

Prof. Dr. Nathalie Giroud

Assistant professor

University of Zurich (UZH)
 Department of Computational Linguistics
 Head of research group Computational Neuroscience of Speech & Hearing
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 Co-director of UZH competence center Language & Medicine
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Date of birth: July 24, 1986 (in Lucerne, Switzerland)

Citizenship: Swiss, Italian

Marital status: married, three children (2017, 2020, 2022)

EDUCATION

07/2013-09/2016	<u>PhD in Cognitive Neuroscience and Psychology</u> , University of Zurich [summa cum laude]
07/2013-09/2016	<u>PhD program graduate</u> , International Max Planck Research School «The Life Course: Evolutionary and Ontogenetic Dynamics» A joint international PhD program with the Max Planck Institute for Human Development, the Freie Universität Berlin, the Humboldt-Universität zu Berlin, the University of Michigan, the University of Virginia, and the University of Zurich
09/2010–01/2013	<u>Master of Science in Psychology</u> , University of Zurich [summa cum laude]
09/2006–09/2010	<u>Bachelor of Science in Psychology</u> , University of Zurich

EMPLOYMENT HISTORY

02/2021-05/2025	<u>SNF-professor</u> (assistant professor) of Computational Neuroscience of Speech & Hearing, Department of Computational Linguistics, University of Zurich
06/2020-01/2021	<u>Research group leader</u> of Computational Neuroscience of Speech & Hearing group, Phonetics and Speech Sciences Unit, Department of Computational Linguistics, University of Zurich
08/2019-05/2020	<u>Postdoctoral research fellow</u> , Phonetics and Speech Sciences, Department of Computational Linguistics, University of Zurich
02/2018-07/2019	<u>Postdoctoral research fellow</u> , Canadian Consortium on Neurodegeneration in Aging (CCNA) Team 17 and Cognition, Aging, and Psychophysiology (CAP) Lab, Concordia University
10/2016-01/2018	<u>Postdoctoral research fellow</u> , Research unit of Neuroplasticity and Learning in Healthy Aging (from September 2017 onwards integrated into Chair of Neuropsychology), University of Zurich
01/2016-02/2016	<u>Visiting PhD student</u> , Department of Speech and Hearing Sciences at the University of Washington, Seattle, USA
09/2015-10/2015	<u>Visiting PhD student</u> , Research unit of Cognitive and Neural Dynamics of Memory at the Max Planck Institute for Human Development, Berlin, Germany
07/2013-09/2016	<u>PhD student</u> , Research unit of Neuroplasticity and Learning in Healthy Aging, University of Zurich
04/2013-10/2013	<u>Research assistant</u> , MINT-learning center, ETH Zurich
01/2013-06/2013	<u>Research intern</u> , Research unit Neuroplasticity and Learning in the Healthy Aging Brain, University of Zurich
09/2011–03/2013	<u>Research assistant</u> , Chair for Research on Learning and Instruction, ETH Zurich
01/2011-01/2011	<u>Research intern</u> , Institute for Educational Evaluation, University of Zurich

THIRD-PARTY FUNDED RESEARCH PROJECTS

Grants as main-PI of more than 2 Mio CHF from Swiss National Science Foundation, industrial partners, patient foundations, Innosuisse and Alzheimer Society of Canada

	<u>Title</u>	<u>Role</u>	<u>Funding</u>	<u>Status</u>	<u>Amount</u>
05/2023-10/2023	“App/Algorithm using brainwave analysis to assess musical sensitivity for an improvement of individual music performances and personal music reception”	PI	Innovation cheque from Innosuisse; Industrial partner and initiator: Internationally renowned pianist and entrepreneur Ingolf Wunder	ongoing	CHF 15’000.-
01/2022-12/2025	"Benefits of auditory-cognitive trainings for hearing rehabilitation and cognitive functioning in older hearing impaired"	PI	Industrial partner: Sonova Holding	ongoing	CHF 264’000.-
02/2022-12/2022	"Sehen und Hören in der stationären Alterspflege - Längsschnittliche Erkenntnisse aus dem Schweizer RAI-Datensatz" [Vision and hearing in inpatient care – longitudinal insights from the Swiss RAI data]	PI	Schweizerischer Blindenverein SZBLIND	ongoing	CHF 5000.-
10/2021-09/2023	“Lip reading training via mobile phone app: A step towards interventions against hearing loss”	Co-PI	Zürcher Stiftung für das Hören	ongoing	CHF 200’000.-
06/2020-05/2025	“Novel ways of preventing age-related cognitive decline: Identifying the role of speech processing deficits in Alzheimer’s disease” Project nr: 185715, http://p3.snf.ch/project-185715	PI	SNF-PRIMA	ongoing	CHF 1'349'606.-
06/2020-09/2021	“The influence of prediction on neural speech tracking in older adults with hearing loss”	PI	Forschungs-kredit UZH	completed	CHF 73’152.-
08/2019-05/2020	“Preventing age-related cognitive decline: The role of speech processing deficits in older adults at risk of dementia”	PI	Forschungs-kredit UZH	completed	CHF 93’031.-
03/2017-10/2020	“Speech Intelligibility and Perception in Older Adults at the Interaction of Aging, Cognition, Tinnitus, and Hearing Loss” Project nr. 169964, http://p3.snf.ch/project-169964	Collaborator*	SNF Projektförderung	ongoing	CHF 594'787.-
02/2018-07/2019	“The Sensory and Cognitive Interface in Mild Cognitively Impaired Older Adults as Revealed by Multimodal Neuroimaging” Project nr. 174865, http://p3.snf.ch/project-174865	PI	SNF Early Postdoc Mobility	completed	CAD 94’500.- (CHF 65’556)
09/2017-08/2019	“The Sensory and Cognitive Interface in Mild Cognitively Impaired Older Adults as Revealed by Multimodal Neuroimaging”	PI	Alzheimer Society of Canada	declined in favor of SNF Early Postdoc Mobility	CAD 90’000.- (CHF 62’433)
08/2014-11/2017	“Acquisition de la prosodie en langue seconde: l’étude de la perception de	Collaborator	SNF Ambizione	completed	CHF 421'529.-

	l'accent lexical sur la base d'expériences comportementales et électrophysiologiques” Project nr. 148036, http://p3.snf.ch/project-148036				
01/2016-12/2016	“EEG data analyses part two: peer mentoring group”	Co-PI	Graduate Campus UZH	completed	CHF 9000.-
05/2015-12/2015	“EEG data analyses part one: peer mentoring group”	Co-PI	Graduate Campus UZH	completed	CHF 8500.-
2013	«Entsteht linguistische Salienz im Gehirn?» Project nr: KLIP-2013-1, https://www.ds.uzh.ch/de/forschung/projekte/salienz.html	Collaborator	KLIP des Zürcher Kompetenz-zentrum Linguistik	completed	ca. CHF 3'000
07/2013–06/2015	“Neural signatures of speech processing plasticity over the lifespan and benefits of language learning in the elderly”	PI	Forschungs-kredit UZH	completed	CHF 100'050.-

* Contributed significantly to written application as collaborator

INSTITUTIONAL AND SCIENTIFIC RESPONSIBILITIES

Elected memberships in Panels and Boards, competitive fellowships

04/2023-ongoing	<u>Elected member</u> into Sigma Xi Scientific Research Honor Society
11/2021-ongoing	<u>Elected co-director</u> of the Competence Center <i>Language & Medicine</i> at the Faculty of Arts and Humanities as well as at the Faculty of Medicine at UZH
06/2021-ongoing	<u>Associate Investigator</u> in the Swiss national centre of competence in research (NCCR) <i>Evolving Language</i> A nationwide interdisciplinary research consortium bringing together research groups from the humanities, from language and computer science, the social sciences, and the natural sciences to explore the past, present, and future of language
05/2021-ongoing	<u>Editorial board member</u> of the peer-review scientific journal <i>Ageing Brain</i> , the open-access sister journal of Elsevier's Neurobiology of Aging
10/2020-ongoing	<u>Faculty member</u> of the international Max Planck Research School <i>The Life Course: Evolutionary and Ontogenetic Dynamics</i> A joint international PhD program with the Max Planck Institute for Human Development, the Freie Universität Berlin, the Humboldt-Universität zu Berlin, the University of Michigan, the University of Virginia, and the University of Zurich
10/2020-09/2021	<u>Global Future Council Fellowship</u> at the World Economic Forum WEF's Council on <i>Healthy Ageing and Longevity</i>

Institutional committees

05/2023-ongoing	Committee for filling permanent full-time lecturer position on digital health communication
09/2022-ongoing	Committee for filling professorship ad personam for language, technology, and accessibility
03/2022-04/2022	Faculty of Arts & Social Sciences working group on competence centers at the University of Zurich

Other memberships & non-competitive responsibilities

Current

05/2023-ongoing	<u>Member</u> of the International Society to Advance Alzheimer's Research and Treatment (ISTAART)
06/2022-ongoing	<u>Member</u> of the Swiss Society for Aging Research
06/2020-ongoing	<u>Member</u> of the Digital Society Initiative (DSI) at University of Zurich
10/2020-ongoing	<u>Board member</u> of the Department of Computational Linguistics at University of Zurich
07/2020-ongoing	<u>Faculty member</u> of the Neuroscience Center Zürich (ZNZ)
11/2019-ongoing	<u>Member</u> of the Linguistik Zentrum Zürich (LiZZ)

