



Part A. PERSONAL INFORMATION

CV date: June 2020

First and Family name	Thomas Schimmang		
Social Security, Passport, ID number	X1758051T	Age	55
Researcher numbers	Researcher ID	Z-2834-2019	
	Orcid code	0000-0002-3801-1640	

A.1. Current position

Name of University/Institution	Instituto de Biología y Genética Molecular		
Department	Molecular basis of disease		
Address and Country	C/Sanz y Forés 3, Valladolid, Spain		
Phone number	983-184818	E-mail:	schimman@ibgm.uva.es
Current position	Investigador Científico CSIC	From 2003	
Espec. cód. UNESCO	Genetics 2409, Molecular Biology 2415, Neurosciences 2490		
Palabras clave	Inner ear, cochlea, development, transcription factor, regeneration		

A.2. Education

Diploma in Biology	University of Heidelberg	1989
PhD in Biology	EMBL/University of Heidelberg	1993
Habilitation	University of Hamburg	2004

A.3. Indicators of Scientific Quality

Number of publications in PubMed: 69, with a h-index of: 24

Total citations (excluding self-citations): 2695 (average of 114 per year 2014-2018)

Sexenios: 5 (2018)

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Following the completion of my studies in Biology I completed my Diploma in 1989 at the EMBL in Heidelberg, working on the cell biology of yeast in the laboratory of Dr. Eduard Hurt. During my PhD thesis (1989-1993) I worked in the laboratory of Dr. Ullrich Rütger focusing on limb development using transgenic mouse mutants. After a short postdoctoral stay in the lab of Dr. Denis Duboule in 1993 where I continued my work in limb development, I then decided to continue my postdoctoral studies in the laboratory of Dr. Fernando Giraldez at the University of Valladolid being funded by an EMBO fellowship where I started my interest in inner ear development (1993-2000). In 2000 I then took the opportunity to start my own laboratory as a group leader at the Center for Molecular Neurobiology in Hamburg. My research interest was focused on the roles of Fgfs and neurotrophins during inner ear development. In 2003 I returned to Valladolid to join the Institute for Molecular Biology and Genetics as a CSIC researcher. Since then I have continued my research on the inner ear dedicated to different aspects such as sensory development, innervation, and regeneration based on gene or cell therapy. At the molecular level I have been interested in the roles of fibroblast growth factors, neurotrophins and transcription factors. As a model system we mainly focus on the mouse and combine the in vivo analysis of gene mutations with in vitro work on explants of the inner ear and primary cell cultures. More recently we have been redirecting our work towards approaches directed to repair or replace cells for the human inner ear in vivo. Our projects have been financed by national public (Deutsche Forschungsgemeinschaft, MINECO/MICINN, Carlos III (Ciberred, Red de terapia celular)) and private agencies (Fundación La Marató) as well

as international charities (Action on Hearing Loss). I am active as a reviewer for different agencies (ANEP, Wellcome Trust, Portuguese Foundation for Science and Technology, Royal National Institute for deaf people, Junta de Andalucía, Junta de Galicia) and journals (Development, Dev. Biol, Nature Biotechnology, elife, EMBO Reports, BMC Dev. Biol., MOD, Europ. J. Neurosci., MCN, IJDB, Exp. Cell Res., FEBS Let., Hum. Mut., PlosOne) and as an associate editor for BMC Developmental Biology. I have acted as a Vicedirector of the IBGM and am presently department head.

Part C. RELEVANT MERITS C.1. Selected Publications (2011-2019)

Differential deletion of GDNF in the auditory system leads to altered sound responsiveness. Harasztosi, C, Wolters, S, Gutsche, K, Duran-Alonso, MB, Lopez Hernandez, I, Pascual, A, Lopez-Barneo, J, Knipper, M, Ruettiger, L, **Schimmang, T**.
J. Neurosci.Res. 2019;Oct 30. doi: 10.1002/jnr.24544

Lower ototoxicity and absence of hidden hearing loss point to gentamicin C1a and apramycin as promising antibiotics for clinical use. Ishikawa M, García-Mateo N, Čusak A, López-Hernández I, Fernández-Martínez M, Müller M, Rüttiger L, Singer W, Löwenheim H, Kosec G, Fujs Š, Martínez-Martínez L, **Schimmang T**, Petković H, Knipper M, Durán-Alonso MB.
Sci Rep. 2019;9:2410.

