

Curriculum Vitæ
(updated March 19, 2012)

<i>Name</i>	Marco Atzori
<i>Work address</i>	University of Texas at Dallas 2601 Floyd road/GR41 Richardson, TX 75080, USA
<i>Birthplace</i>	Oristano, Italy
<i>Date of birth</i>	May 6, 1963
<i>Status</i>	married
<i>Citizenship</i>	Italian, U.S.
<i>Work telephone</i>	(972) 883 4311
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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"

Spoken languages

Italian, Spanish, English

Present position

Associate Professor with tenure, School for Behavioral and
Brain Sciences, University of Texas at Dallas

**Past and current
Memberships**

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

Grant reviewer

NIH, NSF, MRC

Associate editor

Frontiers in Synaptic Transm., Frontiers in System Neurosc.

Ad-hoc reviewer

Brain Research, Cerebral Cortex, Developmental Neuroscience,
Environmental Toxicology and Pharmacology, 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
Neurodegeneration, Molecular Pharmacology, Neurobiology of
Disease, Neuropharmacology, Neuroscience, Neuroscience and
Biobehavioral Reviews, Neuroscience Letters, Synapse.

Research: Neurophysiology of the Temporal Cortex

The temporal cortex (TC) is a poorly understood part of the mammalian brain involved in sensory, cognitive, and emotional processing. A great deal of the present knowledge about the TC originated from several decades of anatomical and physiological studies on auditory processing, whose first cortical stages occur in the core of the TC. For reasons that are not yet entirely clear, the TC is a brain area particularly vulnerable to metabolic and developmental damage. Perinatal hypoxia, teratogens, and other environmental and epigenetic factors have been suggested to produce neural damage to the TC increasing the risk for numerous neurological and psychiatric conditions including epilepsy, psychoses, attention deficit disorders, schizophrenia, autism and other disorders of communication and social conduct.

My laboratory is interested in determining the properties and physiological responses of neurons and synapses in the TC, and in understanding the possible mechanisms leading to impaired TC processing. We pursue these aims with electrophysiological, pharmacological, and anatomical techniques using animal models, mainly rats and mice. In the last years we extensively studied the way in which monoamine and catecholamines –particularly norepinephrine- modulate the TC synaptic network. Our focus is currently on the role of the GABAergic (inhibitory) system. We are presently evaluating the possibility that stress-induced early damage to the developing GABAergic system causes an abnormal increase in cortical excitability eventually producing epilepsy, disorders of the autistic spectrum, and/or schizophrenic psychoses, depending on the nature, duration, and intensity of the insult.

Publications published or in press

- (1) 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., 2012 in press
- (2) D.C. Brown II, M.S. Co, R.C. Wolff, **M. Atzori**
 α Adenergic receptors in auditory cue detection: α_2 receptor blockade suppresses false alarm responding in the rat
Neuropharmacol., 2012 in press
- (3) 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, in press
- (4) H.Salgado, L. Dinh, F. Garcia-Oscos, **M. Atzori**
Synaptic locus of the action of norepinephrine in auditory cortex GABAergic synapses.
Synapse, 2012, 66:20-8
- (5) 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
- (6) 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
- (7) 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
- (8) 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
- (9) M. Bose, P. Munoz, S. Roychowdhury, J. Nichols, V.P. Jakkamsetti, B. Porter, R. Byrapureddy, H. Salgado, M.P. Kilgard, F. Aboitiz, A. Dagnino-Subiabre, **M. Atzori**
Effect of the environment on the dendritic morphology of the rat auditory cortex
Synapse, 2010, 64: 97-110.

- (10) 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.
- (11) 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.
- (12) 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.
- (13) R.D. Paz, S. Tardito, **M. Atzori**, K.Y. Tseng
Glutamatergic Dysfunction in schizophrenia: from basic neuroscience to clinical psychopharmacology
Eur. J. Neuropsychopharm. 2008, 18, 773-86.
- (14) 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.
- (15) 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.
- (16) 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.
- (18) **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.