06/2018-ongoing	<u>Member</u> of the Heterodox Academy
09/2015-ongoing	<u>Member</u> of The International Society for Brain Electromagnetic Topography ISBET, responsible for Facebook page (09/2015-08/2016)
<u>Previous</u>	
08/2019-11/2019	<u>Member</u> of the Zürcher Kompetenzzentrum Linguistik (ZüKL)
02/2018-10/2019	<u>Member</u> of Team 17 of the Canadian Consortium on Neurodegeneration and Aging (CCNA), Canada
07/2018-10/2019	<u>Member</u> of Canadian Consortium of Neurodegeneration in Aging (CCNA) Trainee Society
05/2018-10/2019	<u>Member</u> of the Centre for Research on Brain, Language, and Music (CRBLM)
08/2016-07/2017	<u>Member</u> of the Society for Human Brain Mapping
10/2016-06/2017	<u>Founder and organizer</u> of interdisciplinary journal club BALi on the (aging) brain and language organizing bi-weekly meetings with students and faculty discussing new papers
07/2015-06/2016	Member of the Association for Psychological Science
01/2015-12/2016	<u>Founder and organizer</u> of peer-mentoring group on advanced EEG analyses organizing monthly 1–2-day workshops with international speakers
04/2014-07/2015	<u>Research representative, scientific leader, and organizer</u> of participatory committee to implement and improve participatory gerontological research at the University of Zurich organizing, moderating and participating in monthly 4-hour meetings with faculty, stakeholders, and interested older adults
10/2014-05/2015	<u>Expert</u> for national youth science competition [Schweizer Jugend forscht]
10/2014-10/2014	<u>Organizer and moderator</u> of plenary discussion with faculty and students about real-life methods to acquire behavioral and neural data during the LIFE Fall Academy in Berlin
11/2013-06/2014	Fellow Speaker for the International Max Planck Research School “The Life Course: Evolutionary and Ontogenetic Dynamics”
01/2014-12/2014	Member of peer-mentoring group on applied programming for psychologists

Reviewing Activities

Research Councils:	Forschungskredit University of Zurich, Czech Health Research Council, German Research Foundation
Journals:	Plos One, Brain Topography, Cogent Psychology, Neurobiology of Aging, NeuroImage, Ear & Hearing, Hearing Research, Speech Communication, Brain Structure and Function, Frontiers in Psychology, Journal of Cognitive Neuroscience, eNeuro, Journal of Neuroscience Research, International Journal of Psychophysiology, Trends in Hearing, Human Brain Mapping, Frontiers in Aging Neuroscience

AWARDS AND SCHOLARSHIPS

06/2023	<u>Paper selected for Young Female Researchers in Speech Workshop 2023 at Interspeech</u> (competitive). Santos Revilla, A., Pellegrino, E., Bolt, E., Kodrasi, I., Giroud, N. <i>Classifying MCI patients with and without hearing loss from speech using machine and deep learning methods</i>
07/2022	<u>First place presentation prize</u> at conference of international association for forensic phonetics and acoustics in Prague with presentation by Perepelytsia, V., Giroud, N., Aras, T., Meyer, M., Dellwo, V. <i>Neural underpinnings of familiar talker advantage: an EEG study</i>
06/2019	<u>First place poster prize</u> at Schweizerischen Gesellschaft für Oto-Rhino-Laryngologie, Hals- und Gesichtschirurgie in Davos with poster by Isler, B., Giroud, N., & Meyer, M <i>Die altersbedingte Atrophie des rechten Planum temporale beeinflusst die Verarbeitung von spektralen Informationen der Sprache</i>
06/2019	<u>Recipient of the CHSCOM</u> (Conference on Cognitive Hearing Science for Communication) <u>scholarship</u> for attending the CHSCOM meeting in Linköping (Sweden), ~ CHF 1800.-
08/2018	<u>Recipient of Concordia University Conference and Exposition Award</u> for attending the Joint Meeting of the ECNS, ISNIP, ISBET, and the ISFSI in Pittsburgh (USA), <u>CAD \$1000.-</u>
11/2017	<u>Vontobel Award for Research on Age(ing) 2017</u> (competitive) for paper entitled <i>Neuroanatomical and resting state EEG power correlates of central hearing loss in older adults</i> published in Brain Structure and Function, <u>CHF 12'000.-</u>

- 05/2017 Recipient of travel grant for attending the 4th International Conference on Cognitive Hearing Science for Communication in Sweden, funded by the Swiss Academy of Humanities and Social Sciences (SAGW), CHF 500.-
- 03/2016 Recipient of travel grant for attending the Organizational Human Brain Mapping Conference and Educational Courses in Geneva (CH), funded by the Department of Psychology at the University of Zurich, CHF 1000.-
- 10/2015 Recipient of student scholarship for attending the 6th Aging and Speech Communication Research Conference in Bloomington (USA), funded by the conference committee, US Dollars 1000.-
- 07/2015 Recipient of travel grant for a research visit in the Department of Speech and Hearing Sciences at the University of Washington in Seattle, funded by the Jacobs Foundation, CHF 3791.-
- 09/2014 Recipient of travel grant for attending the international conference on auditory cortex in Magdeburg (D), funded by the Swiss Academy of Humanities and Social Sciences (SAGW), CHF 400.-
- 04/2014 Recipient of travel grant for attending the LIFE Spring Academy 2014 (International Max Planck Research School on the Life Course) in Charlottesville (USA), funded by the philosophical faculty of the University of Zurich, CHF 860.-

PEER-REVIEWED JOURNAL PUBLICATIONS

n.b.: The names of students and interns under my (co-)supervision appear underlined. My name appears underlined.

- Sarant, J., Lemke, U., Giroud, N., Scherpiet, S., Weinstein, B. (under review). *Promoting hearing and cognitive health (well-being) in audiologic rehabilitation for older adults*. International Journal of Audiology. IF: 2.16
- Schmitt, R., Meyer, M., Giroud, N. (revised and resubmitted). *Improvements in naturalistic speech-in-noise comprehension in older adults with hearing impairment after three weeks of computer-based speechreading training*. npj Science of Learning.
- Elmer, S., Schmitt, R., Giroud, N., Meyer, M. (revised and resubmitted). *The neuroanatomical hallmarks of chronic tinnitus in comorbidity with pure-tone hearing loss*. Brain Structure and Function. IF: 3.748
- Elmer, S., Meyer, M., & Giroud, N. (revised and resubmitted). *A multidimensional characterization of the neurocognitive architecture underlying age-related temporal speech deficits*. NeuroImage, IF: 6.556
- Elmer, S., Besson, M., Rodriguez-Fornells, A., Giroud, N. (2023). *Foreign Speech Sound Discrimination and Associative Word Learning Lead to a Fast Reconfiguration of Resting-State Networks*. NeuroImage. 271, 120026. <https://doi.org/10.1016/j.neuroimage.2023.120026>, IF: 6.556
- Neuschwander, P., Schmitt, R., Jagoda, L., Kurthen, I., Giroud, N., & Meyer, M. (2023). *Different Neuroanatomical Characteristics for low- and high-level Auditory Perception and Speech in Noise Comprehension in Older Adults*. European Journal of Neuroscience. 57(6). <https://doi.org/10.1111/ejn.15922>, IF: 3.386
- Schwab, S., Mouthon, M., Jost, L.B., Salvadori, J., Stefanos-Yakoub, I., Ferreira da Silva, E., Giroud, N., Perriard, B., Annoni, J-M. (2023). *Neural Correlates of lexical stress processing in a foreign free-stress language*. Brain and Behaviour 13,1. e2854. <https://doi.org/10.1002/brb3.2854>, IF: 3.405
- Kurthen, I., Christen, A., Meyer, M., & Giroud, N., (2022). *Older Adults' Oscillatory Brain Entrainment During Processing of Interrupted Speech Is a Function of Task Difficulty*. NeuroImage. 262, 119580. <https://doi.org/10.1016/j.neuroimage.2022.119580>, IF: 6.556
- Al-Yawer, F., Pichora-Fuller, M.K., Wittich, W., Mick, P., Giroud, N., Rehan, S. & Phillips, N. (2022). *Sex-specific interactions between hearing and memory in older adults with Mild Cognitive Impairment: Findings from the COMPASS-ND study*. Ear & Hearing, 10.1097. <https://doi.org/10.1097/AUD.0000000000001322>, IF: 3.570
- Schmitt, R., Meyer, M., & Giroud, N. (2022). *Better speech-in-noise comprehension is associated with enhanced neural speech tracking in older adults with hearing impairment*. Cortex, 151, 133-146. <https://doi.org/10.1016/j.cortex.2022.02.017>, IF: 4.027
- Rehan, S., Giroud, N., Al-Yawer, F., Wittich, W., & Phillips, N. A. (2021). *Visual performance differs between older adults with (or at risk for) Alzheimer's disease but does not predict cortical atrophy in vision-related brain areas*. Journal of Alzheimer's Disease. <https://doi.org/10.3233/JAD-201521>, IF: 3.909
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2021). *Hearing loss is associated with gray matter differences in older adults at risk for and with Alzheimer's disease*. Aging Brain, 1, 100018. <https://doi.org/10.1016/j.nbas.2021.100018>