Myc is dispensable for cardiomyocyte development but rescues Mycn-deficient hearts through functional replacement and cell competition. Muñoz-Martín N, Sierra R, **Schimmang T**, Villa Del Campo C, Torres M.
Development. 2019;146(3)

BDNF-Live-Exon-Visualization (BLEV) Allows Differential Detection of BDNF Transcripts in vitro and in vivo. Singer W, Manthey M, Panford-Walsh R, Matt L, Geisler HS, Passeri E, Baj G, Tongiorgi E, Leal G, Duarte CB, Salazar IL, Eckert P, Rohbock K, Hu J, Strotmann J, Ruth P, Zimmermann U, Rüttiger L, Ott T, **Schimmang T**, Knipper M.
Front Mol Neurosci. 2018;11:325.

Visualizing BDNF Transcript Usage During Sound-Induced Memory Linked Plasticity. Matt L, Eckert P, Panford-Walsh R, Geisler HS, Bausch AE, Manthey M, Müller NIC, Harasztosi C, Rohbock K, Ruth P, Friauf E, Ott T, Zimmermann U, Rüttiger L, **Schimmang T**, Knipper M, Singer W.
Front Mol Neurosci. 2018;11:260.

Transcription factor induced conversion of human fibroblasts towards the hair cell lineage. Duran Alonso MB, Lopez Hernandez I, de la Fuente MA, Garcia-Sancho J, Giraldez F, **Schimmang T**.
PLoS One. 2018;13:e0200210.

Gai Proteins are Indispensable for Hearing. Beer-Hammer S, Lee SC, Mauriac SA, Leiss V, Groh IAM, Novakovic A, Piekorz RP, Bucher K, Chen C, Ni K, Singer W, Harasztosi C, **Schimmang T**, Zimmermann U, Pfeffer K, Birnbaumer L, Forge A, Montcouquiol M, Knipper M, Nürnberg B, Rüttiger L. Cell
Physiol Biochem. 2018;47:1509-1532.

An FGF3-BMP signaling axis regulates caudal neural tube closure, neural crest specification and anterior-posterior axis extension. Anderson MJ, **Schimmang T**, Lewandoski M. *PLOS Genetics.* 2016;e1006018.

BDNF in Lower Brain Parts Modifies Auditory Fiber Activity to Gain Fidelity but Increases the Risk for Generation of Central Noise After Injury. Chumak T, Rüttiger L, Lee SC, Campanelli D, Zuccotti A, Singer W, PopeláYJ, Gutsche K, Geisler HS, Schraven SP, Jaumann M, Panford-Walsh R, Hu J, **Schimmang T**, Zimmermann U, Syka J, Knipper M.
Mol Neurobiol. 2015;53:5607-27.

Gene expression profiling of the inner ear. **Schimmang T**, Maconochie M.
J Anat. 2016;228:255-69.

Otx2 is a target of N-myc and acts as a 2 suppressor of sensory development in the mammalian cochlea. Vendrell V, López-Hernández I, Durán Alonso MB, Feijoo-Redondo A, Abello G, Gálvez H, Giráldez F, Lamonerie T, **Schimmang T**. *Development*. 2015;142:2792-800

Generation of inner ear sensory cells from bone marrow-derived human mesenchymal stem cells. Durán Alonso MB, Feijoo-Redondo A, Conde de Felipe M, Carnicero E, García AS, García-Sancho J, Rivolta MN, Giráldez F, **Schimmang T**. *Regen Med*. 2012;7:769-83.

