Strenzke, Nicola

Personal Data

Title	Prof. Dr. med.
First name	Nicola
Name	Strenzke
Current position	Professor (W2), Group Leader
Current institution(s)/site(s), country	Institut für Auditorische Neurowissenschaften und Klinik für Hals-Nasen-Ohren-Heilkunde Universitätsmedizin Göttingen Göttingen, Germany
Identifiers/ORCID	0000-0003-1673-1046 / Google Scholar

Qualifications and Career

Stages	**Periods and Details**	
Degree programme	1996 - 2003	Medical studies, Medical University of Lübeck, Germany
	2000 - 2001	Medical studies, Université Louis Pasteur, Strasbourg, France
Doctorate	2003	Dr. med., supervisor: PD Dr. B.F. Gibbs, “Pharmacological studies on the role of reactive oxygen species on the activation of human basophil granulocytes”, Institute of Dermatology, University of Lübeck, Germany
Stages of academic/ professional career	Since 2020	Heisenberg professor for Clinical and Experimental Audiology, Department of Otolaryngology and Institute for Auditory Neuroscience, University Medical Center Göttingen, Germany
	Since 2007	Group Leader at the Department of Otolaryngology, University Medical Center Göttingen, Germany
	Since 2003	Resident/Fellow in the Department of Otolaryngology, University Medical Center Göttingen, Germany
	2017	Habilitation, Supervisor: Prof. Dr. T. Moser, Otolaryngology, University Medical Center Göttingen, Germany
	2011	Boards exam (“Facharzt”) in Otolaryngology
	2006 - 2007	DFG-postdoctoral fellowship at the Eaton-Peabody-Laboratory of Auditory Physiology (Advisor: Prof. Dr. M.C. Liberman, Massachusetts Eye and Ear Infirmary, Harvard University), Boston, USA