- (19) **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.
- (20) **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.
- (21) M. Grimaldi, **M. Atzori**, 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
- (22) **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
- (23) **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
- (24) 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
- (25) 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
- (26) 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
- (27) **M. Atzori**
“Pyramidal cells and Stratum Lacunosum-Moleculare interneurons in the CA1hippocampal region share a GABAergic spontaneous input”
Hippocampus, 1996, 6:72-78
- (28) **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

- (29) 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
- (30) **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
- (31) **M. Atzori**
"Cl⁻ transporter block enhances GABAergic spontaneous activity in rat hippocampal CA3 cells"
NeuroReport, 1994, 5:2509-2512
- (32) R.Toffanin, B.J.Kvam, A.Flaibani, **M. Atzori**, F.Biviano and S.Paoletti
"N.M.R. studies of oligosaccharides derived from hyaluronate: complete assignement 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
- (33) 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

J. Nichols, N. Engineer, M. Kilgard, **M. Atzori**
Role of muscarinic receptors in frequency-selective short-term auditory plasticity induced by vagal nerve stimulation.

A. Banerjee, F. García-Oscos, L.C. Galindo, S. Hall, S. Roychowdhury, M. Kilgard, **M. Atzori**
Impairment of GABAergic synaptic signalling the temporal cortex in VPA an autism rat model

Manuscripts in preparation

S. Roychowdhury, **M. Atzori**
Adrenergic treatment improves social interactions and anxiety in an environmental rat model of autism

S. Roychowdhury, A. Banerjee, **M. Atzori**
Recovery from behavioral and synaptic impairment after cerebrolysin chronic treatment in an environmental rat model of autism spectrum disorder.

R.C. Wolff, R.T. Restom, E. Sherry, D.C. Brown II, **M. Atzori**
The α_2 Agonist Guanfacine Reinstates Amphetamine-Disrupted Latent Inhibition in Rats

F. Garcia Oscos, H. Salgado, **M. Atzori**
Multiphasic effects of serotonin on GABAergic signaling in the auditory cortex

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**

Awards and Grants

1996 J. William Fulbright scholarship by USIA/CIES

1996/1997 Post-doctoral fellowship by FY96-67 University of Tennessee Neuroscience Center

1999 NIH FARE -- The Fellows Award for Research Excellence

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

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

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

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

2006 American Audiology Association, Physiological and Anatomical characterization of the Tectal Commissural Column (mentor M. Atzori, PI Justin Nichols)

2006 National Institute of Health, 5R01DC005986-03:
Acetylcholine and dopamine modulation in auditory cortex

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

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

2010 University of Texas at Dallas
Brain and Behavioral Sciences Research Development Award
Cerebrolysin in the treatment of autism spectrum disorders

2011 University of Texas at Dallas
Brain and Behavioral Sciences Research Development Award
Synaptic effects of interleukin-6

Invited talks

January 2001, Howard University, Washington DC, 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, Universidad Autonoma de Mexico, Department seminar
Host: Dr. Jose' Bargas.

February 2004, Benemerita Universidad Autonoma de Puebla, Instituto de Fisiologia.
Host: Dr. Jorge Flores.

March 2004, University of Texas at Dallas, Institute of Brain and Behavior.
Host: Dr. Michael Kilgard.

November 2005, Universidad 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
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, UTSW, 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 International Conference on the Auditory Cortex, Magdeburg, Ge.
Host: Dr. Eike Budinger

March 2012, Semana del Cerebro, Colima, Mexico
Host: Dr. Humberto Cruzblanca

Abstracts:

