



Curriculum Vitæ (updated September 2019)

Name Marco Atzori
Work address Univ. Autonoma de San Luis Potosi
Licenciatura en Biología
Campus Pedregal/Edificio 2
Avenida Chapultepec 1570
Colonia Privadas del Pedregal
San Luis Potosí, SLP, 78295, Mexico
Work telephone (52) 44 48 26 23 00 ext. 2486
e-Mail marco.atzori@uaslp.mx
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

English, Italian, Spanish

Present position

Full Time Professor, Nivel 6, SNI 2 (exp. dec 2021)
Post-graduate program:
Biomedical Research Applied to Health (IBAS)
PTC Licenciatura en Biología
Faculty of Science, UASLP
Perfil PRODEP deseable (expire july 2020)
Cuerpo Academico consolidado:
Fisiologia Molecular y Celular UASLP-CA-254

Citations

Google Scholar: 1713, h-index: 22, i-10: index 32

Past and current Memberships

Society for Neurosciences (SfN)
Association for Research in Otolaryngology (ARO)

Grant reviewer

NIH, NSF, MRC, CONACyT

Associate editor

Frontiers in Synaptic Neuroscience, Frontiers in System Neuroscience, Neurotransmitter

Ad-hoc reviewer

Brain Research; Behavior, Brain and Inflammation; 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; Neuroparmacology; Neuroscience; Neuroscience and Biobehavioral Reviews; Neuroscience Letters; PLOS One; Synapse; etc.

Current Research: Synaptic effects of stress, neuroinflammation, monoaminergic and cholinergic modulation of synaptic function

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 plus one field recording system) 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

- (55) R. Cuevas-Olguin., E. Esquivel-Rendon, J. Vargas-Mireles, C. Barajas-López, R. Salgado-Delgado, N. Saderi, H.R. Arias, M. **Atzori**, M. Miranda-Morales *Nicotine smoking concentrations modulate GABAergic synaptic transmission in murine medial prefrontal cortex by activation of $\alpha 7^*$ and $\beta 2^*$ nicotinic receptors*, Eur. J. of Neuroscience 2019, in press. ISSN: 1460-9568
- (54) V. Cervantes-Ramírez, M. Canto-Bustos., D. Aguilar-Magaña., E. Pérez-Padilla., J.L. Góngora-Alfaro, J.C. Pineda, **M. Atzori**, H. Salgado: *Citalopram reduces glutamatergic synaptic transmission in the auditory cortex via activation of 5-HT1A receptors*, Neuroreport 2019, in press. ISSN: 0959-4965; Online ISSN: 1473-558X
- (53) E. Esquivel-Rendón E, J. Vargas-Mireles J, R. Cuevas-Olguín, M. Miranda-Morales M, P. Acosta-Mares P, F. García-Oscos, J.C. Pineda, H. Salgado, S. Rose-John, **M. Atzori**, *Interleukin 6 dependent synaptic plasticity in a social defeat-susceptible prefrontal cortex circuit*, Neuroscience 2019, in press. ISSN: 0306-4522
- (52) K. Hernandez-Vidales, M. Miranda-Morales, **M. Atzori**, F.J. Gonzalez-Contreras, E. Guevara-Codina. *Low-cost embedded system for optical imaging of intrinsic signals*, Revista Mexicana de Física 2019 in press ISSN 0035-001X
- (51) A. Loyola-Leyva, J.P. Loyola-Rodríguez, Y. Terán Figueroa, F.J. González, **M. Atzori**, S. Barquera Cervera *Altered erythrocyte morphology in Mexican adults with prediabetes and type 2 diabetes mellitus evaluated by scanning electron microscope*. Microscopy 2019, 1-10. doi: 10.1093/jmicro/dfz011. Online ISSN 2050-5701. Print ISSN 2050-5698
- (50) L.A. Ramirez, E.A. Perez, F. Garcia-Oscos, H. Salgado, **M. Atzori**, J.C. Pineda *La nueva teoría de la depresión: Un balance del ánimo entre el sistema nervioso y el sistema inmune, regulada por la relación serotonina/kinurenina y el eje HPA* Biomedica 2018: 38, 437-450. doi: 0.7705/biomedica.v38i3.3688. ISSN: 0120-4157 | ISSN-e: 2590-7379
- (49) A. Loyola-Leyva, J.P. Loyola-Rodríguez, **M. Atzori**, F.J. Gonzalez *Morphological changes in erythrocytes of people with type 2 diabetes mellitus evaluated with atomic force microscopy: A brief review* Micron 2018, 2018 Feb;105:11-17. doi: 10.1016/j.micron.2017.11.001. Epub 2017 Nov 10. ISSN: 0968-4328
- (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 pentylenetetrazole-induced seizures in mice* Synapse 2017, Sep; 71(9). doi: 10.1002/syn.21984. Epub 2017 May 13.