- Giroud, N.*, Keller, M.*, & Meyer, M. (2021). *Interacting effects of frontal lobe neuroanatomy and working memory capacity to older listeners' speech recognition in noise*. *Neuropsychologia*, 158, 107892. <https://doi.org/10.1016/j.neuropsychologia.2021.107892>, IF: 2.652 *shared first authorship.
- Isler, B., Giroud, N., Hirsiger, S., Kleinjung, T., Meyer, M. (2021). *Bilateral age-related atrophy in the planum temporale is associated with vowel discrimination difficulty in healthy older adults*. *Hearing Research*, 406, 108252. <https://doi.org/10.1016/j.heares.2021.108252>, IF: 3.693
- Kliesch, M., Giroud, N., & Meyer, M. (2021). *EEG resting-state and event-related potentials as markers of learning success in older adults following second language training*. *Brain Plasticity*, 1-20. <https://doi.org/10.3233/BPL-200117>
- Sauppe, S., Choudhary, K.K., Giroud, N., Blasi, D.E., Norcliffe, E., Bhattamishra, S., Gulati, M., Egurtzegi, A., Bornkessel-Schlesewsky, I., Meyer, M., & Bickel, B. (2021). *Neural signatures of syntactic variation in speech planning*. *PLOS Biology*, 19(1), e3001038. <https://doi.org/10.1371/journal.pbio.3001038>, IF: 9,163
- Kurthen, I., Galbier, J., Jagoda, L., Neuschwander, P., Giroud, N., Meyer, M. (2021). *Selective Attention Modulates Neural Envelope Tracking of Informationally Masked Speech in Healthy Older Adults*. *Human Brain Mapping*, 1-16, <https://doi.org/10.1002/hbm.25415>, IF: 4.421
- Gullifer, J. W., Kousaie, S., Gilbert, A. C., Grant, A., Giroud, N., Coulter, K., Klein, D., Baum, S., Phillips, N., & Titone, D. (2021). *Bilingual language experience as a multidimensional spectrum: Associations with objective and subjective language proficiency*. *Applied Psycholinguistics*, 42(2), 245–278. <https://doi.org/10.1017/S0142716420000521>, IF: 1.412
- Schwab, S., Giroud, N., Meyer, M., & Dellwo, V. (2020). *Working memory and not acoustic sensitivity is related to stress processing ability in a foreign language: an ERP study*. *Journal of Neurolinguistics*, 55, 100897. <https://doi.org/10.1016/j.jneuroling.2020.100897>, IF: 1.853
- Giroud, N., Baum, S.R., Gilbert, A.C., Phillips, N.A., Gracco, V. (2020). *Earlier age of second language learning induces more robust speech encoding in the auditory brainstem in adults, independent of amount of language exposure during early childhood*. *Brain and Language*, 207, 104815. <https://doi.org/10.1016/j.bandl.2020.104815>, IF: 2.339
- Giroud, N., Keller, M., Hirsiger, S., Dellwo, V., & Meyer, M. (2019). *Bridging the brain structure – brain function gap in prosodic speech processing in older adults*. *Neurobiology of Aging*, 80, 116–126. <https://doi.org/10.1016/j.neurobiolaging.2019.04.017>, IF: 4.347
- Jagoda, L., Giroud, N., Neff, P., Kegel, A., Kleinjung, T., & Meyer, M. (2018). *Speech perception in tinnitus is related to individual distress level - A neurophysiological study*. *Hearing Research*, 367, 48-58. <https://doi.org/10.1016/j.heares.2018.07.001>, IF: 3.693
- Giroud, N., Lemke, U., Reich, P., Bauer, J., Widmer, S., & Meyer, M. (2018). *Are you surprised to hear this? Longitudinal spectral speech exposure in older compared to middle-aged normal hearing adults*. *European Journal of Neuroscience*, 47(1), 58-68. <https://doi.org/10.1111/ejn.13772>, IF: 3.115
- Giroud, N., Hirsiger, S., Muri, R., Kegel, A., Dillier, N., & Meyer, M. (2018)*. *Neuroanatomical and resting state EEG power correlates of central hearing loss in older adults*. *Brain Structure and Function*, 223(1), 145-163. <https://doi.org/10.1007/s00429-017-1477-0>, IF: 3.298 *This paper won the Vontobel Prize for gerontological research in 2017.
- Giroud, N., Lemke, U., Reich, P., Matthes, K. L., & Meyer, M. (2017)*. *The impact of hearing aids and age-related hearing loss on auditory plasticity across three months - An electrical neuroimaging study*. *Hearing Research*, 353, 162–175. <https://doi.org/10.1016/j.heares.2017.06.012>, IF: 3.693 *This paper was the 3rd most downloaded paper published in *Hearing Research* in February, March, and April 2018.
- Giroud, N., Lemke, U., Reich, P., Matthes, K. L., & Meyer, M. (2017). *Longitudinal auditory learning facilitates auditory cognition as revealed by microstate analysis*. *Biological Psychology*, 123, 25–36. <https://doi.org/10.1016/j.biopsycho.2016.11.007>, IF: 2.763

PROCEEDINGS

- Schwab, S., Mouthon, M., Salvadori, J., Ferreira da Silva, E., Yakoub, I., Giroud, N., & Annoni, J-M. (2022). *Neural correlates and L2 lexical stress learning: an fMRI study*. *Proceedings Speech Prosody*.
- Pryss, R., Schobel, J., Hoppenstedt, B., Spiliopoulou, M., Langguth, B., Probst, T., Schlee, W., Reichert, M., Kurthen, I., Giroud, N., Jagoda, L., Neuschwander, P., Meyer, M., & Neff, P. (2019). *Ecological Momentary Assessment based Differences between Android and iOS Users of the TrackYourHearing mHealth Crowdsensing Platform*. *Conference Proceedings: Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, 2019, 3951–3955*. <https://doi.org/10.1109/EMBC.2019.8857854>

BOOK CHAPTERS

- Schwab, S., & Giroud, N. (accepted, forthcoming in 2023). Analyzing speech perception. In Gyga, P., & Zufferey, S., (Eds.), *Handbook of Experimental Linguistics*. The Routledge Handbook.
- Meyer, M., Keller, M., & Giroud, N. (2018). *Suprasegmental speech prosody and the human brain*. In S. Frühholz & P. Belin (Eds.), *The Oxford Handbook of Voice Perception*. Oxford: Oxford University Press.
- Kliesch, M., Giroud, N., Pfenninger, S., & Meyer, M. (2017). *Research on Second Language Acquisition in Old Adulthood: What We Have and What We Need*. In D. Gabrys-Barker (Ed.), *The third age in second language acquisition* (pp. 48–76). Bristol: Multilingual Matters.

PEER-REVIEWED PUBLISHED CONFERENCE ABSTRACTS

- Phillips, N., Al-Yawer, F., Giroud N., Rehan, S., Pappadatos, Z., Mick, P., Wittich, W., Pichora-Fuller, M.K. (2020). *Sensory function, cognition, and brain structure in SCD, MCI, and AD: Initial findings from the COMPASS-ND Study*. *Alzheimer's & Dementia*, 16(S6). <https://doi.org/10.1002/alz.044056>
- Kegel A., Giroud N., Meyer M., Dillier N. (2017). *Differences in Supra-Threshold Auditory Function in Young and Elderly Normal Hearing Adults*. In: Deutsche Gesellschaft für Audiologie, 20. Jahrestagung, Aalen.
- Pellegrino, E., He, L., Giroud, N., Meyer, M., & Dellwo, V. (2017). *Rhythmic characteristics in aging: A study on Zurich German*. *The Journal of the Acoustical Society of America*, 141(5), 3747–3747. <https://doi.org/10.1121/1.4988256>
- Giroud, N., Hirsiger, S., Keller, M., Kegel, A., Dillier, N., Dellwo, V., & Meyer, M. (2017). *Central age-related hearing loss – An integrative view of brain structural, brain functional and audiometric data with a focus on prosody perception*. *Journal of Hearing Science*, 7(2 Supplement), 70.
- Giroud, N., I., Dellwo, V., & Meyer, M. (2013). *Don't let time outrun you: The influence of age on temporal information during speech processing*. *Clinical EEG and Neuroscience*, 44(4), E1-E121.

