CURRICULUM VITAE

Jason Tait Sanchez, Ph.D., CCC-A
Associate Professor, Director of Graduate Studies
Roxelyn and Richard Pepper Department of Communication Sciences and Disorder, Northwestern University

EDUCATION

2001-06	Ph.D., Auditory Neuroscience, Kent State University. *Mentors*: J. Wenstrup & D. Gans
1998-00	M.A., Audiology & Speech Sciences, Michigan State University
1993-97	B.A., Communication Disorders, University of Northern Colorado

EMPLOYMENT & TRAINING

2020-cur	Director of Graduate Studies, Department of Communication Sciences and Disorders
2019-cur	Associate Professor, Department of Communication Sciences and Disorders
2015-cur	Secondary Faculty Appointment, Department of Neurobiology
2012-19	Assistant Professor, Department of Communication Sciences and Disorders
2008-12	Postdoctoral Fellow, University of Washington. *Mentors*: E. Rubel & A. Barria
2007-08	Postdoctoral Fellow, Northeast Ohio Medical University. *Mentor*: S. Sivaramakrishnan
2003-04	Electrophysiology Fellow, The Cleveland Clinic Foundation. *Mentor*: C. Newman
2000-01	Audiology Clinical Fellow, The Cleveland Clinic Foundation. *Mentor*: S. Sandridge

RESEARCH SUPPORT

Current

Title:	Glutamate signaling in the developing in the auditory brainstem
Source:	Knowles Hearing Research Center, Northwestern University
Type:	Bridge Funding Award
Period:	8/15/2025 to 8/14/2026
Role:	Principal Investigator
Amount:	$100,000

Title:	Non-apoptotic functions of caspase-3 in brainstem development
Source:	National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type:	Research Project Grant. **R01 DC021219**
Period:	9/1/2024 to 8/30/2029
Role:	Co-Investigator
Amount:	$180,987 (Total Direct and Indirect)

Title:	Uncovering the functional effects of neurotrophins in the auditory brainstem
Source:	National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type:	Ruth L. Kirschstein National Research Service Award. **F31 DC021366**
Period:	1/1/2024 to 12/31/2027
Role:	Mentor
Amount:	$151,169 (Total Direct and Indirect)

Complete

Title:	Molecular mechanisms of tonotopy development in the brainstem
Source:	National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type:	Research Project Grant. **R01 DC017167**
Period:	7/1/2019 to 6/30/2025 (NCE)
Role:	Principal Investigator
Amount:	$1,735,531 (Total Direct and Indirect)

Title: Auditory factors contributing to speech-in-noise difficulties in adults with normal hearing sensitivity
Source: Knowles Hearing Research Center, Northwestern University
Type: Leadership Fund
Period: 5/1/2022 to 3/31/2024
Role: Principal Investigator
Amount: $27,351

Title: Development of form and function in the auditory brainstem
Source: Knowles Hearing Research Center, Northwestern University
Type: Bridge Funding Award
Period: 9/1/2018 to 8/31/2019
Role: Principal Investigator
Amount: $100,000

Title: Mechanisms regulating synaptic function in the developing auditory system
Source: National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type: Small Grant Program. **R03 DC013841**
Period: 7/1/2015 to 6/30/2019
Role: Principal Investigator
Amount: $463,500 (Total Direct and Indirect)

Title: Distinct structure and function of low-frequency neurons in the avian cochlear nucleus
Source: Knowles Hearing Research Center, Northwestern University
Type: Leadership Fund
Period: 10/1/2016 to 12/31/2018
Role: Co-Principal Investigator with Dr. Yuan Wang, Florida State University
Amount: $25,000

Title: Development of Glutamate Receptors in Nucleus Laminaris
Source: National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type: Ruth L. Kirschstein National Research Service Award. **F32 DC010307**
Period: 6/1/2009 to 5/31/2012
Role: Postdoctoral fellow
Amount: $155,118 (Total Direct and Indirect)

Title: Establishment and validation of organotypic slice cultures of auditory brainstem
Source: National Organization of Hearing Research
Type: Exploratory / Developmental Research Grant
Period: 2/1/2011 to 1/31/2012
Role: Co-Principal Investigator, with Dr. Armin Seidl, University of Washington
Amount: $20,000

Title: Auditory Information Processing in the Midbrain: Role of Glutamate Receptors
Source: National Institutes of Health / National Institute on Deafness and Other Communication Disorders
Type: Ruth L. Kirschstein National Research Service Award. **F31 DC007298**
Period: 8/19/2004 to 12/31/2006
Role: Predoctoral fellow
Amount: $97,899 (Total Direct and Indirect)

PUBLICATIONS

Peer-Reviewed Research Papers

1. McLellan, K, Sabbagh, S, Takahashi, M, Hong, H, Wang, Y, and **Sanchez, J.T.** (2024). BDNF differentially affects low- and high-frequency neurons in a primary nucleus of the chicken auditory brainstem. *Biology: Section Neuroscience.* October 29; (13): 877. 1-22. Invited special issue submission on "Roles and Functions of Neurotrophins and Their Receptors in the Brain." Impact factor = 3.2.