- (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
J. Neurosci. Res. 2017, Jun 13. doi: 10.1002/jnr.24072. [Epub ahead of print]
- (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
 α_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**
 α_2 - and β -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-excitability 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**
 α Adrenergic receptors in auditory cue detection: α_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, **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**
M₂ muscarinic receptors decrease the release of GABA in the auditory cortex by modulating Ca²⁺ channels through activation of PI₃K/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
H₂ 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⁻ 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 ¹H and ¹³C 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
"¹H- and ¹³C-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) R. Cuevas, E. Esquivel-Rendon, M. Miranda-Morales, **M. Atzori**
Dose- and time-dependance of adrenergic modulation of inhibitory synapses in the prefrontal cortex of the mouse
- (2) M. Miranda-Morales, R. Cuevas-Olguin, R. Velazquez-Contreras, F. Vega, M. Morquecho-Robledo, F. Garcia-Oscos, N. Saderi, S. Rose-John, R. Salgado-Delgado, **M. Atzori**
Prolonged exposure to continuous illumination induces interleukin 6 trans-signaling dependent behavioral and synaptic changes.

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, while at the 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 student 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

Research awards received while at the Univ. Autonoma de San Luis Potosi

2013 Fondos Fomento A la Investigacion (FAI), 50,000 MXN

Efectos de los antidepresivos tricíclicos sobre la atencion

2013-2014 Fondos PROMEP, 567,637.00 MXN

Papel de la quinasa de la sintetasa del glicógeno (GSK) en la enfermedad bipolar

2015-2016 Fondos Ciencia Basica CONACyT CB -2013-01 221653: 650,000 MNX

Modulación adrenérgica y papel del sistema inhibidor neocortical en un modelo animal de conducta psicótica impulsiva

2015-2016 Fondos Concurrentes UASLP: 70,000 MNX

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

2016-2017 Fondos Concurrentes UASLP, (50,000 MNX)

2017-2018 Fondos Ciencia Basica CONACyT CB -2013-02 221653: 312,000 MNX

Modulación adrenérgica y papel del sistema inhibidor neocortical en un modelo animal de conducta psicótica impulsiva

2017-2018 Fondos Concurrentes UASLP, (40,000 MNX)

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 Psicología.**

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 35th Annual Meeting, San Diego, CA, Slide session on excitatory aminoacid receptor modulation**

February 2008, **ARO 31st 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, **3rd Int.l 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

September 2017, **Noche de Pensadores/PRISMATIC, IPICYT**
San Luis Potosi, Mexico

Host: Dr. Leonardo Isaac Pereyra Bistrain

February 2018, **Weekly research seminar, Benemerita Universidad Autonoma de**
Puebla, BUAP, Puebla, Mexico

Interleukin-6 dependent Prefrontal Cortex synaptic plasticity induced by Social
Defeat. Host: Dr. Gonzalo Flores

