

Christopher Edward Niemczak, Au.D., Ph.D.

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Education/Training

Fall 2013-Spring 2020 <i>Degree</i>	Syracuse University Au.D./Ph.D. in Auditory Neuroscience Au.D. coursework completed May 2017, externship completed July 2018, Ph.D. defended Spring 2020
<i>Dissertation Title</i>	<i>Cortical auditory processing of informational masking effects by target-masker similarity and stimulus uncertainty</i>
Fall 2009-Spring 2013 <i>Degree</i>	University of Vermont B.S. Communication Sciences and Disorders. Minor: Chemistry

Positions and Scientific Appointments

2023-Present	Adjunct Professor (Auditory Electrophysiology), Department of Communication Sciences and Disorders, Syracuse University, Syracuse, NY.
2022-Present	Scientist , Dartmouth-Hitchcock Medical Center, Department of Medicine, Lebanon, NH Assistant Professor of Medicine , Geisel School of Medicine, Dartmouth College, Hanover, NH Faculty , Department of Quantitative Biomedical Sciences, Dartmouth College, Hanover,
Spring 2022	Adjunct Professor (Research Design (CSD524)), Department of Communication Sciences and Disorders, State University of New York (SUNY) Plattsburgh, Plattsburgh, NY.
Summer 2020-Spring 2022	Research Scientist , Space Medicine Innovations Lab, Geisel School of Medicine at Dartmouth, PI: Jay Buckey, M.D.
Fall 2015-Spring 2020	Graduate Research Assistant , Communication Sciences and Disorders, Syracuse University Auditory Electrophysiology Lab, PI: Kathy Vander Werff, Ph.D.
Summer 2017-Summer 2018	Fourth-year Research Extern , The National Center for Rehabilitative Auditory Research (NCRAR), PI: Naomi Bramhall, Au.D., Ph.D.
Fall 2012-Spring 2013	Research Assistant , Autism Spectrum Disorder Social Cognition and language development lab, University of Vermont, PI: Tiffany Hutchins, Ph.D.

Clinical Experience

Summer 2018-2019	Fourth-year Clinical Externship at Portland, OR, VA Medical Center
Spring/Fall 2014, 2016	Gebbie Clinic Hearing Aid Technician , Syracuse University
Fall 2013-Spring 2017	Syracuse University Clinical Audiology Internships:

- The Chafe Center ENT, Utica, NY, Summer 2016
- Preferred Audiology (private practice), Camillus, NY, Spring 2016
- Oswego Health System, Oswego, NY, Fall 2015
- Syracuse VA Medical Center, Syracuse, NY, Summer 2015
- Westside Audiology Services (private practice), Camillus, NY, Spring 2015
- Onondaga-Cortland-Madison Board of Cooperative Educational Services, Syracuse, NY, Fall 2014