2. McFarlane, K.A., and **Sanchez, J.T.** (2024). Effects of temporal processing on speech-in-noise perception in middle-aged adults. *Biology: Section Neuroscience.* May 23; (13): 371. 1-15. PMCID: PMC11200514. Invited special issue submission on "Neural Correlates of Perception in Noise in the Auditory System." Impact factor = 3.2.

3. Ordiway, G., McDonnell, M., and **Sanchez, J.T.** (2024). Revisiting the chicken auditory brainstem response: Frequency specificity, threshold sensitivity, and cross-species comparison. *Neuroscience Insights*. Jan 9; (19): 1-13. PMCID: PMC10832403. Impact factor = 3.6

4. McFarlane, K.A., and **Sanchez, J.T.** (2023). Exploring electrode placements to optimize the identification and measurement of early auditory evoked potentials. *Audiology Research,* Dec 11; 13(6): 978-988. PMCID: PMC38131810. Impact factor = 1.7

5. Mohan, S., Roy, A. Ordiway, G., and **Sanchez, J.T.** (2022). Slicing the embryonic chicken auditory brainstem to evaluate tonotopic gradients and microcircuits. *Journal of Visualized Experiments.* July 12; (185). e63476. 1-18. PMCID: PMC pending. Impact factor = 1.4

6. Ordiway, G., McDonnell, M., Mohan, S., and **Sanchez, J.T.** (2022). Evaluation of auditory brainstem response in chicken hatchlings. *Journal of Visualized Experiments.* April 1; (182): e63477. 1-17. PMCID: PMC9136940. Impact factor = 1.4

7. Takahashi, M., and **Sanchez, J.T.** (2020). Effects of neurotrophin-3 on intrinsic neuronal properties at a central auditory structure. *Neuroscience Insights.* Dec 10; (15): 1-13. PMCID: PMC7734498. Impact factor = 3.6

8. Hong, H., Wang, X., Lu, T., Zorio, D.A.R., Wang, Y., and **Sanchez, J.T.** (2018). Diverse intrinsic properties shape the functional phenotype of low-frequency neurons in the auditory brainstem. *Frontiers in Cellular Neuroscience.* June 26; 12(175): 1-24. PMCID: PMC6028565. Impact factor = 5.3

9. Hong, H., Lu, T., Wang, X., Wang, Y., and **Sanchez, J.T.** (2018). Resurgent sodium current promotes action potential firing in the avian auditory brainstem. *Journal of Physiology*. Feb 1; 596(3): 423-443. PMCID: PMC5792585. Impact factor = 5.5

10. Lu, T., Wade, K., Hong, H., and **Sanchez, J.T.** (2017). Ion channel mechanisms underlying frequency-firing patterns of the avian nucleus magnocellularis: A computational model. *Channels.* Sept 3; 11(5): 444-58. PMCID: PMC5626364. Impact factor = 3.3 ***Received News and Views Article Commentary. Kopp-Scheinpflug, C. (2017). Your genes decide what you are listening to. *Channels.* Sept 3; 11(5): 355-56.**

11. Lu, T., Cohen, A.L., and **Sanchez, J.T.** (2017). *In ovo* electroporation in the chicken auditory brainstem. *Journal of Visualized Experiments.* June 9; (124): 1-7. PMCID: PMC5608351. Impact factor = 1.4

12. Wang, X., Hong, H., Brown, D.H., **Sanchez, J.T.,** and Wang, Y. (2017). Distinct properties of low-frequency neurons in the chicken nucleus magnocellularis. *eNeuro,* Apr 11; 4(2): 1-26. PMCID: PMC5388668. Impact factor = 4.4

13. Keesling, D.A., Parker, J.P., and **Sanchez, J.T.** (2017). A comparison of commercially available auditory brainstem response stimuli at a neurodiagnostic intensity level. *Audiology Research,* Feb 1; 7(161): 15-22. PMCID: PMC5337818. Impact factor = 1.7

14. Hong, H, Rollman, L.S., Feinstein, B., and **Sanchez J.T.** (2016). Developmental profile of ion channel specializations in the avian nucleus magnocellularis. *Frontiers in Cellular Neuroscience,* Mar 30; 10(80): 1-22. PMCID: PMC4811932. Impact factor = 5.3