OTHER PUBLICATIONS

Guideline publications

- Benz, E.*, Eicher, S.*, Feld, R. *, Fuchs, B. *, Gfeller, D.*, Giroud, N.*, Lehmann, S. *, Lüscher, J. *, Mantel, R. *, Martin, M. *, Müller, T. *, Nieke, S. *, Oswald, J. *, Sonderegger, B. *, Sturm, H. *, Thalmann, W. *, & Wartmann, U.* (2017). *Participatorily developed criteria for good gerontological research* [Partizipativ entwickelte Richtlinien für gute gerontologische Forschung am Zentrum für Gerontologie]. Project description and online publication can be found here: www.zfg.uzh.ch/de/Partizipative-Altersforschung.html. *authors contributed equally

Published theses

- Giroud, N. (2017). *Dynamics of Electrophysiology and Morphology in Older Adults with Age-related Hearing Loss*. PhD thesis at University of Zurich. Zurich: Zentralbibliothek Zürich.
- Giroud, N., (2013). *Speech Rhythm Decoding in the Auditory System of the Brain During Second Language Acquisition: Evidence from Behavioral and Electrophysiological Data*. Master thesis at University of Zurich. Zurich: Zentralbibliothek Zürich.

Newsletter and newspaper articles

- Giroud, N., Thakur, S., & Iyer, P. (2021). *8 tech innovations that support a healthy ageing population*. Blog for the World Economic Forum (WEF). <https://www.weforum.org/agenda/2021/11/8-tech-innovations-that-support-a-healthy-ageing-population/>
- Giroud, N. (2020). *The future of age-related hearing loss treatment – a plea for a new interdisciplinary research field*. Newsletter article for the LIFE Community (the International Max Planck Research School «The Life Course: Evolutionary and Ontogenetic Dynamics»)
- Giroud, N. & Meyer, M. (2016). *Healthy ears, but still suffering from hearing loss?* [Trotz gesunden Ohren im Alter einen Hörverlust erleiden?]. *Zeitschrift Dezibel*, Dezember 2016.
- Guye, S. & Giroud, N. (2015). *University Research Priority Program Dynamics of Healthy Aging*. Newsletter article for the LIFE Community (the International Max Planck Research School «The Life Course: Evolutionary and Ontogenetic Dynamics»)

ACADEMIC TEACHING

Fall, 2023	<u>A Neuropsychological View on Speech and Language Pathology</u> . Interdisciplinary Master seminar (open for Linguistics and Language Technology students)
Spring, 2022/23	Interdisciplinary and inter-faculty <u>colloquium Language & Medicine</u> (open for Linguistics and Medical scientists as well as clinicians and practitioners)
Spring, 2022/23	<u>The neural foundation of speech</u> . Interdisciplinary Master lecture (e.g., open for Linguistics, Language Technology, Speech Sciences, and other disciplines), University of Zurich, elective
Spring, 2022/23	<u>Speech, Brain, and Phonetics Lunch Colloquium</u> . Research colloquium for PhD students, University of Zurich.
Fall, 2021	<u>Speech perception</u> . Interdisciplinary Master seminar (e.g., for Linguistics, Language Technology, Phonetics, and other disciplines; together with Prof. Volker Dellwo), University of Zurich, elective. Topics included: Acoustic cues of speech, variability of acoustic cues, para-linguistic information in speech, theories of speech perception, methods, auditory pathway, neural oscillations and speech, developmental aspects of speech, multi-modal speech perception, impairment of speech, evolution of speech perception.
Fall, 2021	<u>The auditory system</u> . PhD lecture (one lecture) for the Zurich Center for Neuroscience PhD program., University of Zurich.
Fall, 2021	<u>Phonetics and Speech Sciences</u> . Research colloquium for PhD students, University of Zurich.
Fall, 2021	<u>Neurobiology of Speech and Language</u> . Research colloquium for PhD students, University of Zurich.
Spring, 2019	<u>Developmental Psychology</u> . Invited guest lecturer (one lecture) for undergraduates Psychology, Concordia University.
Fall, 2017	<u>Neurolinguistics</u> . Invited lecturer for interdisciplinary students and faculty. (One-day workshop), University of Zurich, elective.
Spring, 2016	<u>Neuropsychology</u> . Bachelor lecture in Psychology, two lectures, University of Fribourg, elective.
Spring, 2016	<u>Neurocognition of speech and language</u> . Master seminar in Psychology, University of Zurich, elective. Topics included: Neural lateralization, neuroanatomy, spectra and formants, from acoustics to language, speaking monkeys, neurobiological models of speech and language, neural oscillations, aging auditory system and hearing loss, language development, bilingualism, dyslexia, mirror neurons and language
Spring, 2015	<u>Neuroplasticity across the lifespan</u> . Master seminar in Psychology, University of Zurich, elective Topics included: Challenges in the field, neuroimaging methods, anatomical changes across the lifespan, nature vs. nurture, neuromodulation and -stimulation, functional plasticity across the lifespan, models of neuroplasticity in aging, autism spectrum disorder, individual changes across the lifespan (due to hormonal changes, drugs), sex differences, brain jogging, hearing in old age, tinnitus.
Spring, 2014/15	<u>Experimental psychology</u> . Bachelor seminar in Psychology., University of Zurich, required.
Spring, 2014	<u>EEG preprocessing</u> . Interdisciplinary doctoral seminar (Half-day workshop), University of Zurich, elective.

ORGANIZATION OF CONFERENCES

09/2018	<u>Symposium chair and organizer</u> (2018, September). <i>Auditory processing in older adults: Exploring the potential of EEG to quantify age-related auditory neurocognitive decline and to evaluate training outcome</i> . Symposium at the Joint Meeting of the ECNS, ISNIP, ISBET, and the ISFSI, Pittsburgh, USA.
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APPLICATIONS PROFESSOR POSITIONS

Fall, 2021	Position offered. Permanent tenure-track assistant professor position “Multi-Sensory Speech Perception or Multi-Sensory Signal Processing for Hearing Technology” at the Department of Health Technology, Section Hearing Systems at the Technical University in Denmark (DTU). Declined in favor of professor ad personam (PaP) application process starting in 2023 at Medical Faculty/Psychiatric University Hospital at UZH.
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Fall, 2017 Second place. Tenure-track assistant professor position “Sensory and Cognitive Aging” at Department of Psychology at Concordia University, Montréal, Canada.

SUPERVISION OF JUNIOR RESEARCHERS

Postdocs/senior researchers, 2022-ongoing

Stefan Elmer (May 2022-ongoing).

PhD theses

Ongoing, 2019-ongoing:

Julian Ockelmann (Computational Neuroscience of Speech & Hearing, UZH). Benefits of auditory-cognitive training (Act!) for hearing rehabilitation and cognitive functioning in older hearing impaired

Vanessa Frei (Computational Neuroscience of Speech & Hearing, UZH). Since June 2021. Naturalistic multisensory immersion as a platform for studying the association between auditory perception and cognition in older adults with hearing impairment.

Elena Bolt (Computational Neuroscience of Speech & Hearing, UZH). Since May 2021. Predicting cognitive impairment through the aging ear.

Raffael Schmitt (Computational Neuroscience of Speech & Hearing, UZH). Since June 2020. Improving communication in older hearing impaired via a naturalistic multisensory training intervention

Valeriia Perepelytsia (Phonetics & Speech Sciences, UZH). Since November 2019. Neural processing of prosodic aspects of speaker identity.

Completed, 2022:

Florine Bachmann (Department of Health Technology, Technical University of Denmark). (Sub)cortical speech processing in Mandarin speakers.

Completed, 2016-19:

Benjamin Isler (Medical Faculty, UZH). The influence of presbycusis on the processing of vowels in the brain.

Laura Jagoda (Department of Psychology, UZH). The interaction between cognition and speech perception in tinnitus patients.

Ira Kurthen (Department of Psychology, UZH). Hearing loss and cognition in old age: A fine-grained investigation of speech processing under adverse listening conditions.

Master theses

Ongoing, 2021-ongoing:

Andrea Santos Revilla (Language Technology, UZH). Detecting MCI in older adults from speech using machine learning.

Nadia Frei (Department of Psychology, UZH). Predicting cognitive status in older adults from resting state EEG data.

Varvara Stein (Monomaster Linguistics, UZH). Speaking adaptations in difficult listening situations in adults with autism spectrum disorder.

Siwei An (Monomaster Linguistics, UZH). The neural foundation of prosody perception in hearing impaired older adults.

Katarina Kliestenec (Department of Psychology, UZH). Neural processing of voice in older adults.

Completed:

Julian Ockelmann (Department of Psychology, UZH). Benefits of gamification in auditory-cognitive trainings for older hearing impaired.

Nataliya Fartdinova (Monomaster Linguistics, UZH). Voice perception in older adults with hearing impairment.

Sana Rehan (Department of Psychology, Concordia University). Visual impairment and its relationship with brain structure in older individuals with SCI, MCI, and AD.

Allison Christen (Department of Psychology, UZH). On central hearing loss and top-down vs bottom-up processing.

Jelena Wehrli (Department of Psychology, UZH). Multisensory speech integration in older adults with hearing loss.

Maria Kliesch (English Seminar, UZH). Neuroplasticity during language learning in older adults.

Julia Bauer (Department of Psychology, UZH). Where are you from? The processing of salient features of Swiss dialects in the brain.

Raphaëla Muri (Department of Psychology, UZH). The relationship between auditory acuity and anatomy in the auditory cortex in older adults with mild age-related hearing loss.