Publications

- Niemczak CE**, Ealer C, Fellows A, Magohe A, Gui J, Rieke C, Nicol T, Massawe E, Kraus N, Buckey J. (In Press). Peripheral auditory function in Tanzanian children living with HIV with clinically normal hearing. *JAMA Open Network*.
- Niemczak C**, Zhan Y, Ren J, Song F, Lu H, Chen G, Fellows A, Gui J, Soli S, Buckey J, Shi Y. A Central Auditory Test reveals differences between drug treatment regimens in adults living with HIV. *International Journal of Audiology*. 2023 January; :1-6. doi: 10.1080/14992027.2023.2168217.
- Lichtenstein J, **Niemczak C**, Bowers C, Magohe A, Fellows A, Ealer C, Massawe E, Moshi N, Buckey J. Nonverbal Neurocognitive Assessment during the Coronavirus Disease of 2019 Pandemic: the Effect of Personal Protective Equipment. *Arch Clin Neuropsychol*. 2022 Oct 19;37(7):1628-1632. doi: 10.1093/arclin/acac044. PubMed PMID: 35809337; PubMed Central PMCID: PMC9278219.
- Saunders JE, Bessen S, Magro I, Cowan D, Quiroz MG, Mojica-Alvarez K, Penalba D, Reike C, **Niemczak CE**, Fellows A, Buckey JC. Community health workers and mHealth systems for hearing screening in rural Nicaraguan schoolchildren. *J Glob Health*. 2022 Aug 9;12:04060. doi: 10.7189/jogh.12.04060. Review. PubMed PMID: 35938885; PubMed Central PMCID: PMC9359107.
- Niemczak, C.E.**, Cox, C., Grigoryan, G., Springer, G., Fellows, A.M., Torre, P., Hoffman, H.J., Buckey, J.C., Plankey, M.W. Gap Detection Tests Reveal a Central Auditory Deficit in Adults with Well-Controlled Human Immunodeficiency Virus Infection, *Int J Audiol*, 2022 May 6;:1-10. doi: 10.1080/14992027.2022.2068083. [Epub ahead of print] PubMed PMID: 35521916; PubMed Central PMCID: PMC9683355.
- Niemczak, C.E.**, Lichtenstein, J.D., Magohe, A., Amato, J.T., Fellows, A.M., Gui, J., Huang, M., Rieke, C.C., Massawe, E.R., Boivin, M.J., Moshi, N., and Buckey, J.C. (2021). The Relationship Between Central Auditory Tests and Neurocognitive Domains in Adults Living With HIV. *Frontiers in Neuroscience* 15(1277). doi:10.3389/fnins.2021.696513
- Vander Werff, K. R., **Niemczak, C. E.**, & Morse, K. (2021). Informational Masking Effects of Speech Versus Nonspeech Noise on Cortical Auditory Evoked Potentials. *J Speech Lang Hear Res*, 64(10), 4014-4029. doi:10.1044/2021_JSLHR-21-00048
- Niemczak, C.E.**, White-Schwoch, T., Fellows, A., Magohe, A., Gui, J., Rieke, C., Nicol, T., Massawe, E.R., Moshi, N., Kraus, N., and Buckey, J.C. (2021). Peripheral Auditory Function in Young HIV-Positive Adults With Clinically Normal Hearing. *Otolaryngol Head Neck Surg*, 1945998211047147. doi:10.1177/01945998211047147
- Lichtenstein, J., Bowers, C., Amato, J., **Niemczak, C.**, Fellows, A., Magohe, A., Haile, H., White-Schwoch, T., Kraus, N., Massawe, E., Moshi, N., and Buckey, J. (2021). Nonverbal cognitive assessment of

children in Tanzania with and without HIV. *Child Neuropsychology*, 1-13.
doi:10.1080/09297049.2021.1957809

Brooks, C.A., Clavier, O.H., Fellows, A.M., Rieke, C.C., **Niemczak, C.E.**, Gui, J., Pryor, N.J., Gallagher, H.L., Murphy, S.A., Wise, S.R., Healy-Leavitt, C., Allen, L.V., and Buckey, J.C. (2021). Distortion product otoacoustic mapping measured pre- and post-loud sound exposures. *Int J Audiol*, 1-10. doi:10.1080/14992027.2021.1928303

Massawe E. R., Moshi N., Ren J., Rieke C. C., Magohe A. K., Fellows A. M., Arega E. A., **Niemczak C. E.**, Jackson B. P., Karagas M. R., and Buckey J. C. (2021). Unexplained multi-sensory neuropathy syndrome in young Tanzanian adults. *Journal of Global Health Reports*. doi:10.29392/001c.21360.

Niemczak, C., Fellows, A., Lichtenstein, J., White-Schwoch, T., Magohe, A., Gui, J., Wilbur, J., Clavier, O., Massawe, E., Moshi, N., Boivin, M., Kraus, N., and Buckey, J. (2021). Central Auditory Tests to Track Cognitive Function in People With HIV: Longitudinal Cohort Study. *JMIR Form Res* 5(2). doi:10.2196/26406

Niemczak, C.E., and Vander Werff, K.R. (2021). Informational Masking Effects of Similarity and Uncertainty on Early and Late Stages of Auditory Cortical Processing. *Ear Hear* 42, 1006-1023. 1006-1023. doi:10.1097/AUD.0000000000000997

Niemczak, C. E. (2020). Cortical Auditory Processing of Informational Masking Effects by Target-Masker Similarity and Stimulus Uncertainty (Order No. 27836911). Available from ProQuest Dissertations & Theses Global. (2430064748).