15. **Sanchez, J.T.,** Quinones, K., and Otto-Meyer, S. (2015). Factors influencing short-term synaptic plasticity in the avian cochlear nucleus magnocellularis. *Journal of Experimental Neuroscience,* 2015:9(S2): 11-24. PMCID: PMC4620996. Impact factor = 3.6

16. Grimsley, C.A., **Sanchez, J.T.,** and Sivaramakrishnan, S. (2013). Midbrain local circuits shape sound intensity codes. *Frontiers in Neural Circuits,* Oct 30; 7(174): 1-12. PMCID: PMC3812908. Impact factor = 3.5

17. Sivaramakrishnan, S., **Sanchez, J.T.,** and Grimsley, C.A. (2013). High concentrations of divalent cations isolate monosynaptic inputs from local circuits in the auditory midbrain. *Frontiers in Neural Circuits,* Oct 29; 7(175): 1-17. PMCID: PMC3810775. Impact factor = 3.5

18. Seidl, A.H., **Sanchez, J.T.**, Schecterson, L., Tabor, K.M., Wang, Y., Kashima, D.T., Fraser, S.E., Huss, D., Poynter, G., Lansford, R., Rubel, E.W. (2013). Transgenic quail as a model for research in the avian nervous system: A comparative study of the auditory brainstem. *Journal of Comparative Neurology*, Jan 1; 521 (1): 5-23. PMCID: PMC3488602. Impact factor = 2.5

19. Schecterson, L., **Sanchez, J.T.**, Rubel, E.W., Bothwell, M. (2012). TrkB downregulation is required for dendrite retraction in developing neurons of chicken nucleus magnocellularis. *Journal of Neuroscience*, Oct 3; 32(40): 14000-9. PMCID: PMC3495173. Impact factor = 6.7

20. **Sanchez, J.T.**, Seidl, A.H., Rubel, E.W., and Barria, A. (2012). Control of neuronal excitability by NMDA-Rs in early developing binaural auditory neurons. *Journal of Physiology*, Oct 1; 590(Pt 19): 4801-18. PMCID: PMC3487038. Impact factor = 5.5

21. **Sanchez, J.T.**, Seidl, A.H., Rubel, E.W., and Barria, A. (2011). Preparation and culture of chicken auditory brainstem slices. *Journal of Visualized Experiments*, March 21; (49). PMCID: PMC3197304. Impact Factor = 1.4

22. **Sanchez, J.T.**, Wang, Y., Rubel, E.W., and Barria, A. (2010). Development of glutamatergic synaptic transmission in binaural auditory neurons. *Journal of Neurophysiology*, Sep; 104(3): 1774-89. PMCID: PMC2944672. Impact factor = 2.9

23. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2008). Glycinergic "inhibition" mediates selective excitatory responses to combinations of sounds. *Journal of Neuroscience*, Jan 2; 28(1), 80-90. PMCID: PMC2268737. Impact factor = 6.7

24. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2007). Contribution of NMDA and AMPA receptors to temporal patterning of auditory responses in the inferior colliculus. *Journal of Neuroscience*, Feb 21; 27(8): 1954-63. PMCID: PMC2267291. Impact factor = 6.7

25. **Sanchez, J.T.**, and Gans, D. (2006). Effects of artifact rejection and Bayesian weighting on the auditory brainstem response during quiet and active behavioral conditions. *American Journal of Audiology*, Dec; 15(2): 154-63. PMID 17182880. Impact factor = 1.8

Invited Reviews

1. Ordiway, G., McLellan, K., and **Sanchez, J.T.** (2025). A comprehensive review of HCN channel expression and I_h in the auditory system: Then, now, and future perspectives. Invited Review. *Journal of Neurophysiology.* Aug 1:134 (2): 458-470. PMID 40623052. Impact factor = 2.1

2. Hong, H., and **Sanchez, J.T.** (2018). Need for Speed and Precision: Structural and functional specializations in the avian cochlear nucleus. Invited Review. *Journal of Experimental Neuroscience*. Dec 12:12: 1-16. PMCID: PMC6291874. Impact factor = 3.6

3. **Sanchez, J.T.,** Ghelani, S., and Otto-Meyer, S. (2015). From development to disease: Diverse functions of NMDA-type glutamate receptors in the lower auditory pathway. Invited Forefront Review. *Neuroscience,* Jan 29; (285c): 248-259. PMID: 25463512. Impact factor = 3.3 ***Listed as 1 of 20 top articles published on the scientific domain of NMDA-Rs (2016). *BioMedLib.***

4. **Sanchez, J.T.,** (2013). Advancing our understanding of binaural hearing through developmental neurobiology research. *Audiology Today*, May/June, Volume 25, No 3. Pg 38-47. Publication of the American Academy of Audiology. Impact factor = N/A

