nerve Stimulation (VNS)

## **Laboratory techniques**

### ***Slice Physiology:***

patch-clamp, sharp electrodes and extracellular recording in rodent brain slices

### ***In-vivo physiology:***

Multi-single-unit extracellular recording, topical iontophoresis and pressure drug application, intraventricular drug injections, Stimulation of the Vagal Nerve (VNS)

### ***Anatomy and Immunohistochemistry:***

biocytin single-cell reconstruction - neuron tracing, proteins monitoring with fluorescence techniques

### ***Behavior:***

PC-based automated measurement of auditory attention in operating chambers, open field, Y maze, plus maze, rodent enriched environment,

### ***Stress protocols:***

Lipopolysaccharide injection, Mild electric shock, Restraint Stress, Prenatal Valproic Acid injections, Pentylentetrazole-induced convulsions, Social stress (CD1-induced)

## Courses developed and taught

### **University of Texas at Dallas (UTD)**

Fall	04	Synaptic Transmission	NSC 7372
Spring	05	Cellular Neuroscience	ACN 6340
Fall	05	Neurophysiology	NSC 4365
Spring	06	Cellular Neuroscience	ACN 6340
Spring	06	Neuroscience Lab. Methods	NSC 4353
Fall	06	Cellular Neuroscience	NSC 4352
Fall	06	Neurophysiology	NSC 4356
Spring	07	Cellular Neuroscience	ACN 6340
Spring	07	Quantitative Methods in Neurosci.	HCS 7372
Fall	07	Synaptic Plasticity	HCS 7372
Fall	07	Cellular Neurosci.	ACN 6340
Spring	08	Special Topics in Neurosci.	NSC 4V90
Spring	08	Cellular Neurosci.	ACN 6340
Fall	08	Neurophysiology	NSC 4365
Fall	08	Cellular Neuroscience	ACN 6340
Spring	09	Cellular Neuroscience	ACN 6340
Spring	09	Cellular Neuroscience	NSC 4352
Fall	09	Neurophysiology	NSC 4365
Fall	09	Neuroendocrinology	HCS 7200
Spring	2010	Cellular Neuroscience	ACN 6340
Spring	2010	Cellular Neuroscience	NSC 4352
Fall	2010	Cellular Neuroscience	NSC 4352
Fall	2010	Neuroendocrinology	NSC 4370
Spring	2011	Cellular Neuroscience	NSC 4352
Spring	2011	Synaptic Physiology	NSC 7372
Fall	2011	Cellular Neuroscience	HCS 6340
Fall	2011	Neuroendocrinology	NSC 4370
Spring	2012	Cellular Neuroscience	NSC 4352
Spring	2012	Neurotoxicology	HSC 7372
Fall	2012	Cellular Neuroscience	NSC 4352
Fall	2012	Neurotoxicology	NSC 4V90

### **Universidad Autonoma of San Luis Potosi (UASLP)**

Spring	2013	Laboratorio de Biofisica
Fall	2013	Seminario de Biofisica II
Spring	2014	Calculo diferencial e integral II
Spring	2014	Bioetica
Spring	2014	Fisiologia Animal
Fall	2014	Calculo I
Fall	2014	Fisica
Spring	2015	Bioetica
Spring	2015	Modelado Biologico Basico
Spring	2015	Calculo Integral
Fall	2015	Calculo Diferencial
Fall	2015	Estatica y Dinamica

Fall 2015 Neurofisiologia  
 Spring 2016 Calculo Integral  
 Spring 2016 Bioetica  
 Fall 2016 Calculo Diferencial  
 Fall 2016 Estatica y Dinamica  
 Fall 2016 Neurofisiologia  
 Fall 2016 Neuroendocrinologia  
 Spring 2017 Calculo Integral  
 Spring 2017 Bioetica

### **Committees and Evaluations (UTD):**

UTD medical and dental school candidates committee (HPAC), evaluator  
 UTD animal control committee (IACUC), member  
 UTD biosafety committee, chairman  
 UASLP preparacion examen admision Facultad de Ciencias  
 UASLP preparacion programas cursos/revision curricula  
 UASLP coordinaci3n propuesta posgrado PCBB