Bramhall, N.F., **Niemczak, C.E.**, Kempel, S.D., Billings, C.J., McMillan, G.P. (2020). Evoked potentials reveal noise exposure-related central auditory changes despite normal audiograms. *Am J Audiol*, 10(1): 1-13. doi:10.1044/2019_AJA-19-00060

Niemczak, C.E. & Vander Werff, K.R. (2019). Informational masking effects on neural encoding of stimulus onset and acoustic change. *Ear Hear*, 40(1): 156-167. doi:10.1097/AUD.0000000000000604

Awarded Research Grants

Spring 2023

Dartmouth-Hitchcock Scholar Grant
Dartmouth-Hitchcock Career development Grant, **PI Niemczak**
Title: *Speech perception in noise as an improved marker for neurocognitive dysfunction*
Goal: To improve the use of speech perception in background noise as a marker of neurocognitive function by using and comparing informational masking to energetic masking in both behavioral and electrophysiological tests in patients with mild cognitive impairment.

Spring 2022

R01DC02013 NIH/NINDS
Co-I Niemczak, PI Buckey
Title: *Advancing and applying peripheral and central auditory findings in HIV/AIDS*.
Goal: To assess the predictive value of central auditory tests in HIV+ adults to predict neurocognitive disorder and investigate how peripheral auditory changes are affected by HIV infection and treatment.

Fall 2021

Dartmouth-Hitchcock Foundation Grant

Dartmouth College internal grant, **PI Niemczak**

Title: *Assessing the Fatigue and Auditory Cortical Networks in Post-Acute COVID-19 Syndrome*

Goal: To provide objective neural evidence using fMRI of brain dysfunction in PACS by assessing the fatigue and cortical auditory networks using two cognitively challenging tasks.

Loan Repayment Program NIH/NIDCD

PI Niemczak

Title: *Speech Perception in Noise as a Marker for Neurocognitive Function*

Goal: Measure behavioral and electrophysiological responses to speech perception in background noise as a marker for older adults with dementia

Spring 2021

Munck Pfefferkorn Grant

Dartmouth internal grant, **Co-I Niemczak**, PI Buckley

Title: *Detecting COVID-19 central nervous system dysfunction using central auditory tests*

Goal: Measure and provide objective central auditory function in adults with a prior COVID-19 infection suffering from persistent cognitive fatigue to better understand CNS dysfunction in COVID-19.

Honors, Awards, and Academic Achievements

Spring 2021	National Institute of Health – Future Research Leaders Conference
Spring 2020	Syracuse University Graduate Student Organization Travel Grant
Spring 2019	Council of Academic Programs in Communication Sciences and Disorders (CAPCSD) Ph.D. Scholarship
Fall 2018	Association for Research in Otolaryngology Travel Award
Fall 2018	Founder and Director of Syracuse University Communication Sciences and Disorders Data Club
Spring 2016	American Academy of Audiology Poster Award for Excellence in Electrophysiology,
Fall 2015-Fall 2016	President, Syracuse University Chapter Student Academy of Audiology
Fall 2015-Spring 2020	Syracuse Neuroscience Graduate Travel Award
Fall 2015-Spring 2020	Graduate Student Mentored Research Travel Award (NIH/NIDCD), to attend the American Auditory Society Meeting, Scottsdale AZ
Fall 2014-Spring 2017	Syracuse University Graduate Fellowship in Audiology
Fall 2014	Audiology/Hearing Science Research Travel Award Scholarship to attend the ASHA Convention, Orlando FL

Invited Talks

- Niemczak, C.E. & Bouserhal R.**, (2022, November). *Brainy Boomers Lecture Series – Hearing and Hearables: The Potential of Better Understanding Alzheimer’s Disease*. Invited talk at McGill University Research Centre for Studies in Aging, Montreal Canada.
- Niemczak, C.E.** (2021, May). *Central auditory system as a marker for neurocognitive decline*. Invited oral presentation for NIH Future Leaders Conference, Virtual.
- Niemczak, C.E., Kampel, S., Billings, C.J., Bramhall, N.** (2019, February). Examining the effects of noise exposure on the auditory system using evoked potentials. Podium presentation presented at the Association for Research in Otolaryngology, Baltimore, MD.