Engagement in the Research System

2021 - 2022 Spokesperson of the Collaborative Research Centre 889

Scientific Results

Category A

1. Chepurwar S, von Loh SM, Wigger DC, Neef J, Frommolt P, Beutner D, Lang-Roth R, Kubisch C, **Strenzke N**[#], Volk AE[#] (2023) A mutation in ATP11A causes autosomal-dominant auditory neuropathy type 2. *Hum Mol Genet* 32(7):1083-1089. doi: 10.1093/hmg/ddac267
   Significance: *Collaboration with Volk lab who showed that a mutation in ATP11A causes AUNA2. With support by CRC 889, we showed that Atp11a is expressed in spiral ganglion neurons and conditional Atp11a-knockout mice have age-dependent auditory neuropathy.*
2. Stalmann U, Franke AJ, Al Moyed H, **Strenzke N**[#], Reisinger E[#] (2021) Otoferlin is required for proper synapse maturation and for maintenance of inner and outer hair cells in mouse models for DFNB9. *Front Cell Neurosci* 15:677543. doi: 10.3389/fncel.2021.677543 **(OA)**
   Significance: *Collaboration with the Reisinger lab supported by CRC 889, quantifying developmental deficits and age-dependent degeneration in the cochlea of Otof-knockout mice as a mouse model for human OTOF-related deafness.*
3. Boeckhaus J*, **Strenzke N***, Storz C, Gross O, on behalf of the GPN study group, EARLY PRO-TECT alport investigators (2020) Characterization of sensorineural hearing loss in children with alport syndrome. *Life* 10(12):360. doi: 10.3390/life10120360 **(OA)**
   Significance: *Collaboration with nephrologist Gross, analyzing the largest available collection of audiometric data from children with Alport syndrome*
4. Tranebjaerg L*, **Strenzke N***, Lindholm S, Rendtorff ND, Poulsen H, Khandelia H, Kopec W, Lyngbye TJB, Hamel C, Delettre C, Bocquet B, Bille M, Owen HH, Bek T, Jensen H, Ostergaard K, Moller C, Luxon L, Carr L, Wilson L, Rajput K, Sirimanna T, Harrop Griffiths K, Rahman S, Vona B, Doll J, Haaf T, Bartsch O, Rosewich H, Moser T, Bitner Glindzicz M (2018) The CAPOS mutation in ATP1A3 alters Na/K-ATPase function and results in auditory neuropathy which has implications for management. *Hum Genet* 137:279-280. doi: 10.1007/s00439-017-1862-z
   Significance: *Case collection showing that a specific mutation in Atp1a3 causes syndromal human auditory neuropathy.*
5. Vogl C[#], Butola T, Haag N, Hausrat TJ, Leitner MG, Moutschen M, Lefèbvre PP, Speckmann C, Garrett L, Becker L, Fuchs H, Hrabe de Angelis M, Nietzsche S, Kessels MM, Oliver D, Kneussel M, Kilimann MW, **Strenzke N**[#] (2017) The BEACH protein LRBA is required for hair bundle maintenance in cochlear hair cells and for hearing. *EMBO Rep* 18:2015-2029. doi: 10.15252/embr.201643689
   Significance: *Detailed characterization of the auditory phenotype of the LRBA knockout mouse line with an early degeneration of the central hair bundle, supported by SPP 1608.*
6. Lukashkina VA, Levic S, Lukashkin AN, **Strenzke N**[#], Russell IJ[#] (2017) A connexin30 mutation rescues hearing and reveals roles for gap junctions in cochlear amplification and micromechanics. *Nat Commun* 8:14530. doi: 10.1038/ncomms14530 **(OA)**
7. **Strenzke N**[#,*], Chakrabarti R*, AlMoyed H*, Müller A, Hoch G, Pangršič T, Yamanbaeva G, Lenz C, Pan KT, Auge E, Geiss Friedlander R, Urlaub H, Brose N, Wichmann C[#], Reisinger E[#] (2016) Hair cell synaptic dysfunction, auditory fatigue and thermal sensitivity in otoferlin Ile515Thr mutants. *EMBO J* 35:e201694564. doi: 10.15252/embj.201694564 **(OA)**
   Significance: *Collaborative paper from CRC 889 deeply characterizing a first Otof mouse mutant with relatively well-preserved hearing function but synaptic auditory fatigue.*
8. Jung S, Oshima Takago T, Chakrabarti R, Wong AB, Jing Z, Yamanbaeva G, Picher MM, Wojcik SM, Göttfert F, Predoehl F, Michel K, Hell SW, Schoch S, **Strenzke N**[#], Wichmann C[#], Moser T[#] (2015) Rab3-interacting molecules 2α and 2β promote the abundance of voltage-

gated CaV1.3 Ca2+ channels at hair cell active zones. *Proc Natl Acad Sci U S A* 112:E3141-E3149. doi: 10.1073/pnas.1417207112 **(OA)**
Significance: *CRC 889 collaboration characterizing the role of RIM2*α *at hair cell ribbon synapses.*

9. Pangršič T, Gabrielaitis M, Michanski S, Schwaller B, Wolf F, **Strenzke N**[#], Moser T[#] (2015) EF-hand protein Ca2+ buffers regulate Ca2+ influx and exocytosis in sensory hair cells. *Proc Natl Acad Sci U S A* 112:E1028-E1037. doi: 10.1073/pnas.1416424112 **(OA)**
Significance: *Collaborative effort within CRC 889 analyzing the role of calcium buffers at hair cell ribbon synapses.*
10. Jing Z, Rutherford MA, Takago H, Frank T, Fejtova A, Khimich D, Moser T[#], **Strenzke N**[#] (2013) Disruption of the presynaptic cytomatrix protein bassoon degrades ribbon anchorage, multiquantal release, and sound encoding at the hair cell afferent synapse. *J Neurosci* 33:4456-4467. doi: 10.1523/JNEUROSCI.3491-12.2013 **(OA)**
Significance: *Collaborative project from CRC 889 which showed that the scaffold protein bassoon organizes the molecular assembly of ribbon synapses beyond anchoring the synaptic ribbon.*

*Equal contribution, [#]Shared correspondence.
(OA): Publicly available (e.g. open access, open archive, preprint, free access, etc.).

Academic Distinctions

2018	Heisenberg professorship (German Research Foundation)
2011	Meyer zum Gottesberge Award of the German Society for Audiology
2006	Junior Research Award of the German Society for Audiology