5. Wenstrup, J.J., Nataraj, K., and **Sanchez, J.T.** (2012). Mechanisms of spectral and temporal integration in the mustached bat inferior colliculus. *Frontiers in Neural Circuits*, Oct 23; 6(75): 1-21. PMCID: PMC3478570. Impact factor = 3.5

Book Chapters

1. **Sanchez, J.T.,** and Grieco-Calub, T. (2018). Hearing. In: Rousseau, B., and Branski, R. (Eds.), *Anatomy and Physiology of Speech and Hearing.* Chapter 13. Pg. 401-439. New York, NY: Thieme

2. **Sanchez, J.T.,** Wang, Y., Lu, Y., Burger, R.M., Seidl, A.H., and Rubel, E.W. (2018). Nucleus laminaris. In: G. Shepherd & D. D. Addona (Eds.), *Handbook of Brain Microcircuits Second Edition*. Chapter 36. Pg. 425-36. New York, NY: Oxford University Press

3. **Sanchez, J.T.,** and Lu, Y. (2017). Glutamate signaling in the auditory brainstem. In: Fay, R. R., Popper, A.N., Cramer, K., and Coffin, A. (Eds.), *Auditory Development and Plasticity: Springer Handbook of Auditory Research.* Volume 64, Chapter 4. Pg. 75-108. New York, NY: Springer

4. Polley, D.B., Seidl, A.H., Wang, Y., and **Sanchez, J.T.** (2013). Functional circuit development in the auditory system. In: Rubenstein J. L. R. and Rakic P. (Eds.), *Comprehensive Developmental Neuroscience: Neural Circuit Development and Function in the Healthy and Diseased Brain.* Volume 3, Chapter 2. Pg. 22-39. Amsterdam: Elsevier

5. Wang, Y., **Sanchez, J.T.**, and Rubel, E.W. (2010). Nucleus laminaris: In: G. Shepherd & D. D. Addona (Eds.), *Handbook of Brain Microcircuits*. Chapter 22. Pg. 224-233. New York, NY: Oxford University Press

Invited Research Features and Research Profiles

1. Hong, H., and **Sanchez, J.T.** (2020). To speed up: Resurgent sodium current in the nervous system. Open Access Government, January 2; Issue 25. 48-49.

2. Ordiway, G., and **Sanchez, J.T.** (2019). The importance of patterned activity in the nervous system for auditory functions. Open Access Government, October 3; Issue 24. 166-168.

3. Glavin, C.C., McFarlane, K.A., and **Sanchez, J.T.** (2019). Hearing speech in noisy environments. Open Access Government. July 2: Issue 23. 176-177.

4. Takahashi, M., and **Sanchez, J.T.** (2019). Complexity of neurotrophin signaling in the nervous system. Open Access Government. April 1; Issue 22. 169-171.

5. **Sanchez, J.T.** (2019). The genetically modified chicken: A sound approach to the study of hearing. Open Access Government. January 2; Issue 21. Pg. 130-133.

SCIENTIFIC CONFERENCE ABSTRACTS

1. Glavin, C. McFarlane, K., **Sanchez, J.T.,** Dhar, S. (2025). Characterizing patterns of early aging in cochlear and auditory brainstem function. Amer. Aud. Soc. Poster #034

2. McLellan, K., and **Sanchez, J.T.** (2025). Avian cochlear nucleus neurons exhibit tonotopic specializations across development. Assoc. Res. Otolaryngol. Abstract #M77. ***Travel funding awarded to McLellan, K.**

3. McLellan, K., Sabbagh, S., Takahashi, M., Hong, H., Wang, Y., and **Sanchez, J.T.** (2024). Neurotrophin signaling alters high-frequency neurons in the avian cochlea nucleus. Gordan Research Conference: Auditory System; Molecules, Circuits, and Music: Communication Across the Auditory System. **Selected for podium presentation in section: Internal and External Forces of the Auditory System**

4. Lamptey, A., McLellan, K., Mohan, S., and **Sanchez, J.T.** (2024). *In ovo* electroporation successfully targets neurons in the avian cochlear nucleus. Chicago Society for Neuroscience Conference

5. McFarlane, K., and **Sanchez, J.T.** (2024). Investigating contributions of temporal processing on speech-in-noise understanding in middle-aged adults. Assoc. Res. Otolaryngol. Abstract #SU201. ***1 of 30 selected to participate in the Poster Blitz competition**

6. McLellan, K., Lamptey, A., Mohan, S., Hong, H., and **Sanchez, J.T.** (2024). Neurotrophin signaling supports the development of neurons in the avian cochlear nucleus. Assoc. Res. Otolaryngol. Abstract #SU98. ***1 of 30 selected to participate in the Poster Blitz competition**