Lack of brain-derived neurotrophic factor hampers inner hair cell synapse physiology, but protects against noise-induced hearing loss. Zuccotti A, Kuhn, S, Johnson SL, Franz C, Singer W, Hecker D, Geisler HS, Köpschall I, Rohbock K, Gutsche K, Dlugaiczyk J, Schick B, Marcotti W, Rüttiger L, **Schimmang T**, Knipper M. *J Neurosci*. 2012;32:8545-53.

N-myc controls proliferation, morphogenesis, and patterning of the inner ear. Domínguez-Frutos E, López-Hernández I, Vendrell V, Neves J, Gallozzi M, Gutsche K, Quintana L, Sharpe J, Knoepfler PS, Eisenman RN, Trumpp A, Giráldez F, **Schimmang T**. *J Neurosci*. 2011;31:7178-89.

C.2. Research projects and grants (recent 10 years)

MinEco/BFU2016-76580-P, Analysis of the TALE transcription factor Meis2 during inner ear induction and its function during formation of the tonotopic axis of the cochlea, Investigador principal, 01/2017-12/2019, 139.150,- Eur., proyecto algo relacionado, Concedido

Junta de Castilla y León, CRISPR-Cas9-mediated Correction of Fibroblasts derived from Human Patients with Auditory Synaptopathies and their Transdifferentiation to Hair Cells, Investigador principal: Javier García Sancho (IBGM), 07/2016-06/2018, 120.000,- Eur., proyecto algo relacionado, Concedido

MinEco/BFU2013-40944-P, Caracterización de la red de factores de transcripción que regulan el desarrollo del oído interno, Investigador principal, 01/2014-12/2016, 90.000,- Eur., proyecto algo relacionado, Concedido

Fundación "Action on Hearing Loss", Identification of aminoglycoside antibiotic congeners with reduced ototoxicity: Combating aminoglycoside-induced hearing loss, Investigador principal de subproyecto, Coordinador: Hrovje Petkovic, Acies BIO, 01/2014-12/2016, 118.000,- Libras., proyecto algo relacionado, Concedido

Fundación Marató 130/C/2012, Genetic Correction and Transdifferentiation to Hair Cells of Fibroblasts derived from Human Patients with Hearing Deficits, Investigador principal de subproyecto, Coordinador: Dr. Fernando Giraldez, UPF, 01/2013-12/2015, 169.192,- Eur., proyecto algo relacionado, Concedido

MiCINN/BFU2010-15477/BFI, Papel de los genes myc durante la formación y diferenciación del oído interno, Investigador principal, 01/2011-12/2014, 107.690,- Eur., proyecto algo relacionado, Concedido

MiCINN/PlanE2009-0098, Generación de células sensoriales del oído interno a partir de células madre mesenquimales humanas, Investigador principal y coordinador del proyecto, Co-IP: Dr. Fernando Giraldez, UPF 11/2009-10/2013. 300.000,- Eur., proyecto algo relacionado, Concedido

Red de Terapia celular RD06/0010, Identificación y caracterización de células madre en el oído interno, Investigador principal de subproyecto, Coordinador del nodo: Dr. Javier García-Sancho, 01/2007-12/2014. 234.000,-Eur., proyecto algo relacionado, Concedido

Instituto Carlos III, Cibernet, CB06/051129 , Mecanismos moleculares y terapias para procesos neurodegenerativos causando la pérdida de la audición, Investigador principal, 01/2008-12/2010. 292.000,-Eur., proyecto sin relación, Concedido

C.3. Fellowships

PhD fellowship of the Deutsche Forschungsgemeinschaft, 1989-1993

Postdoctoral fellowship of the EMBL, 1993

Postdoctoral fellowship of the European Molecular Biology Organization (EMBO), 1993-1995

Postdoctoral fellowship of the Spanish Ministry for Education, 1995-1996

C.4. Membership in National Research Networks

Cibernet: 2008-2011

Red de Medicina Regenerativa y Terapia Celular de Castilla y León: 2007-2013

Red de Terapia Celular: since 2007