Professional Presentations

- Niemczak, C.E., Ealer, C., Lichtenstein J., Fellows, A., Clavier, O., Magohe, A., Massawe, E., Buckey, J.**, (2023, February), Longitudinal Relationship Between Central Auditory Test Performance and Cognitive Function in Children Living With HIV. Poster presented for The Association for Research in Otolaryngology, Orlando FL.
- Ealer, C., **Niemczak, C.E.**, Lichtenstein J., Fellows, A., Magohe, A., Leigh, S., Buckey, J., (2023, February), Successful Auditory Testing in Young Tanzanian Children. Poster presented for The Association for Research in Otolaryngology, Orlando FL.
- Lee, T., Rieke, C., Clavier, O., **Niemczak, C.**, Buckey, J., Saunders, J., (2023, February), RadioEar: Comparison of a Commercial Distortion Product Otoacoustic Emissions (DPOAE) Test to a Novel Low-Cost, Wireless Probe. Poster presented for The Association for Research in Otolaryngology, Orlando FL.
- Niemczak, C.E., Fellows, A., Magohe, A., Gui, J., Clavier, O., Moshi, N., Kraus, N., Buckey, J.**, (2022, February), Children Living with HIV Have Reduced DPOAEs Despite Normal Hearing Thresholds. Online poster presented for The Association for Research in Otolaryngology.
- Niemczak, C.E., Rieke, C., O., Fellows, A., Cowan, D., Harlan, N., Buckey, J.**, (2022, February), Determining the Recovery Rate of Hearing Thresholds Across Audiometric Frequencies with Use of Hyperbaric Oxygen Treatment. Online poster presented for The Association for Research in Otolaryngology.
- Niemczak, C.E., Froese, K., Fellows, A., Clavier, O., Magohe, A., Gui, J., Massawe, E., Buckey, J.**, (2022, February), Gap Detection Response Time as Measure of Cognitive Processing Speed. Online poster presented for The Association for Research in Otolaryngology.
- Niemczak, C.E., Connor, C., Fellows, A., Zhou, J., Gui, J., Katz, J., Clavier, O., Shi, Y., Buckey, J.**, (2022, February), Assessment of Staggered Spondaic Words in Those with and without Neurocognitive Deficits. Online poster presented for The Association for Research in Otolaryngology.
- Niemczak, C.E., Fellows, A., Lichtenstein, J., White-Schwoch, T., Magohe, A., Gui, J., Wilber, J., Clavier, O., Massawe, E., Moshi, N., Boivin, M., Kraus, N., Buckey, J.** (2021, February). Central auditory tests track cognitive function in those with HIV. Online poster presentation for The Association for Research in Otolaryngology
- Niemczak, C.E., & Vander Werff, K.R.** (2020, March). Objective and behavioral indices of linguistic/phonetic similarity in informational masking. NIH Mentored Student Award poster presented at the American Auditory Society Annual Meeting, Scottsdale, AZ.
- Niemczak, C.E.** (2018, March and April). Effect of noise exposure on auditory evoked potentials in humans. Oral presentation at the Oregon Hearing Research Center and at Oregon Health and Science University Grand Rounds at the NCRAR, Portland, OR.

Vander Werff, K.R., **Niemczak, C.E.**, O'Flaherty, S., Rekola, S., and Doci, S. (2016, April). Effects of number of talkers and spectrotemporal content of informational masking on the CAEP. Poster presented at the AudiologyNOW Annual Convention of the American Academy of Audiology of Audiology, Phoenix, AZ.

Niemczak, C.E. & Vander Werff, K.R. (2016, February). Informational masking effects on neural encoding of acoustic change. NIH Mentored Student Award poster presented at the American Auditory Society Annual Meeting, Scottsdale, AZ.