7. McFarlane, K., and **Sanchez, J.T.** (2023). Temporal fine structure encoding in middle-aged adults: preliminary data. Amer. Aud. Soc. Poster #194

8. McLellan, K., Ortiz Baca, P., and **Sanchez, J.T.** (2023). Specialized potassium channel properties help define the tonotopic gradient in the avian cochlear nucleus magnocellularis. Assoc. Res. Otolaryngol. Abstract #SA58

9. McFarlane, K., and **Sanchez, J.T.** (2023). Optimization of recording parameters for enhanced visualization of early auditory evoked potentials. Assoc. Res. Otolaryngol. Abstract #SU23

10. Ordiway, G., and **Sanchez J.T.** (2023). Development of precocious avian hearing: Frequency specificity and cross-species comparison. Assoc. Res. Otolaryngol. Abstract #TU59

11. McLellan, K., Ordiway, G., and **Sanchez, J.T.** (2022). The unique developmental differentiation in ultra-low-frequency nucleus magnocellularis. Assoc. Res. Otolaryngol. Abstract #2581

12. Ordiway, G., McDonell, M., and **Sanchez, J.T.** (2022). Development of precocious avian hearing: Frequency specificity and cross-species comparison. Gordon Research Conference: Neural Mechanisms of Acoustic Communication.

13. Ordiway, G., McDonell, M., and **Sanchez J.T.** (2022). The auditory brainstem response in hatchling chicken. Assoc. Res. Otolaryngol. Abstract #2576

14. Szatkowski, G., Kosh, G., Engelke, K., Nguyen, M., and **Sanchez, J.T.** (2022). Comparison of commercially available auditory brainstem response stimuli and threshold intensity levels. Amer. Acad. Aud. PP506

15. McFarlane, K.A., Kidwell, E., Herb, I., Nguyen, M., and **Sanchez, J.T.** (2022). Electrocochleography: Does montage matter? Amer. Acad. Aud. PP509

16. McFarlane, K.A., and **Sanchez, J.T.** (2022). Neurodiagnostic ABR methods: Merging theory with clinical application. Amer. Acad. Aud. PP503

17. Sriram, S., Ordiway, G., and **Sanchez, J.T.** (2021). Spontaneous auditory neuron activity. Undergraduate Research & Arts Exposition. Northwestern University Office of Undergraduate Research. Asynchronous Poster #76

18. McLellan, K. Ordiway, G., and **Sanchez, J.T.** (2020). Spontaneous action potential activity in ultra-low frequency nucleus magnocellularis is ion channel dependent. Northwestern University Interdepartmental Neuroscience Program. Fall laboratory rotation poster

19. McFarlane, K.A., Welles, R., Bhat, A., Drenthe, C., Novak, L., Glavin, C.S.C., and **Sanchez, J.T.** (2020). Normal Audiogram but Difficulty Understanding Speech in Noise. Amer. Acad. Aud. Electronic Poster Presentation

20. Takahashi, M., and **Sanchez, J.T.** (2020). The Electrophysiological Effects of Neurotrophins on the Central Auditory System. Amer. Aud. Soc. Poster #4

21. McFarlane, K.A., Glavin, C.S.C, Welles, R., Bhat, A., Drenthe, C., Novak, L., and **Sanchez, J.T.** (2020). Building a Test Battery to Validate Speech in Noise Complaints. Amer. Aud. Soc. Poster #82

22. Ordiway, G., and **Sanchez, J.T.** (2020). Spontaneous action potential activity in ultra-low frequency nucleus magnocellularis is HCN channel dependent. Assoc. Res. Otolaryngol. Abstract #30. ***Travel funding awarded to Ordiway, G.**

23. Hong, H., Takahashi, M., and **Sanchez, J.T.** (2019). Neurotrophic factors regulate functional properties in the developing auditory brainstem. Assoc. Res. Otolaryngol. Abstract #859

24. Hong, H., and **Sanchez, J.T.** (2018). Bidirectional effect of brain-derived neurotrophic factor on the development of functional properties in the auditory brainstem. Gordon Research Conference: Auditory System

25. Cohen, A.L., and **Sanchez, J.T.** (2018). Auditory midbrain contribution to the pathophysiology of self-perceived speech in noise problems. Amer. Aud. Soc. Abstract Code: Poster # 6

26. Kelly, L.O., Brockner, A.E., Novak, L.S., and **Sanchez, J.T.** (2018). Measures to validate speech in noise complaints in young, normal-hearing individuals. Amer. Aud. Soc. Abstract Code: Poster # 96