### **Undergraduate students supervised**

#### **UTD**

Holly	Cherian (Forensic Scientist, Univ. North Texas, Denton TX)
Justin	Nichols (post-doc fellow, Baylor College of Medicine, Houston TX)
Barbara	Gibbons (doctoral student, UT San Antonio, TX)
Mustapha	Che Said
Bryan	Roof
Ankur	Patel (doctoral student at UT Southwestern, Dallas TX)
Grant	Antoine
Sundus	Alridi
Aysha	Jabbar
Sani	Mathew (medical student, John Hopkins Univ.)
Aurelien	Begue (doctoral student, INSERM, Paris, France)
Tresa	Zacharias (Research assistant, UT Southwestern, Dallas TX)
Iris	Gonzales
Chanel	Matney
Kalpana	Mool
Nicole	Jones
Alexandra	Beckett (Medical student, Baylor Coll. of Med., Houston, TX)
Bejoy	Thomas
Jason	Tam
Melina	Bloomfield
Sewar	Najaf
Nickalaus	Swan (Master student, UTD)
Cam	Nguyen
Khatab	Yacoub
Danilo	Nardone (Medical student, Univ. Pavia, Italy)
Amara	Uzoma (Medical student, UT Med. Branch, Galveston TX)

Nick	Nworgu
Oswaldo	Torres (doctoral student, Univ. Autonoma de Yucatan, Merida MX)
Mike	Neugent
Nickalaus	Swan (Master student, UTD)
Vy	Nguyen
Joseph	Nguyen-Lee
Jorge	Bermeo
Amulya	Yadlapalli (med. stud., St. George Med. School, Grenada, West Indies)
Feba	Thomas
Susan	Christian
Ted	Daniels
Aparajit	Venkateswaran
Erica	Sherry
Dayra	Lorenzo-Mercado
Ruben	Wolff
Francisco	Garcia-Oscos
Jevin	Jackson
Amy	Zwierchowski
Joel	Vettimattam
Ifeanyi	Ogoburo
Yasamin	Khanian
Derek	Cheng
Shokoufeh	Darvish
Devina	Jagota

## **UASLP**

Eric	Esquivel Rendon
Roberto	Cuevas Olguin
Jorge	Vargas Mireles
Minerva	Castillo Araiza
Andres	Aguilar
Palmira	Acosta Mares
Ricardo	Velasquez

## **Graduate students supervised**

### **Master students**

### **UTD**

Timothy Bellay (doctoral student, Brown Univ. RI)  
 Rajasekhar Byrapureddy (Surgical Monitoring, Boston, MA)  
 Mitali Bose (Surgical Monitoring, Boston, MA)  
 Asante Pace (medical student at UT Houston, TX)  
 Ankur Patel (doctoral student at UT Southwestern, Dallas TX)  
 Raniero Peru (doctoral student at UT Southwestern, Dallas TX)  
 Tram Nguyen (Intraoperative monitoring assistant, Plano TX)

Mary Lee (Intraoperative monitoring assistant, Plano TX)  
Vivek Jeevamekumar (UTD doctoral student, Kroener's lab)  
Barbara Gibbons (UT San Antonio, doctoral)  
Zulma Peña-Contreras (Univ. de los Andes, Merida VE, assistant professor)  
Ling-Yu Huang (master)  
Mary Lee (master)  
Teresa Belem Mares Barbosa (master student, current)  
Gabriela Gonzalez (doctoral student, current)

**Ph.D. students mentored (thesis successfully defended)**

Lu Dinh: *Effect of Norepinephrine on Synaptic Transmission to the Supragranular Layers of the Temporal Cortex of the Rat*, 2009

Justin Andrew Nichols: *Muscarinic Contribution to the Acute Cortical Effects of Vagus Nerve Stimulation*, 2011

Swagata Roychowdhury: *Role of the Noradrenergic System in the Acute Modulation of Cortical Activity: from Behavior to Synaptic Excitability*, 2013

Dewey Clay Brown: *Contribution of  $\alpha$ -Adrenergic Receptors in Mediating Vigilant and Adaptive Behavior in Rodents*, 2013

**Postdoctoral fellows**

Dr. Humberto Salgado-Burgos (UNAM)  
Dra. Marcela Miranda-Morales (IPICyT)

**Collaborators**

***UASLP:***

Roberto Salgado Delgado (Biología)  
Nadia Saderi (Biología)  
Jose Alfredo Mendez (Biofísica)

***National:***

Humberto Salgado Burgos (UADY, Merida, Yucatan)  
Jorge Flores-Hernandez (BUAP, Puebla, Puebla)  
Juan Carlos Pineda-Cortes (UADY, Merida, Yucatan)  
Gonzalo Flores (BUAP, Puebla, Puebla)  
Mario Treviño-Villegas (UdG, Guadalajara, Jalisco)

***International:***

Alexies Dagnino-Subiabre (Univ. de Valparaiso, Valparaiso, Chile)  
Stefan Rose-John (Christian-Albrechts Universität, Kiel, Germany)



Michael Kilgard (UT Dallas, USA)

Santosh D'Mello (SMU, Dallas, USA)

Kuei-Yuan Tseng (Rosalind Franklin University, Chicago, USA)

Derrick McFabe (University of Western Ontario, London Ontario, Canada)

Hugo Arias (California Northstate University, College of Medicine)