October 2018: **Conferencia magistral, Universidad Pedagogica Nacional, San**
Luis Potosi, SLP, Mexico: Consciousness: location and manipulation

Host: Dr. Raul Gamboa Lopez

November 2018: Ponencia semanal, **Universidad del Valle de Mexico, San Luis**
Potosi, SLP, Mexico: Music, abuse substances and mental illness

Host: Dr. Diana Alvarado

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
¹H and ¹³C 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 Oligosaccharides 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.
25th 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.
25th 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.
26th 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.
22nd 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.
23rd 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
27th 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⁺ channel blockade.
- (17) **Atzori M.**, P. Kanold, E. Phillips-Tansey, C.J. McBain
24th 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.**
28th 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
28th 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
25th 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
29th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2001.
Transplanted neural precursor cells form functionally active circuits
- (22) **Atzori M.**
25th 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 26th 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
31st Annual Meeting, Society for Neuroscience
New Orleans, LA, U.S.A., November 2003.
Blockage by dopamine of the muscarinic depression of glutamate release: a psychotigenic mechanism?
- (26) **Atzori M.**, J. Flores- Hernandez, J.C. Pineda
27th 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**
17th Meeting of the Mexican Society of Physiological Sciences
Boca del Río, 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.
32nd 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.
32nd 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**
33rd 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 29th 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**
34th 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**
34th 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**
34th 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 30th 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**
35th 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**
35th 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**
35th 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**
36th 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 38th 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. Rao¹, H. Salgado, **M. Atzori**
38th 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**

- 38th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2010
Role of α_2 adrenoceptors in modulation of sustained auditory attention
- (48) F. Garcia-Oscos, S. Hall, H. Salgado, **M. Atzori**
39th Annual Meeting, Society for Neuroscience
Washington, D.C., U.S.A., November 2011
Interleukin-6 induces acute internalization of GABA_A receptors in the temporal cortex
- (49) S. Roychowdhury, J. Tam, A. Uzoma, **M. Atzori**
39th 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**
39th 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
40th 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**
40th Annual Meeting, Society for Neuroscience
New Orleans, LA., U.S.A., November 2012
Inter-regional differences in adrenergic modulation of GABA_A receptor-mediated synaptic currents
- (53) **M. Atzori**, R. Cuevas Olgún, 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**
41st 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**
41st 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
41st 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**
24th 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) A.R. Cerda-Hernandez, N.Saderi, O. Ramirez-Plascencia, M.Atzori, R.C. Salgado-Delgado
Reunion de la Sociedad Mexicana de Ciencias Fisiologicas
San Miguel de Allende, Guanajuato Septiembre 2015
Participacion de la interleucina 6 en la regulación circadiana de eventos pro-inflamatorios
- (60) R. Cuevas-Olguin, E. Esquivel-Rendon, H.R. Arias, **M. Atzori**
43rd Annual Meeting, Society for Neuroscience, Chicago, IL., U.S.A., October 2015
Nicotine reduces inhibitory synaptic currents in the prefrontal currents by activating α_7 receptors
- (61) M.E. Bringas-Tobón, M.A.M. Rojas, O.E. Aparicio, C. Jarquin; F. de la Cruz, **M. Atzori**, G. Flores
43rd 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
- (62) 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
- (63) 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
- (64) 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**
44th Annual Meeting, Society for Neuroscience, San Diego, CA., U.S.A., November 2016
Synaptic effects of social defeat stress: interleukin-6-dependent contribution
- (65) I. Gonzalez-Nateras, F. Montero-Amézcua, R. Cuevas-Olguin, E. Esquivel-Rendon, J. Vargas-Mireles, S. Rose-John, **M. Atzori**
44th 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
- (66) R. Cuevas-Olguín, E. Esquivel-Rendón, J. Vargas-Mireles, I. Gonzalez-Nateras, M. Miranda-Morales, H. Arias, **M. Atzori**
44th 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
- (67) 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