27. Hong, H., Lu, T., Wang, X., Wang, Y., and **Sanchez, J.T.** (2018). Resurgent sodium current promotes action potential firing in the avian auditory brainstem. Assoc. Res. Otolaryngol. Abstract #335

28. Phillips, M.D., Manning, M., Byskosh, N., and **Sanchez J.T.** (2017). Clinical procedures to identify hidden hearing loss in humans. Amer. Aud. Soc. Abstract Code: AO03, Poster #17. ***Mentored Student Research Poster Award**

29. Lu, T., and **Sanchez, J.T.** (2017). Subunit composition of glutamate receptors in developing avian cochlear nucleus magnocellularis. Assoc. Res. Otolaryngol. Abstract #517

30. Wang, X., Hong, H., Brown, D., **Sanchez, J.T.,** and Wang, Y. (2017). Distinct neuronal mechanism for low-frequency processing in the chicken nucleus magnocellularis. Assoc. Res. Otolaryngol. Abstract #511

31. Hong, H., Wang, X., Wang, Y., **Sanchez, J.T.** (2017). Kv3, Kv2, and resurgent NaV currents shape burst firing for low-frequency processing in the avian cochlear nucleus magnocellularis. Selected podium presentation in Auditory Pathways: Brainstem. Assoc. Res. Otolaryngol. Abstract #113. ***Travel funding awarded to Hong, H.**

32. Hong, H., Wang, X., Wang, Y., and **Sanchez, J.T.** (2016). Distinct intrinsic properties of auditory neurons in the very low-frequency region of the avian cochlear nucleus magnocellularis. Gordon Research Conference: Auditory System

33. Lu, T., Wade, K., and **Sanchez, J.T.** (2016). Mechanisms underlying frequency-firing patterns of the avian cochlear nucleus magnocellularis: A computational model. Gordon Research Conference: Auditory System

34. Parker, J. P., Keesling, D., Phelan, J., and **Sanchez, J.T.** (2016). Is chirp superior? A comparison of commercially available ABR stimuli at a neurodiagnostic level. Amer. Acad. Aud. PP409

35. Hong, H., Feinstein, B., and **Sanchez, J.T.** (2016). Maturation of voltage-gated sodium channel properties in the avian cochlear nucleus magnocellularis. Assoc. Res. Otolaryngol. Abstract #751. ***Travel funding awarded to Hong, H. ^1 of 20 selected to participate in the Poster Blitz competition**

36. Hong, H., Rollman, L., Feinstein, B., and **Sanchez, J.T.** (2015). Development of fast and reliable intrinsic excitability in auditory brainstem neurons. Soc. Neurosci. Program No. 121.01

37. Rollman, L., Hong, H., and **Sanchez, J.T.** (2015). Developmental regulation of frequency firing patterns in the cochlear nucleus. Amer. Acad. Aud. PP508

38. Hong, H., Rollman, L., and **Sanchez, J.T.** (2015). High-voltage activated potassium channels regulate action potential time-coding properties in the developing avian cochlear nucleus. Assoc. Res. Otolaryngol. Abstract #544

39. Quinones, K., LaBelle, S., Ritz, M., and **Sanchez, J.T.** (2014). Mechanisms underlying short-term synaptic plasticity in the auditory brainstem. Amer. Acad. Aud. PP1230. ***James Jerger Award for Excellence in Student Research**

40. Hong, H., Xu, L., Pierre, D., and **Sanchez, J.T.** (2014). Voltage-dependent potassium conductances shape action potential properties around hearing onset. Amer. Aud. Soc. Abstract Code: ELECT10, Poster #65. ***Mentored Student Research Poster Award**

41. **Sanchez, J.T.,** Ghelani, S., Speedy, S., and Otto-Meyer, S. (2014). Glutamate transporters differentially shape synaptic responses in the developing auditory brainstem. Assoc. Res. Otolaryngol. Abstract #689

42. **Sanchez, J.T.** (2013) Developmental mechanisms of auditory neural excitability. NIH/NINDS Symposium, Broadening the Representation of Academic Investigators in NeuroScience (BRAINS)

43. **Sanchez, J.T.**, Seidl, A.H., Rubel, E.W., Barria, A. (2012). NMDA-type glutamate receptors control neuronal excitability in early-developing binaural auditory neurons. Soc. Neurosci. Program No. 36.01

44. Seidl, A., **Sanchez, J.T.**, Barria, A., Rubel, E.W. (2012). Systematic variations of conduction velocity to optimize coincidence detection. Gordon Research Conference: Auditory System

45. **Sanchez, J.T.**, Seidl, A., Rubel, E.W., and Barria, A. (2011). Functional role of NMDA-Rs in developing binaural auditory neurons. Assoc. Res. Otolaryngol. Abstract #694

