

**UBICACIÓN/LOCATION:**

*(Laboratorio 4) - INCYL*

**NOMBRE DEL LABORATORIO/GRUPO; RESEARCH GROUP NAME/ACRONYMS:**

*Laboratorio Neuroplasticidad Auditiva*

**BREVE DESCRIPCIÓN DE LA LÍNEA DE INVESTIGACIÓN/ RESEARCH LINE**

***Current general research topics***

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Pathophysiology of deafness, auditory brain plasticity, brain cross-modal reorganization, electrical stimulation of nervous system.

**We recently have centered our attention in developing rat animal models for analysis of the temporal evolution of auditory brain plasticity after traumatic injury (cortex ablation), sensory deprivation - crossmodal interaction (bilateral cochlear puncture) and most recently electric current neuromodulation of the auditory cortex. Analyzing effects of interfering fields stimulation on the efferent system and its potential role in protection after sound overstimulation will be the next contribution from our lab.**

**INVESTIGADOR RESPONSABLE O PRINCIPAL DEL GRUPO/GROUP TEAM LEADER**

***Dr. Miguel A. Merchán Cifuentes***

Indicadores generales de calidad de la producción científica

6 tramos de investigación (sexenios) Fecha de obtención del último sexenio: 27 de Enero 2017.

Numero de Tesis Doctorales (10 ultimos años) = 8.

Google Scholar - Total 1839 citas (2019)

Research Gate: Citations: 1646

Score higher tan: 92.5% of Research gate members

RG score: 35.62

Índice h =23

Índice i10 = 33.

**PERSONAL ADSCRITO/ GROUP MEMBERS**

(indicar nombre completo y cargo o puesto que ocupa):

**D. Iván Díaz García**

(Investigador Predoctoral)

**Dña. Ana Cecilia Colmenarez Raga**

(Investigador Predoctoral; Contrato FPI- USAL)

**Dña. Venezia Guadalupe Carmona Barrón**

(Investigador Predoctoral; Contrato Banco de Santander)

**Dña. Inés Santos Fernández del Campo**

(Estudiante de Máster en Neurociencia – TFM)

**D. Ignacio Plaza López**

(Técnico de laboratorio)

#### **PROYECTOS VIGENTES/ON-GOING RESEARCH PROJECTS**

(indicar nombre completo, referencia, Investigador principal, financiación y periodo):

*Proyecto CORE – Era Net Neuron Prog. (En fase de revision)*

*PN I+D – Retos – En espera de convocatoria*

#### **PUBLICACIONES/PUBLICATIONS**

(indicar hasta un máximo de las 10 publicaciones más significativas):

Poveda CM, Valero ML, Pernia M, Alvarado JC, Ryugo DK, Merchan MA, Juiz JM (2020) brain sciences Potassium Channels in the Cochlear Nucleus and Inferior Colliculus after Long-Term Auditory Deafferentation. :1–21.

Colmenárez-Raga AC, Díaz I, Pernia M, Pérez-González D, Delgado-García JM, Carro J, et al. Reversible Functional Changes Evoked by Anodal Epidural Direct Current Electrical Stimulation of the Rat Auditory Cortex. Front Neurosci 2019;13:1–19. doi:10.3389/fnins.2019.00356.

Pernia, M, Díaz I, Colmenez-Raga AC, Rivadulla C, Cudeiro J, Plaza I MM. Cross - modal reaction of auditory and visual cortices after long - term bilateral hearing deprivation in the rat. Brain Struct Funct 2019. doi:10.1007/s00429-019-01991-w.

Pernia M, Estevez S, Poveda C, Plaza I, Carro J, Juiz JM, et al. c-Fos and Arc/Arg3.1 expression in auditory and visual cortices after hearing loss: Evidence of sensory crossmodal reorganization in adult rats. J Comp Neurol 2017;525:2677–89. doi:10.1002/cne.24233.

Lamas V, Arévalo JC, Juiz JM, Merchán M a. (2015) Acoustic input and efferent activity regulate the expression of

molecules involved in cochlear micromechanics. *Front Syst Neurosci* 8:1–8 Available at:  
<http://journal.frontiersin.org/journal/10.3389/fnsys.2014.00253/abstract>.

Lamas V, Estévez S, Pernía M, Plaza I, Merchán MA (2017a) Stereotactically-guided ablation of the rat auditory cortex, and localization of the lesion in the brain. *J Vis Exp* 2017.

Lamas V, Juiz JM, Merchán MA (2017b) Ablation of the auditory cortex results in changes in the expression of neurotransmission-related mRNAs in the cochlea. *Hear Res* 346:71–80 Available at:  
<http://linkinghub.elsevier.com/retrieve/pii/S037859551630524X>

Lamas V, Alvarado JC, Carro J, Merchán MA (2013) Long-term evolution of brainstem electrical evoked responses to sound after restricted ablation of the auditory cortex. *PLoS One* 8:e73585 Available at:  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3774800&tool=pmcentrez&rendertype=abstract> [Accessed February 5, 2014].

Clarkson C, Herrero-Turrión MJ, Merchán MA (2012) Cortical Auditory Deafferentation Induces Long-Term Plasticity in the Inferior Colliculus of Adult Rats: Microarray and qPCR Analysis. *Front Neural Circuits* 6:86 Available at:  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3516126&tool=pmcentrez&rendertype=abstract>.

Clarkson C, Juiz JM, Merchán MA (2010) Transient Down-Regulation of Sound-Induced c-Fos Protein Expression in the Inferior Colliculus after Ablation of the Auditory Cortex. *Front Neuroanat* 4:141 Available at:  
[http://www.frontiersin.org/Journal/Abstract.aspx?s=742%7B&%7Dname=neuroanatomy%7B&%7DART%7B\\_%7DDOI=10.3389/fnana.2010.00141](http://www.frontiersin.org/Journal/Abstract.aspx?s=742%7B&%7Dname=neuroanatomy%7B&%7DART%7B_%7DDOI=10.3389/fnana.2010.00141)

## INCLUIR FOTO DEL GRUPO SI SE DESEA