- (68) R. Cuevas-Olguin, T. Mares-Barbosa, M. Miranda-Morales, G. Garcia, E. Esquivel-Rendon, J. Vargas-Mireles, G., González, **M. Atzori**
II Congreso Nacional de la Rama de Neurobiología, Queretaro, October 2017
Development of a home-made system to quantify physical activity in an experimental rodent model.
- (69) R. Velázquez Contreras, F. Vega, J. Vargas, G. Gonzalez, R. Cuevas Olguín, E. Esquivel Rendon, T. Mares-Barbosa, M. Miranda-Morales, G. García, C. Arenas-Huertero, N. Saderi, R. Salgado-Delgado, S. Rose-John, **M. Atzori**
II Congreso Nacional de la Rama de Neurobiología, Queretaro, October 2017
Exposure to continuous light elicits depression through an Interleukin-6 trans-signaling dependent mechanism in a murine model
- (70) T.B. Mares Barbosa, R. Velazquez Contreras, R. Cuevas Olguín, G. González Martin, M. Miranda Morales, N. Saderi, C.G. Castillo Martin del Campo, S. Rose-John, **M. Atzori**.
Difusion líneas investigación carrera de Biología, San Luis Potosi, Octubre de 2017
La interleucina 6 es necesaria para la inducción de la fatiga crónica en un modelo murino
- (71) E. Esquivel-Rendón, J. Vargas-Mireles, P. Acosta Mares, R. Cuevas-Olguín, M. Miranda-Morales, S. Rose-John, **M. Atzori**
45th annual meeting, Society for Neuroscience, San Diego, November 2018
Social Defeat-induced Interleukin 6-dependent synaptic changes in the prefrontal cortex of the mouse
- (72) J. Vargas-Mireles, E. Esquivel-Rendón, P. Acosta Mares, R. Cuevas-Olguín, M. Miranda-Morales, S. Rose-John, G. Rodríguez-Escobedo, **M. Atzori**
45th annual meeting, Society for Neuroscience, San Diego, November 2018
Social Defeat-induced Interleukin 6-dependent behavioral changes in C57BL/6 mouse
- (73) M. Morquecho, R. Cuevas-Olguin, M. Miranda-Morales, R. Velazquez-Contreras, F. Vega, C. Arenas-Huertero, N. Saderi, R. Salgado-Delgado, S. Rose-John, **M. Atzori**
45th annual meeting, Society for Neuroscience, San Diego, November 2018
The proinflammatory cytokine interleukin 6 is involved in behavioral and synaptic changes induced by prolonged exposure to continuous illumination
- (74) R. Cuevas-Olguín, T. Barbosa-Mares, R. Velázquez-Contreras, M. Miranda-Morales, S. Rose-John, **M. Atzori**
45th annual meeting, Society for Neuroscience, San Diego, November 2018
Interleukin 6 involvement in a rodent model of chronic fatigue syndrome
- (75) S.I. Gonzalez-Cano, M.E. Bringas, I. Camacho-Abrego, **M. Atzori**, D. MacFabe, G. Flores
45th annual meeting, Society for Neuroscience, San Diego, November 2018
Behavioral and Morphological Changes in the Rat Limbic System in an Animal Model of Autism, Exposure to Propionic Acid in the Prenatal Age
- (76) G. García, A. Monroy, G. Flores, M. Miranda-Morales, M. Atzori
46th annual meeting, Society for Neuroscience, Chicago, November 2019
Antidepressant effect of the abstract from B. Cordata in a chronic stress animal model

Research positions

2013-present: Full Time Professor, UASLP (with tenure)
Faculty of Science, Biology program, San Luis Potosi, MX.

2004-2013: Associate Professor, UT Dallas (with tenure),
School of Behavioral and Brain Sciences, Richardson, TX

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

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)

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

Honorary Positions and Continuing Education

2013-present: Adjoint Professor, UT Dallas

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

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)

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)
Research Assistant

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.