46. **Sanchez, J.T.**, Wang, Y., Rubel, E.W., and Barria, A. (2010). Glutamate receptor development in binaural auditory neurons. Gordon Research Conference: Auditory System

47. **Sanchez, J.T.**, Wang, Y., Rubel, E.W., and Barria, A. (2009). Development of AMPA-R-mediated synaptic transmission in avian binaural auditory neurons. Soc. Neurosci. Program No. 259.4

48. **Sanchez, J.T.**, Rubel, E.W., and Barria, A. (2009). Developmental profile of ionotropic glutamate receptors in nucleus laminaris of the chick brainstem. Assoc. Res. Otolaryngol. Abstract #893

49. **Sanchez, J.T.**, and Sivaramakrishnan, S. (2008). Local circuits shape rate-level functions in the inferior colliculus. Assoc. Res. Otolaryngol. Abstract #330

50. **Sanchez, J.T.**, and Sivaramakrishnan, S. (2007). Gain control by local circuits in the inferior colliculus. Soc. Neurosci. Program No. 504.17

51. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2006). Spectral integration in the mustached bat's inferior colliculus is mediated by glycinergic inputs. Soc. Neurosci. Program No. 543

52. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2006). The dominant role of inhibitory inputs in combination sensitive facilitation: comparison of glycinergic and glutamatergic neurotransmission. Assoc. Res. Otolaryngol. Abstract #249

53. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2005). Roles of AMPA and NMDA mediated excitation on temporal response properties of inferior colliculus neurons. Assoc. Res. Otolaryngol. Abstract #234

54. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2005). Effects of glutamatergic receptor antagonist on inferior colliculus neurons. Am. Acad. Audiol. Abstract #PP606

55. **Sanchez, J.T.**, Gans, D., and Wenstrup, J.J. (2004). Differential roles of ionotropic glutamate receptors on temporal response properties of inferior colliculus neurons. Soc. Neurosci. Program No. 952.4

56. **Sanchez, J.T.**, Carlson, L., and Gans, D. (2004). The effects of multiple noise reduction techniques on the auditory evoked middle latency response. Am. Acad. Audiol. Abstract #PP421

57. **Sanchez, J.T.**, and Gans, D. (2003). Auditory brainstem response analysis using multiple noise reduction techniques. Am. Acad. Audiol. Abstract #PP412

58. Newman, C., Sandridge, S.A., **Sanchez, J.T.**, and Maroun, C. (2001). Patient & dispenser satisfaction with digital signal processing hearing aids. Am. Acad. Audiol. Abstract #P169

INVITED SCIENTIFIC PRESENTATIONS

1. 2023. A sound approach to hearing: Factors that regulate neuronal properties in the developing avian auditory brainstem. Roxelyn and Richard Pepper Distinguished Scientific Lectures. Northwestern University. Evanston, IL

2. 2022. Factors that regulate neuronal properties in the developing avian auditory brainstem. Brain Health Research Institute 10th Annual Neuroscience Symposium, Kent State University. Kent, OH

3. 2022. Specialized properties of the avian auditory system. Marine Biological Laboratories, Biology of the Inner Ear. Woods Hole, MA

4. 2022. Developmental regulation of neural excitability by neurotrophins in the avian cochlear nucleus. Gordon Research Conference. Auditory System, Bryant, RI

5. 2021. Clinical measures to validate communication problems for normal hearing adults. Cleveland Clinic Foundation AuD Graduation Ceremony. Cleveland OH

6. 2018. Clinical procedures to validate speech in noise difficulties for individuals who have normal audiograms. Topic area: Hearing and Tinnitus across the Lifespan, Symposium Session # 1223, American Speech-Language-Hearing Association Annual Convention, Boston MA

7. 2018. Topography heterogeneity at a central auditory synapse. Structure and function of circuits encoding sensory stimuli symposium. Genes, Brain, and Behavior Meeting. International Behavioral and Neural Genetics Society. Mayo Clinic, Rochester MN

8. 2018. Association for Research in Otolaryngology Travel Award Special Guest Speaker

9. 2017. Mechanisms of rapid action potential firing in the auditory brainstem. Brain and Bagels Research Seminar Series. University of Wisconsin

10. 2017. Hidden hearing loss in humans? British Society of Audiology eConference

11. 2017. Topography heterogeneity at a central auditory synapse. NUIN Annual Retreat, Northwestern University

12. 2017. Ion channel specializations shape action potential properties in the cochlear nucleus. John Niparko Research Seminar Series, Department of Otolaryngology, University of Southern California

13. 2017. Resurgent sodium current in the auditory brainstem. Neurobiology Seminar Series, Northeast Ohio Medical University