Susann Widmer (Department of Psychology, UZH). Age-related differences in the processing of spectral speech information.

Ira Kurthen (Department of Psychology, UZH). Neural processing of rapidly changing cues in the speech signal.

Matthias Keller (Department of Psychology, UZH). The neurofunctional processing of prosodic speech information.

Bachelor theses

Completed:

Tarek Alakmeh. (Department of Computer Science). Predicting code difficulty using eye-tracking and EEG.

Research assistants and interns, 2021-ongoing

Andreas Säuberli, Andrea Santos Revilla, Elainne Vibal, Hsun-Hui Lin (from University of Konstanz), Ahmet Usulu, Nataliya Fartdinova, Arne Hansen, Julian Ockelmann

Interns, 2013-17

Gabrielle Jost-Souto. Corina Sager. Anja Betschart. Annina Arquint. Julia Bauer. Florine Bachmann. Jan Juchli. Nora Werner. Belinda Berweger.

Matura (high school) theses, 2013-16

Sijamini Baskaralingam. Marika Mitsui.

Other types of mentoring, 2020

Mentor in the *Réseau romand de mentoring pour femmes*, a scientific career mentoring program of the Francophone Swiss Universities and the Technical University EPF Lausanne.

Panel discussion member for future female applicants of SNF-PRIMA fellowships about how to create successful applications.

ORAL CONTRIBUTIONS

n.b.: The names of students and interns under my (co-)supervision appear underlined. In addition, my name appears underlined in bold.

Symposium chair

Giroud, N. (2018, September). *Auditory processing in older adults: Exploring the potential of EEG to quantify age-related auditory neurocognitive decline and to evaluate training outcome*. Joint Meeting of the ECNS, ISNIP, ISBET, and the ISFSI, Pittsburgh, US

Invited talks

Giroud, N. (2024, May). *Neurological foundations of speechreading*. Invited talk for professional education for audiogogy trainees from Pro Audito Schweiz, Zurich, Switzerland.

Giroud, N. (2023, August). *Behavioral and neural plasticity in the aging auditory system in health and dementia-risk following app-based training*. Invited presentation at the International Symposium on Auditory and Audiological Research ISAAR conference, Nyborg, Denmark.

Giroud, N. (2023, June). *Lip reading and hearing training from a neuroscientific view*. Invited talk for professional education for audiogogy trainees from Pro Audito Schweiz, Zurich, Switzerland.

Giroud, N. (2023, May). *Hören und Gehirn*. Invited talk for a webinar for HirnCoach AG, Zurich, Switzerland.

- Giroud, N. (2023, March). *Hearing loss and dementia. Facts and myths* [Hörverlust und Demenz: Fakten und Mythen]. Invited presentation for webinar at World Day of Hearing for Pro Audito, Zurich, Switzerland.
- Giroud, N. (2023, March). Invited presentation for the annual anniversary of the Swiss Academy of Medical Sciences, Casino, Bern, Switzerland.
- Giroud N. (2022, November). *Gut hören = gesundes Gehirn?* [Hearing well = healthy brain?]. Invited talk for Public Event Universitäre Altersmedizin University of Zurich.
- Giroud N. (2022, October). Invited podium discussant “die vielen Facetten des Alterns” [the many facets of aging] for the Developmental Science Network Zurich.
- Meyer, M., & Giroud N. (2022, July). *Speech prosody and the brain*. Invited talk at the workshop “Behavioral and neuroimaging methods used in the study of L1 and L2 stress perception”, University of Fribourg, Fribourg, Switzerland.
- Giroud N., (2022, July). *Hearing loss as a risk factor for health problems at the workplace*. Invited workshop for Credit Suisse Bank, Zurich, Switzerland.
- Giroud, N. (2022, June). *Non-pharmacological interventions and prevention for healthy longevity*. Invited talk and guest at the World Economic Forum’s Davos’22 (WEF): Longevity Investors Lunch (private event)
- Giroud, N. (2021, Sept). *Is hearing loss a risk factor of dementia?* Invited presentation for the Max Planck Research School on the Life Course, University of Zurich, Switzerland.
- Giroud, N. (2021, Sept). *Is hearing loss a risk factor of dementia? The role of the brain in the hearing-cognition association*. Invited presentation for the ZNZ Symposium, Neuroscience Center Zurich, Switzerland.
- Giroud, N. (2021, Sept). *Disruptions in language processing*. Invited keynote for opening ceremony of the Linguistic Research Infrastructure (LiRi) at University of Zurich, Zurich, Switzerland.
- Giroud, N. (2021, Sept). *The influence of hearing loss onto cognition and the brain* [Der Einfluss von Hörverlust auf Kognition und Gehirn]. Invited talk for Sonova Retail Germany, GEERS Gutes Hören, virtual.
- Giroud, N. (2021, August). *Hearing loss and dementia. Facts and myths* [Hörverlust und Demenz: Fakten und Mythen]. Invited talk for Pro Audito Schweiz. Zurich, Switzerland.
- Giroud, N. (2021, March). *The impact of hearing loss onto the brain*. Invited talk for the Sonova Virtual Webinar on Hearing and Cognition. Sonova, Stäfa, Switzerland.
- Giroud, N. (2019, December). *Healthy brain until old age* [Fittes Gehirn bis ins hohe Alter]. Invited talk at the Fachhochschule Nordwestschweiz, Brugg, Switzerland.
- Giroud, N. (2017, July). *We do not hear with the ear, but with the brain* [Wir hören nicht mit dem Ohr sondern mit dem Hirn]. Invited talk at the Volkshochschule Stäfa, Stäfa, Switzerland.
- Giroud, N. (2017, June). *Physical activity, healthy aging, and the brain*. [Fitness, gesundes Altern und das Gehirn]. Invited talk for the annual meeting of the Academic Sports Association Zurich, Zurich, Switzerland.
- Giroud, N. (2017, May). *Hearing is exhausting when you are older*. [Hören wird für das Gehirn im Alter anstrengender]. Invited talk to the Schweizerischer Hörakustikerverein. Fribourg, Switzerland.
- Giroud, N. (2017 February). *Defining central presbycusis: The relation between brain structure, brain function and behavior in older adults*. Invited Talk at the weekly group meeting of Department of Auditory Neuroscience, Institute of Experimental Medicine, Academy of Sciences in Czech Republic, Prague, Czech Republic.
- Giroud, N. (2017, January). *Die Sprache des alternden Gehirns* [The Language of the Aging Brain]. Invited talk for Rotary Club in Bern, Switzerland.
- Giroud, N., & Kegel, A. (2016, November). *Lower speech intelligibility in older adults - The aging ear or brain?* Invited talk for the ARCHES Meeting, Zurich, Switzerland.
- Giroud, N. (2016, May). *Sport & Gehirn* [Sport and the brain]. Invited talk for Swiss Ski Conference organized by Swiss Ski at the Swiss Paraplegic Foundation in Nottwil, Switzerland.
- Giroud, N., Lemke, U., & Meyer, M. (2016, May). *Longitudinal auditory plasticity in older hearing aid users*. Invited talk for the Symposium Audition, Cognition, and Aging at the Conference Psychology and the Brain [Psychologie und Gehirn], Berlin, Germany.
- Giroud, N. (2016, April). *Sport & Gehirn* [Sport and the brain]. Invited talk for the semi-annually public lecture “Sport & ...” organized by the Academic Sports Association Zurich at the ETH Zurich, Zurich, Switzerland.
- Giroud, N. (2016, February). *Dynamics of Electrophysiology during Speech Processing and Morphology in Healthy Older Adults*. Invited talk at the group meeting of the National Center for Rehabilitative Auditory Research (NCRAR) at U.S. Department of Veterans Affairs, Portland, USA.
- Giroud, N. (2016, February). *The Phonak study: Dynamics of Electrophysiology during Speech Perception in Older Hearing Aid Users*. Invited talk at the group meeting of the Brain and Behavior (B&B) Lab at the University of Washington, Seattle, USA.
- Giroud, N. (2016, January). *Dynamics of Electrophysiology during Speech Perception and Morphology in Older Adults with Age-Related Hearing Loss*. Invited talk at the group meeting of the Cognition, Aging, and Psychophysiology (CAP) Lab at Concordia University, Montréal, Canada.

Giroud, N. (2015, October). *Neurophysiology and intervention in adults with age-related hearing loss and hearing aids*. Invited talk at the colloquium of the research unit of Cognitive and Neural Dynamics of Memory at the Max Planck Institute for Human Development, Berlin, Germany.

Giroud, N. & Meyer, M. (2014, September). *Dynamic functional lateralization during speech processing. Developing a paradigm to investigate speech processing in older adults*. Invited talk for the INAPIC Fall Workshop, Zurich, Switzerland.

Talks

Perepelytsia, V., Giroud, N., Aras, T., Meyer, M., & Dellwo, V., (2022, July). *Neural underpinnings of familiar talker advantage: an EEG study*. International association for forensic phonetics and acoustics, Prague. Czech Republic.

*This presentation won first place for the innovative research prize at the conference.