Past experimental research interests

- 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
- Organic Chemistry Analytical Methods: Nuclear Magnetic Resonance Spectrometry
- Use of MR Imaging for Clinical Diagnosis in Neurology

Animal models and clinical applications

- Auditory rehabilitation
- Attention Deficit Disorders
- Autistic Spectrum Disorders
- Epilepsy
- Schizophrenia
- Psychoses
- Disorders of the Anxiety Spectrum
- Lipopolisaccharide-induced inflammation (aseptic inflammation)
- Social Defeat
- 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 (postgrad lev.)
Spring	05	Cellular Neuroscience	ACN 6340 (postgrad lev.)
Fall	05	Neurophysiology	NSC 4365
Spring	06	Cellular Neuroscience	ACN 6340 (postgrad lev.)
Spring	06	Neuroscience Lab. Methods	NSC 4353
Fall	06	Cellular Neuroscience	NSC 4352
Fall	06	Neurophysiology	NSC 4356
Spring	07	Cellular Neuroscience	ACN 6340 (postgrad lev.)
Spring	07	Quantitative Methods in Neurosci.	HCS 7372 (postgrad lev.)
Fall	07	Synaptic Plasticity	HCS 7372 (postgrad lev.)
Fall	07	Cellular Neurosci.	ACN 6340 (postgrad lev.)
Spring	08	Special Topics in Neurosci.	NSC 4V90 (postgrad lev.)
Spring	08	Cellular Neurosci.	ACN 6340 (postgrad lev.)
Fall	08	Neurophysiology	NSC 4365
Fall	08	Cellular Neuroscience	ACN 6340 (postgrad lev.)
Spring	09	Cellular Neuroscience	ACN 6340 (postgrad lev.)
Spring	09	Cellular Neuroscience	NSC 4352
Fall	09	Neurophysiology	NSC 4365
Fall	09	Neuroendocrinology	HCS 7200 (postgrad lev.)
Spring	2010	Cellular Neuroscience	ACN 6340 (postgrad lev.)
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 (postgrad lev.)
Fall	2011	Cellular Neuroscience	HCS 6340 (postgrad lev.)
Fall	2011	Neuroendocrinology	NSC 4370
Spring	2012	Cellular Neuroscience	NSC 4352
Spring	2012	Neurotoxicology	HSC 7372 (postgrad lev.)
Fall	2012	Cellular Neuroscience	NSC 4352
Fall	2012	Neurotoxicology	NSC 4V90 (postgrad lev.)

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	Neuroendocrinology (postgrad lev.)
Spring 2017	Calculo Integral
Spring 2017	Bioetica
Fall 2017	Calculo Diferencial
Fall 2017	Estatica y Dinamica
Fall 2017	Neuroendocrinology (postgrad. lev.)
Spring 2018	Bioetica
Spring 2018	Calculo Integral
Fall 2018	Calculo Diferencial
Fall 2018	Estatica y Dinamica
Fall 2018	Neurophysiology (with Dr. M. Miranda-Morales)
Fall 2018	Neuroendocrinology (postgrad. lev.)
Spring 2019	Bioetica
Spring 2019	Calculo Integral
Spring 2019	Biological Pharmacology (with Dr. M. Miranda-Morales)
Fall 2019	Calculo Diferencial
Fall 2019	Estatica y Dinamica
Fall 2019	Neurophysiology (Dr. M. Miranda-Morales)
Fall 2019	Neuroendocrinology (postgrad. lev.)