- (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 OHC 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
Dopamine Blocks Acetylcholine-induced Reduction of Glutamate Currents in the Auditory Cortex
Association for Research in Otolaryngology 26th Annual Meeting
Daytona Beach, FL U.S.A. February 2003
- (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
Interlaminar differences of spike activation threshold in the auditory cortex of the rat.
Association for Research in Otolaryngology
Daytona Beach, FL U.S.A. February 2004
- (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 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.
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, H. Bui, 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 partially 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**
Effect of sensory stimulation on the neuronal morphology in the auditory cortex
35th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2007
- (43) J. Nichols, B. Roof, H. Salgado, V. Jakkamsetti, M. Kilgard, **M. Atzori**
Acetylcholine increases time-locking without increasing S/N ratio in in vivo recordings from the primary auditory cortex of the anesthetized rat
31st Midwinter Association for Research in Otolaryngology meeting
Phoenix, AZ, U.S.A., February 2008
- (44) J.A. Nichols, A. Beckett, D. Brown, L. Dinh, and **M. Atzori**
Saliency acutely modulates the inhibitory component of spectro-temporal receptive fields in the awake rat
36th Annual Meeting, Society for Neuroscience
Washington, D.C., U.S.A., November 2008
- (45) F. Garcia-Oscos, L.C. Galindo, H. Salgado, R. Ramirez, G. Flores, **M. Atzori**
Abnormal Adrenergic Modulation of GABAergic Synaptic Transmission in a Valproic Acid Animal Model of Autism
Autism satellite of the 38th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2010
- (46) A. Banerjee, M. Lee, S. Rao, H. Salgado, **M. Atzori**
Neurotensin decreases GABAergic currents in the temporal cortex of the rat
38th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2010
- (47) S. Roychowdhury, L. Dinh, J. Nichols, J. Tam, A. Yadlapalli, **M. Atzori**
Role of α_2 adrenoceptors in modulation of sustained auditory attention
38th Annual Meeting, Society for Neuroscience
San Diego, CA, U.S.A., November 2010
- (48) F. Garcia-Oscos, S. Hall, H. Salgado, **M. Atzori**
Interleukin-6 induces acute internalization of GABA_A receptors in the temporal cortex
39th Annual Meeting, Society for Neuroscience
Washington, D.C., U.S.A., November 2011
- (49) S. Roychowdhury, J. Tam, A. Uzoma, **M. Atzori**
The noradrenergic system as a target in the pharmacological treatment of anxiety and social interactions deficits in a rat model of autism
39th Annual Meeting, Society for Neuroscience
Washington, D.C., U.S.A., November 2011
- (50) A. Banerjee, S. Roychowdhury, S. Rao, F. Garcia-Oscos, **M. Atzori**
Cerebrolysin reverses deficits in behavior and synaptic inhibition in a rat model of autism
39th Annual Meeting, Society for Neuroscience, Washington, D.C., U.S.A., November 2011

Previous research,
Continuing
Education
and work
experience

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.
- 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
- Autism
- Epilepsy
- Schizophrenia
- Psychoses

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

Anatomy and Immunohistochemistry:

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

Behavior:

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

Courses developed and taught

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. Meth.	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

Past and Present Committees and evaluations:

UTD medical and dental school candidates committee (HPAC), evaluator

UTD animal control committee (IACUC), member

UTD biosafety committee, chairman

Undergraduate students supervised

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

Undergraduate students currently under supervision

Francisco	Garcia-Oscos
Robert	Restom
Shawn	Hall
Ruben	Wolff
Marissa	Co
Jevin	Jackson
Amy	Zwierchowski
Dayra	Lorenzo-Mercado
Inayatullah	Wahdatyar
Erica	Sherry
Susan	Christian
Aparajit Ram	Venkateswaran

Master students supervised

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)

Ph.D. students mentored who obtained the degree

Lu Dinh (Operating Room electrophysiologist, Forth Worth, TX)
Justin Nichols (post-doctoral fellow, Baylor School of Medicine)

Graduate students currently supervised:

Swagata	Roychowdhury (doctoral)
Clay	Brown (doctoral)
David	Croft (doctoral)
Ling-Yu	Huang (master)

Collaborators

National collaborators:

Michael Kilgard (UTD)
Santosh D'Mello (UTD)
Ruben Ramirez (UTD)
Patrick Kanold (UMCP, College Park, Maryland)
Kuei-Yuan Tseng (Rosalind Franklin University, Chicago, USA)

International collaborators:

Humberto Salgado (UADY, Merida, Mexico)
Alexies Dagnino-Subiabre (Univ. Catolica del Norte, Chile)
Jorge Flores-Hernandez (BUAP, Puebla, Mexico)
Juan Carlos Pineda-Cortes (UADY, Merida, Mexico)
Rodrigo Paz (Hospital Psiquiatrico Horwitz Barak, Santiago, Chile)
Gonzalo Flores (BUAP, Puebla, Mexico)
Stefan Rose-John (Christian-Albrechts Universitat, Kiel, Germany)