Frei, V., Meyer, M., & Giroud, N. (2022, June). *The facilitative role of visual speech cues in older individuals with hearing impairment – how is audio-visual speech processed in hearing aid users?* 6th International Conference on Cognitive Hearing Science for Communication (CHSCOM). Linköping, Sweden.

Bachmann, F., Giroud, N. & Hjortkjaer, J. (2022, June). *Enhanced cortical neural tracking of speech in age-related hearing loss is not driven by stimulus level amplification?* 6th International Conference on Cognitive Hearing Science for Communication (CHSCOM). Linköping, Sweden.

Giroud, N. (2021, April). *The impact of age-related hearing loss on neural speech tracking*. International Online Workshop on Language in Healthy and Pathological Aging (AGELANG), virtual conference.

Sauppe, S., Norcliffe, E., Choudhary, K.K., Konopka, A. E., Egurtzegi, A. M., Giroud, N., Bhattamishra, S., Gulati, M., Garrido, G., Blasi, D.E., Bornkessel-Schleswesky, I., Laka, I., Meyer, M., Levinson, S.C., & Bickel, B. (2021, February). *Case marking shapes the time-course of sentence planning: Crosslinguistic evidence from Hindi, Yéli Dnye, Japanese, Basque and Swiss German*. 43. Deutsche Gesellschaft für Sprachwissenschaft-Jahrestagung. Freiburg, Germany.

Sauppe, S., Choudhary, K., Giroud, N., Blasi, D.E., Bhattamishra, S., Gulati, M., Egurtzegi, A., Bornkessel-Schleswesky, I., Meyer, M., & Bickel, B. (2019, August). *Partial overlap of syntactic configurations between sentences affects oscillatory activity during sentence planning in the brain*. Societas Linguistica Europaea. Leipzig, Germany.

Pryss, R., Schlee, W., Reichert, M., Kurthen, I., Giroud, N., Jagoda, L., Neuschwander, P., Meyer, M., Neff, P., Schobel, J., Hoppenstedt, B., Spiliopoulou, M., Langguth, B., Probst, T. (2019, July). *Ecological Momentary Assessment based Differences between Android and iOS Users of the TrackYourHearing mHealth Crowdsensing Platform*. 41st Annual International Conference of the IEEE Engineering in Medicine & Biology Society. Berlin, Germany.

Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, June). *Age-related hearing loss and cortical atrophy in older adults with (or at risk for) dementia: How strong is the relationship?* 5th International Conference on Cognitive Hearing Science for Communication (CHSCOM), Linköping, Sweden.

Kurthen, I., Christen, A., Profant, O., Bures, Z., Meyer, M., Giroud, N. (2019, May). *Restoration of missing auditory input is related to alpha desynchronization*. LIFE Academy of the Max Planck Research School on the life course. Michigan, USA.

Giroud, N., Baum, S.R., Phillips, N.A., Gracco, V. (2019, March). *Auditory brainstem responses to English vowels in English-French simultaneous and early bilinguals*. Montréal Bilingual Brain Symposium. Montréal, Canada.

Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, February). *Age-related hearing loss and cortical atrophy in older adults with (or at risk for) dementia: How strong is the relationship?* Annual conference of the Centre for Research on Human Development (CRDH), Montréal, Canada.

Kliesch, M., Giroud, N., Pfenninger, S., & Meyer, M. (2018, September). *Cognition and beta-oscillations at rest predict L2 development in third age*. Cognitive Neuroscience of Second and Artificial Language Learning, CoNSALL, Wales, UK.

Giroud, N., Herbert, M., & Phillips, N.A. (2018, May). *Does lip reading make speech comprehension easier for everyone? Electrophysiological evidence on interindividual differences in younger and older adults*. Joint Meeting of the ECNS, ISNIP, ISBET, and the ISFSI, Pittsburgh, USA.

Giroud, N., Herbert, M., & Phillips, N.A. (2018, May). *Does lip reading make speech comprehension easier for everyone? Electrophysiological evidence on interindividual differences in younger and older adults with varying working memory capacity*. Talk at the engAGE student symposium, Montreal, QC, Canada.

Pellegrino, E., He, L., Giroud, N., Meyer, M., & Dellwo, V. (2017, July). *Age-related rhythmic variations: an investigation on Zurich German*. Talk at the 16th Rhythm Production and Perception Workshop, Birmingham, England.

- Giroud, N., Hirsiger, S., Keller, M., Kegel, A., Dillier, N., Dellwo, V., Meyer, M. (2017, June). *Central age-related hearing loss – An integrative view of brain structural, brain functional and audiometric data with a focus on prosody perception*. Talk at the European Federation of Audiology Societies EFAS, Interlaken, Switzerland.
- Kurthen, I., Giroud, N., Dellwo, V., Meyer, M. (2017, June). *Temporal fine structure processing in older adults: beyond the syllable boundary*. Talk at the 4th International Conference on Cognitive Hearing Science for Communication, Linköping, Sweden.
- Pellegrino, E., He, L., Giroud, N., Meyer, M., & Dellwo, V. (2017, June). *Rhythmic characteristics in aging: a study on Zurich German*. Talk at the Conference of the Acoustical Society of America, Boston, USA.
- Kegel, A., Lai, W.-K., Giroud, N., Meyer, M., & Dillier, N. (2017, February). *Unterschiede in auditorischen Profilen in jüngeren und älteren normalhörenden Erwachsenen*. Talk at the Jahrestagung der Deutschen Gesellschaft für Audiologie, Aachen, Germany.
- Giroud, N., Lemke, U., & Meyer, M. (2015, September). *Longitudinal improvement of speech discrimination evidences the efficacy of top-down plasticity as revealed by electrical neuroimaging*. Talk at the International Conference on Basic and Clinical Multimodal Imaging BACI, Utrecht, Netherlands.
- Giroud, N. (2015, May). *Cognitive hearing: Neurophysiology and intervention in adults with age-related hearing loss*. Talk at the LIFE Spring Academy, Ann Arbor, USA.
- Hasse, A. *, Leemann, A., Giroud, N. *, & Meyer, M. (2014, June). *Entsteht linguistische Salienz im Gehirn?*. [Is linguistic salience developed in the brain?] 8th Days of Swiss Linguistics, Zurich, Switzerland. *authors contributed equally

Poster presentations

- Ockelmann, J., Stropahl, M., Scherpiet, S., & Giroud, N. (2023, August). *Effects of adaptive computer-based auditory cognitive training: A neuroscientific approach*. International Symposium on Auditory and Audiological Research ISAAR conference, Nyborg, Denmark.
- Frei, V. & Giroud, N. (2023, August). *Beyond computer-based auditory-cognitive training: Using stereoscopic virtual reality to improve speech comprehension in older adults with hearing loss*. International Symposium on Auditory and Audiological Research ISAAR conference, Nyborg, Denmark.
- Ockelmann, J., Stropahl, M., Scherpiet, S., Giroud, N. (2023, August). *Effects of adaptive computer-based auditory cognitive training: A neuroscientific approach*. International Symposium on Auditory and Audiological Research ISAAR conference, Nyborg, Denmark.
- Santos Revilla, A., Pellegrino, E., Bolt, E., Kodrasi, I., Giroud, N. *Classifying MCI patients with and without hearing loss from speech using machine and deep learning methods*. Interspeech, Dublin, Ireland.
- Bolt, E., & Giroud, N. (2023, July). *Subcortical and cortical processing of speech in the brain at risk for cognitive impairment*. International Symposium on Auditory and Audiological Research ISAAR conference, Nyborg, Denmark.
- Frei, V. & Giroud, N. (2023, July). *The potential of immersive auditory-cognitive training as a platform for studying hearing-loss and cognitive decline*. Alzheimer's Association International Conference, Amsterdam, Netherlands.
- Bolt, E., & Giroud, N. (2023, August). *Testing the diagnostic potential of speech processing markers in the brain at risk for dementia*. Alzheimer's Association International Conference, Amsterdam, Netherlands.
- Ockelmann, J., Scherpiet, S., Stropahl, M., Giroud, N. (2023, July). *Effects of adaptive computer-based auditory cognitive training: A neuroscientific approach*. Salzburg Mind Brain Annual Meeting (SAMBA) 2023. Salzburg, Austria.
- Bolt, E. & Giroud, N. (2022, June). *Speech processing in the brain at risk for dementia*. 6th International Conference on Cognitive Hearing Science for Communication (CHSCOM). Linköping, Sweden.
- Schmitt, R., Meyer, M., & Giroud, N. (2022, June). *A computer-assisted speechreading training improves audiovisual speech perception in noise*. 6th International Conference on Cognitive Hearing Science for Communication (CHSCOM). Linköping, Sweden.
- Frei, V., & Giroud, N. (2022, June). *Neural speech tracking in age related hearing loss as a function of hearing aid use*. HEaring Across the Lifespan (HEAL), Lake Como, Italy.
- Schmitt, R., Meyer, M., & Giroud, N. (postponed: 2022, June). *Pure-tone hearing loss is associated with envelope tracking in the aging brain*. HEaring Across the Lifespan (HEAL), Lake Como, Italy.
- Frei, V., & Giroud, N. (2022, January). *Neural speech tracking in age related hearing loss as a function of hearing aid use*. 13th Speech in Noise Workshop (SPIN), virtual meeting.
- Schmitt, R., Meyer, M., & Giroud, N. (2021, June). *Pure-tone hearing loss is associated with envelope tracking in the aging brain*. Human Brain Mapping Annual Conference, Virtual Conference.
- Al-Yawer, F., Pichora-Fuller, K., Wittich, W., Mick, P., Giroud, N., Rehan, S., & Phillips, N. (2021, March). *Sex-specific interactions between hearing and memory in older adults with Mild Cognitive Impairment: Findings from the COMPASS-ND study*. 2021 Rotman Research Institute Conference on Aging & Brain Health, Toronto, Canada, virtual conference.