Committees and Evaluations (UTD):

UTD medical and dental school candidates committee (HPAC), evaluator
 UTD animal control committee (IACUC), member
 UTD biosafety committee, chairman
 UTD tenure committee
 UTD Neuroscience Faculty hiring committee
 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 (PhD graduate from UTSW)
Grant	Antoine
Sundus	Alridi
Aysha	Jabbar
Sani	Mathew (M.D., John Hopkins Univ.)
Aurelien	Begue (PhD., INSERM, Paris, France)
Tresa	Zacharias (Research assistant, UT Southwestern, Dallas TX)
Iris	Gonzales (Tech de Monterrey, NL, Mexico)
Chanel	Matney (Res. Assoc., Potomac Inst. for Policy Studies, Wash. D.C.)
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 doctor, Univ. Pavia, Italy)
Amara	Uzoma (Medical doctor, UT Med. Branch, Galveston TX)
Nick	Nworgu
Oswaldo	Torres (PhD, Univ. Autonoma de Yucatan, Merida MX)
Mike	Neugent
Nickalaus	Swan (MSCi, UTD)
Vy	Nguyen
Joseph	Nguyen-Lee
Jorge	Bermeo
Amulya	Yadlapalli (M.D., St. George Med. School, Grenada, West Indies)
Feba	Thomas
Susan	Christian
Ted	Daniels
Aparajit	Venkateswaran
Erica	Sherry
Dayra	Lorenzo-Mercado (PhD student, Polytechnic Inst., Zurich Switzerland)
Ruben	Wolff
Francisco	Garcia-Oscos (Res. Assoc. Dept. of Neuroscience, UTSW, Dallas TX)
Jevin	Jackson
Amy	Zwierchowski
Joel	Vettimattam
Ifeanyi	Ogoburo
Yasamin	Khanian
Derek	Cheng
Shokoufeh	Darvish
Devina	Jagota

UASLP

Past

Eric	Esquivel Rendon
Roberto	Cuevas Olguin
Ricardo	Velasquez Contreras
Minerva	Castillo Araiza

Current

Jorge	Vargas Mireles
Palmira	Acosta Mares
Ailyn	Rangel Diaz
Alejandra	Jasso Loredo
Jazlin	Hernandez
Denisse	Mackeprang

Graduate students supervised

Master students

UTD temporal projects

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)

UASLP (current master students)

Eric Esquivel Rendon (PCBB, UASLP)
Roberto Cuevas Olguin (PCBB, UASLP)

Master students mentored (thesis successfully defended)

- Timothy Bellay (UTD, PhD at Brown Univ.)
Muscarinic modulation of GABAergic synapses in the rat auditory cortex
July 2006

- Rajasekhar Byrapureddy (UTD)
Muscarinic modulation of pyramidal cell firing in the auditory cortex of rat
November 2009
- Mitali Bose (UTD)
Effect of Environment on the Dendritic Morphology of Rat Auditory Cortex
December 2010
- Mary Lee (UTD)
The effects of neurotensin on the GABAergic system of the auditory cortex
August 2010
- Jessica Gabriela Rodriguez Melendez (co-director: Dr. Carlos Barajas Lopez, IPICYT)
Modulacion purinergica de la actividad sináptica hippocampal
March 2016
- Teresa Belem Mares Barbosa (UASLP)
Papel de la interleucina 6 en un modelo animal de síndrome de fatiga cronica
Julio 2018

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 (UTD)

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

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

Dewey Clay Brown: *Contribution of α -Adrenergic Receptors in Mediating Vigilant and Adaptive Behavior in Rodents*, 2013 (UTD)

PhD Students: current

- Gabriela Gonzalez (PCBB, UASLP, co-mentored with Dr. Claudia Castillo)
- Alejandra Loyola Leyva (PCBB, UASLP)

Postdoctoral fellows

Dr. Humberto Salgado (PhD: UNAM, currently PTC UADY, Merida Yucatan)

Dra. Marcela Miranda-Morales (PhD: IPICYT, current)

Dra. Griselda Garcia (PhD: UAEM, current)

Collaborators (current)

UASLP:

Edgar Guevara Codina (CIACyT)
Jose Alfredo Mendez (Biofisica)
Claudia Castillo (CIYACyT)

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 Universitat, 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)