Teaching, Mentoring, and Advising

Audiology Graduate Instructor

Spring 2023-Present Syracuse University, CSD 663, *Auditory Evoked Potentials*

PhD Advisory Committee

Fall 2022 – Present Mentoring doctoral student in the Department of Quantitative Biomedical Research to develop machine learning models to predict brain function using longitudinal central auditory tests.

Geisel School of Medicine

Spring 2021-Present Invited lecturer for medical students and residents in otolaryngology: *Advanced Auditory Techniques: Auditory Evoked Potentials*

Speech Language Pathology Graduate Instructor

Spring 2022 SUNY Plattsburg, CSD 524, Research Design in Communication Sciences

Auditory Didactic

Spring 2021-Present Four-part lecture series for Dartmouth undergraduates, and Tanzanian research collaborators, *From Sound to Brain*

Audiology Research Supervisor and Mentor

Fall 2020 – Present Supervise and mentor audiology externs from Dartmouth-Hitchcock Medical Center in the Space Medicine Innovations Lab
Allison Shiller (2021-2022)
Maura Beggin (2021-2022)
Kaitlyn Froese, Au.D. (2020-2021)

Thesis Advisory Team

Fall 2020 – Present Mentored thesis student in the Department of Music and Biomedical Research at Dartmouth College studying the link between music perception, central auditory processing, and neurocognitive outcomes in HIV – Manuscript in preparation.

Undergraduate Course Instructor

Fall 2018, 2019 Syracuse University, CSD 212, *Introduction to Communication Sciences and Disorders*

Guest Undergraduate Lecturer

Spring 2019, 2020 Syracuse University, CSD 212, *Introduction to Communication Sciences and Disorders, Hearing aids and assistive listening devices*

Fall 2018

Syracuse University, CSD 315, *Anatomy and Physiology of Speech and Hearing, Phonological physiology, Articulation, and anatomy part I and II*

Spring 2017	Syracuse University, CSD 212, Introduction to Communication Sciences and Disorders, <i>Communication and multicultural considerations, Deaf culture</i>
<i>Guest Graduate Lecturer</i>	
Spring 2019,2020	Syracuse University, CSD 663, Auditory Evoked Potentials, <i>Middle latency response and P1-N1-P2 basics, Advanced cortical auditory evoked potentials: ACC, MMN, & P300</i>
	Syracuse University, CSD 658, Auditory Anatomy and Physiology, <i>Neuronal anatomy, and physiology</i>
Fall 2018	Syracuse University, CSD 637, Auditory Instrumentation, <i>Transducers, microphones, and sound level meters</i>
<i>Lab Coordinator</i>	
Spring 2019	Syracuse University, CSD 663, <i>Auditory Evoked Potentials</i>
Fall 2018	Syracuse University, CSD 637, <i>Instrumentation for Speech and Hearing</i>
Fall 2016	Syracuse University, CSD 637, <i>Instrumentation for Speech and Hearing</i>
Spring 2016	Syracuse University, CSD 673, Hearing Aids I, CSD 663, <i>Auditory Evoked Potentials</i>
Fall 2015	Syracuse University, CSD 637, <i>Instrumentation for Speech and Hearing</i>

Leadership, Service, and Outreach Experience

Fall 2020-Present	Ad-Hoc reviewer for: <i>Hearing Research</i> <i>International Journal of Audiology</i> <i>American Journal of Audiology</i> <i>Cortex</i> <i>Otolaryngology Head and Neck Surgery</i> <i>JAMA Network Open</i>
Fall 2020-Present	Consultation of acoustic brainstem response for Tanzanian research team (for suspected pediatric hearing loss).
Spring 2020	Syracuse neuroscience research conference planning committee, website coordination/registration, Syracuse University
Summer 2019	Graduate teaching mentor and teaching consultant for all-university teaching assistant orientation program and graduate school, Syracuse University
Spring 2019	Syracuse neuroscience research conference planning committee, registration and scheduling coordinator, Syracuse University Graduate admissions consultant for live admissions webinar, Communication Sciences and Disorders, Syracuse University
Spring 2016	Graduate admissions committee, Communication Sciences and Disorders, Syracuse University,
Fall 2015-Spring 2016	President of SAA, Syracuse University Chapter