- Rehan, S., Giroud, N., Al-Yawer, F., Wittich, W., Phillips, N. (2021, March). *Visual performance differs between older adults with (or at risk for) Alzheimer's disease but does not predict cortical atrophy in vision-related brain areas*. 2021 Rotman Research Institute Conference on Aging & Brain Health, Toronto, Canada, virtual conference.
- Schmitt, R., Neuschwander, P., Meyer, M., & Giroud, N. (2020, October). *Hearing Loss Is Associated with Cortical Decline in Auditory- and Language-Related Areas in Older Adults - A Surface-Based Morphometry Study*. Twelfth Annual Meeting for the Society for the Neurobiology of Language (SNL), Philadelphia, USA, virtual conference.
- Schmitt, R., Neuschwander, P., Meyer, M., & Giroud, N. (2020, September). *Hearing Loss Is Associated with Cortical Decline in Auditory Areas in Older Adults - A Surface-Based Morphometry Study*. Zentrum für Neurowissenschaften Zürich (ZNZ) Annual Symposium 20, Zurich, Switzerland, virtual conference.
- Gullifer, J., Kousaie, S., Gilbert, A., Grant, A., Giroud, N., Coulter, K., Klein, D., Baum, S., Phillips, N., Titone, D. (2020, September). *Quantifying bilingual language experience as a complex, socially dynamic spectrum. Architectures and Mechanisms for Language Processing*, Potsdam, Germany, virtual conference.
- Phillips, N., Al-Yawer, F., Giroud, N., Rehan, S., Pappadatos, Z., Mick, P., Wittich, W., & Pichora-Fuller, K. (2020, July). *Sensory function, cognition, and brain structure in SCD, MCI, and AD: Initial findings from the COMPASS-ND study*. Alzheimer's association international conference AAIC20, virtual conference.
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, October). *Hearing loss is associated with hippocampal atrophy in older adults at risk for dementia*. 10th Canadian Conference on Dementia (CCD), Québec City, Canada.
- Al-Yawer, F., Pichora-Fuller, M.K., Mick P., Wittich, W., Giroud, N., Rehan, S., & Phillips, N. (2019, October). *Sensory loss and cognitive function in older adults at different stages of cognitive impairment*. Poster presented at the 10th Canadian Conference on Dementia (CCD), Québec City, Canada.
- Gullifer, J., Kousaie, S., Gilbert, A., Giroud, N., Grant, A., Coulter, K., Klein, D., Baum, S., Phillips, N., Titone, D. (2019, August). *Language entropy: A novel quantification of language experience among bilinguals*. Eleventh Annual Society for the Neurobiology of Language Conference, Helsinki, Finland.
- Isler, B., Giroud, N., Meyer, M. (2019, June). *Die altersbedingte Atrophie des rechten Planum temporale beeinflusst die Verarbeitung von spektralen Informationen der Sprache*. 106. Frühjahrsversammlung der Schweizerischen Gesellschaft für Oto-Rhino-Laryngologie, Hals- und Gesichtschirurgie, Davos, Switzerland. **This poster won first place for the poster prize of the conference.*
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, May). *Age-related hearing loss and cortical atrophy in older adults with (or at risk for) dementia: How strong is the relationship?* 10th Annual LDI Scientific Retreat, Montreal, QC, Canada.
- Rehan, S., Giroud, N., Wittich, W., Al-Yawer, F., & Phillips, N. A. (2019, May). *The Relationship Between Hearing Loss and Visual Impairment in Subjects with Cognitive Decline*. 10th Annual LDI Scientific Retreat, Montreal, QC, Canada.
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (submitted). *Age-related hearing loss and cortical atrophy in older adults with (or at risk for) dementia: How strong is the relationship?* PERFORM Centre research week, Montreal, QC, Canada.
- Rehan, S., Giroud, N., Wittich, W., Al-Yawer, F., & Phillips, N. A. (submitted). *The Relationship Between Hearing Loss and Visual Impairment in Subjects with Cognitive Decline*. PERFORM Centre research week, Montreal, QC, Canada.
- Egurtzegi, A., Sauppe, S., Blasi, D., Choudhary, K., Giroud, N., Jing, Y., Bhattamishra, S., Gulati, M., Bornkessel-Schlesewsky, I., Meyer, M., Bickel, B. (2019, September). *The agent preference in sentence planning: Challenges from ergative case marking*. 13th Conference of the Association for Linguistic Typology, Pavia, Italy.
- Al-Yawer, F., Pichora-Fuller, K., Wittich, W., Mick, P., Giroud, N., Rehan, S., Phillips, N. (2019, June). *Sensory loss and cognitive function in older adults at different stages of cognitive impairment*. 5th International Conference on Cognitive Hearing Science for Communication (CHSCOM), Linköping, Sweden.
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, June). *Age-related hearing loss and cortical atrophy in older adults with (or at risk for) dementia: How strong is the relationship?* 5th International Conference on Cognitive Hearing Science for Communication (CHSCOM), Linköping, Sweden.
- Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., Rehan, S., & Phillips, N. A. (2019, March). *The relationship between hearing loss and hippocampal volume in older adults with (or at risk for) dementia*. Aging & Brain Health: Prevention and Early Detection of Dementia. Moderated poster presentation at the Rotman Research Institute Conference, Baycrest, Toronto, Canada.
- Rehan, S., Giroud, N., Pichora-Fuller, M. K., Mick P., Wittich, W., Al-Yawer, F., & Phillips, N. A. (2019, February). *The Relationship Between Hearing Loss and Visual Impairment in Subjects with Cognitive Decline*. Annual conference of the Centre for Research on Human Development (CRDH), Montréal, Canada.

- Neuschwander, P., Jagoda, L., Giroud, N., & Meyer, M. (2019, April). *The role of cognitive decline for speech understanding in hearing impaired and normal hearing older adults*. Poster presentation at the 5th International conference Aging & Cognition, Zurich, Switzerland.
- Giroud, N. & Phillips, N.A. (2018, September). *Working memory capacity, but not age, modulates prefrontal-visual connectivity during context use in an audiovisual speech perception task*. Sixth Biennial Conference on Resting-State and Brain Connectivity, Montréal, Québec, Canada.
- Sauppe, S., Choudhary, K.K., Giroud, N., Bhattamishra, S., Gulati, M., Bornkessel-Schlesewsky, I., Meyer, M., & Bickel, B. (2018, July). *Distributed fixations and changes in EEG frequency band power index relational encoding and early morphological case assignment in Hindi sentence planning*. Poster presentation at the International Workshop on Language Production, Nijmegen, Netherlands.
- Kurthen, I., Giroud, N., Daum, M., & Meyer, M. (2018, June). *Speech comprehension in older adults: Limited by neuronal capacity to process prosodic cues?* Poster presented at the HEAL conference, Como, Italy.
- Giroud, N., Herbert, M., & Phillips, N.A. (2018, May). *Does lip reading make speech comprehension easier for everyone? Electrophysiological evidence on interindividual differences in younger and older adults with varying working memory capacity*. Poster presented at the CRBLM Scientific day, May 14, 2018, Montreal, QC, Canada.
- Giroud, N., Herbert, M., & Phillips, N.A. (2018, May). *Does lip reading make speech comprehension easier for everyone? Electrophysiological evidence on interindividual differences in younger and older adults with varying working memory capacity*. Poster presented at the Ninth Annual LDI Scientific Retreat, Montreal, QC, Canada.
- Kurthen, I., Giroud, N., Jagoda, L., Neuschwander, P., Lemke, U., & Meyer, M. (2018, May). *Hearing loss and cognition in old age: How the brain deals with multi-talker babble noise*. Poster presented at LIFE Spring Academy, Ann Arbor, USA.
- Kurthen, I., Giroud, N., Jagoda, L., Neuschwander, P., Pryss, R., Schlee, W., Schobel, J., & Meyer, M. (2017, October). *TrackYourHearing: Assessing variability in hearing loss in everyday life*. Poster presentation at the LIFE Fall Academy, Zurich, Switzerland.
- Giroud, N., Hirsiger, S., Keller, M., Kegel, A., Dillier, N., Dellwo, V., Meyer, M. (2017, June). *Prosody – the most useful acoustic cue for older adults with central hearing loss? Bridging the gap between brain structure, brain function and central hearing*. Poster at the 4th International Conference on Cognitive Hearing Science for Communication, Linköping, Sweden.
- Kurthen, I., Giroud, N., Jagoda, L., Lemke, U., Meyer, M. (2017, May). *The specificity of the cognitive influence on speech processing in the context of age-related hearing loss*. Poster at the LIFE Spring Academy 2017 (International Max Planck Research School on the Life Course), Ann Arbor, USA.
- Giroud, N., Hirsiger, S., Kegel, A., Dillier, N., & Meyer, M. (2016, June). *Speaking up does not help older adults with presbycusis to understand – but a thicker cortex does*. Poster at the Organization for Human Brain Mapping, Geneva, Switzerland.
- Muri, R., Giroud, N., Hirsiger, S., Kegel, A., Dillier, N., & Meyer, M. (2016, May). *Central hearing loss in healthy aging adults: The contribution of cortical thickness and divided attention to speech perception in noise*. Poster presentation at the Madoko, Zurich, Switzerland.
- Bauer, J., Giroud, N., & Meyer, M. (2016, May). *Where are you from? The processing of salient features of Swiss dialects in the brain*. Poster presentation at the Madoko, Zurich, Switzerland.
- Kliesch, M., Giroud, N., & Meyer, M. (2016, May). *Learning a new language during old adulthood. A longitudinal study*. Poster presentation at the Madoko, Zurich, Switzerland.
- Giroud, N., Lemke, U., & Meyer, M. (2015, December). *Comparing the impact of hearing aid algorithms for neural auditory learning*. Poster at the Workshop Individual Differences in Language Processing Across the Adult Life Span: Implications for Models of Comprehension and Production, Nijmegen, Netherlands.
- Giroud, N., Lemke, U., & Meyer, M. (2015, October). *Longitudinal neural plasticity as a function of using hearing aids with non-linear frequency compression*. Poster at the 6th Aging and Speech Communication Research Conference 2015, Bloomington, USA.
- Keller, M., Giroud, N., & Meyer, M. (2015 October). *Auditory alpha power in younger and older listeners during speech prosody processing*. Poster at the 6th Aging and Speech Communication Research Conference 2015, Bloomington, USA.
- Giroud, N., Lemke, U., & Meyer, M. (2015, September). *Stabilization neural language functions in healthy older adults using hearing aids with different signal processing algorithms*. Poster at the URPP Dynamics of Healthy Aging Site Visit, Zurich, Switzerland.
- Giroud, N., Dellwo, V., & Meyer, M. (2014, October). *Variability of current density in right supratemporal gyrus is related to faster reaction times in auditory prosody task*. Poster presentation at the LIFE Fall Academy 2014 (International Max Planck Research School on the Life Course), Berlin, Germany.

- Giroud, N., Dellwo, V., & Meyer, M. (2014, September). *Dynamic functional lateralization during processing of short and long scale intervals in speech signals*. Poster presentation at the conference on auditory cortex, Magdeburg, Germany.
- Giroud, N., Keller, M., Kurthen, I., Dellwo, V., & Meyer, M. (2014, May). *The influence of age on speech processing: Testing the paradigm*. Poster presentation at the Limadoko, Zurich, Switzerland.
- Kurthen, I., Keller, M., Giroud, N., & Meyer, M. (2014, May). *Elementary speech processing in young adults*. Poster presentation at the Limadoko, Zurich, Switzerland.
- Giroud, N., Keller, M., Kurthen, I., Dellwo, V., & Meyer, M. (2014, May). *The influence of age on speech processing: Testing the paradigm*. Poster presentation at the LIFE Spring Academy 2014 (International Max Planck Research School on the Life Course), Charlottesville, USA.
- Giroud, N., Keller, M., Kurthen, I., Dellwo, V., & Meyer, M. (2013, October). *Don't let time outrun you: The influence of age on temporal information during speech processing*. Poster presentation at the LIFE Fall Academy 2013 (International Max Planck Research School on the Life Course), Marbach, Germany.
- Giroud, N., Keller, M., Kurthen, I., Dellwo, V., & Meyer, M. (2013, September). *Don't let time outrun you: The influence of age on temporal information during speech processing*. Poster presentation at the INAPIC Fall Workshop, Zurich, Switzerland.
- Giroud, N., Dellwo, V., & Meyer, M. (2013, September). *Don't let time outrun you: The influence of age on temporal information during speech processing*. Poster presentation at the International Conference on Basic and Clinical Multimodal Imaging BACI, Geneva, Switzerland.

OUTREACH

Media Coverage

- Our study covered in Swiss journal for hearing impaired “Dezibel” 3/2022 titled “Online-Training «Lippenlesen.ch»: Das hilft!”
- Interview: 10 questions to Prof. Nathalie Giroud, in newsletter for the LIFE Community (the International Max Planck Research School «The Life Course: Evolutionary and Ontogenetic Dynamics»)
- Online article about new competence center on Language & Medicine at the University of Zurich: https://www.news.uzh.ch/de/articles/2022/language_medicine_zurich.html
- Interview with Dr. Stefan Launer (Sonova, Senior Vice President Science and Technology): <https://www.sonova.com/en/story/innovation/exciting-insights-fascinating-world-hearing>
- Interview together with Dr. Stefan Launer (Sonova, Senior Vice President Science and Technology) on developments in hearing research and technology for older adults for Migros Zeitung, October 2021: <https://www.migros-impuls.ch/de/medizin/beschwerden/hoerprobleme/fakten-hoeren>
- Interview for journal Dezibel on the association between hearing and dementia, March 2021, https://www.pro-audito.ch/news/schwerhoerigkeit-und-demenz/?fbclid=IwAR3AxF_-tzzfdPc467-D3ME6HnPAJSI5VSH346CBs09TuR70oG4CPqw-VII
- Our study on neural correlates of language structure preparation during speaking in the Swiss newspaper among others: <https://www.blick.ch/schweiz/sprachwissenschaft-einfache-grammatik-macht-es-dem-gehirn-schwierig-id16324522.html>
- Online article about the research of my dissertation on hearing and aging <http://www.sonova.com/de/features/hoeren-wird-fuer-das-gehirn-im-alter-anstrengender>
- Newsletter of the Academic Sports Association Zurich about my talk on sports and the brain with the title *Sport & the brain: What if brain areas grow by being physically active?* [Sport & Gehirn: Wenn Gehirnnareale mit der Fitness wachsen] <https://asvz.ch/news/59454-sport-gehirn-wenn-gehirnnareale-mit-der-fitness-wachsen>
- Online articles about the research of my dissertation on hearing and aging <http://science.orf.at/stories/2798526> http://www.wienerzeitung.at/themen_channel/wissen/forschung/846563_Hoerleistung-laesst-sich-trotz-Alter-verbessern.html
- Zeitschrift für Audiologie (Feb, 2017): “Hören wird für das Gehirn im Alter anstrengender”
- Neue Zürcher Zeitung NZZ: <https://www.nzz.ch/wirtschaft/zum-hoeren-braucht-es-mehr-als-nur-gute-ohren-ld.1327128>
- PULS (September 10th, 2018) on Swiss Television SRF “Hearing problems”: <https://www.srf.ch/sendungen/puls/hoerprobleme-infarkt-beim-sport-ueberfluessige-stents-anno-puls>
- University of Zurich News about winning the PRIMA grant by the Swiss National Science Foundation: https://www.news.uzh.ch/de/articles/2019/PRIMA_Grantees.html

Science fair

Talks for school classes and information desk on neuroplasticity and hearing at the BrainFair Zurich in March 2017:
<http://www.brainfair.uzh.ch/de.html>

MOBILE PHONE APPS

Track-Your-Hearing App: Co-developer of app assessing daily life fluctuations of hearing outside of the lab. German and English version released for Mac and Android

ADVANCED TRAINING (SELECTION)

2022 2nd Healthy Longevity Innovation Days at the University of Zurich
 2021 1st Healthy Longevity Innovation Conference and Workshop at the University of Zurich
 2020 Workshop on Current advances in neurolinguistics - oscillations, language & the brain at the University of Zurich
 2020 Advanced Analyses of EEG Data Using Matlab: Conceptual Background and Practical Applications at the University of Zurich
 2018 Brainstorm workshop at PERFORM center at Concordia University
 2018 Workshop “Decoding mental states with EEG” at McGill University
 2015 Semester course on medical acoustics at the ETH and the University of Zurich
 2015 Statistical Parametric Mapping (SPM) Course 2015, basics (certified), Translational Neuromodeling Unit, University and ETH of Zurich
 2013-2014 Introductory course in neuroscience for international PhD program in neuroscience, Neuroscience Center Zurich, University and ETH of Zurich (grade: very good)
 2014 FieldTrip Workshop Zurich (certified)
 2014 Participant in peer-mentoring group Applied Programming for Psychologists (APP)
 2013-2016 Structured doctoral program in psychology (30 ETCS points)
 2011 MR safety course (certified), Institute for Biomedical Engineering, ETH and University of Zurich

LEAVES OF ABSENCE

08/2017-11/2017 Maternity leave
 01/2020-05/2020 Maternity leave
 08/2022-12/2022 Maternity leave