14. 2017. Biophysics of auditory temporal coding. Mayo Clinic Audiology Conference. Rochester MN

15. 2016. Maturation of biophysical specializations used for temporal coding in the auditory brainstem. Gordon Research Seminar: Auditory System. ***Keynote Speaker.** Bates College, Lewiston, ME

16. 2016. Biophysical properties of auditory temporal processing. Part 1/3 in structure and function of high-fidelity temporal processing: A clinical perspective. American Academy of Audiology Meeting, Phoenix, AR. Learning Module 339. Included in the eAudiology Web Series

17. 2016. Biophysical properties in the developing auditory brainstem. Neuroscience Seminar Series, Florida State University

18. 2015. Maturation of specialized biophysical properties in the auditory system. Department of Neurobiology Seminar Series. Northwestern University

19. 2015. Temporal processing in the hearing impaired. American Academy of Audiology Meeting, El Paso, TX. Featured Session 104

20. 2015. A cellular look at time-coding properties: Implications in temporal processing disorders. Ohio Academy of Audiology State Conference, Columbus, Ohio

21. 2014. Maturation of time coding properties in the cochlear nucleus. Department of Communication Disorders and Sciences, Ear Day Symposium, Rush University

22. 2014. Cellular mechanisms of neural synchrony; a developmental perspective. Knowles Hearing Center Symposium. Hearing Loss in Children: Is a little too much. Evanston, IL.

23. 2014. How auditory brainstem neurons develop biophysical specializations for temporal processing. American Auditory Society / Audiology Online Live Webinar Lecture Series. Course # 24215

24. 2014. Auditory temporal processing: It's about time. Northshore Chapter of the Hearing Loss Association of America. Northfield, IL.

25. 2014. Structure and function of high-fidelity temporal processing; A clinical perspective. American Academy of Audiology Meeting, Orlando, FL. Learning Modules 102 & 118

26. 2014. Speed is critical for auditory processing, not for starting an academic career. American Auditory Society Meeting, Scottsdale, AZ. Young Investigator Research Presentation

27. 2013. Development of speed and precision in the auditory brainstem. Department of Communication Disorders and Sciences, Ear Day Symposium, Rush University

28. 2012. Early control of neural excitability in the developing auditory brainstem. Department of Physiology, Feinberg School of Medicine, Northwestern University

29. 2012. Development of excitatory transmission in the auditory brainstem. Department of Speech and Hearing Science, Arizona State University. Tenure-track faculty interview, withdrew application

30. 2012. Development of excitatory transmission in the auditory brainstem. Head and Neck Institute, Cleveland Clinic. Tenure-track faculty interview, position offered, declined

31. 2012. Development of excitatory transmission in the auditory system. Department of Communication Sciences and Disorders. Northwestern University, Tenure-track faculty interview, position offered, accepted

32. 2012. Development of excitatory transmission in the auditory brainstem. Department of Speech-Language-Hearing: Sciences and Disorders, University of Kansas. Tenure-track faculty interview, position offered, declined

33. 2011. Development of rapid excitatory transmission in the avian auditory brainstem. George S. Osborne College of Audiology, Salus University. Tenure-track faculty interview, position offered, declined

34. 2011. Control of neuronal excitability by NMDA-Rs in developing binaural auditory neurons. Seminars in Hearing and Communication Sciences, University of Washington

35. 2009. Development of Ca^{2+}-permeable AMPA-Rs in binaural auditory neurons. Research presentation. Department of Physiology and Biophysics Annual Retreat. University of Washington

36. 2008. Developmental profile of glutamate receptors in a circuit used for sound localization. Research presentation. Department of Physiology and Biophysics Annual Retreat. University of Washington

37. 2007. Processing of complex sounds in the auditory midbrain. Research podium presentation. American Academy of Audiology Convention, Denver, Colorado

38. 2006. Glutamate, GABA, and Glycine: Contribution to complex sound processing in the auditory midbrain. Seminar, Neurobiology Department, Northeastern Ohio University College of Medicine

39. 2006. Glutamate neurotransmission and complex auditory processing. Seminar, Department of Physiology and Biophysics, University of Colorado at Denver and Health Sciences Center

40. 2006. Glutamatergic, GABAergic, and glycinergic neurotransmission in the processing of complex sounds in the auditory midbrain. Seminar, Virginia Merrill Bloedel Hearing Research Center, Department of Otolaryngology-Head and Neck Surgery, University of Washington

41. 2006. The role of glutamate neurotransmission in the processing of complex sounds in the auditory midbrain. Seminar, Eaton-Peabody Laboratory of Auditory Physiology, Massachusetts Eye and Ear Infirmary

42. 2006. Processing of complex sounds in the inferior colliculus: role of glutamatergic and glycinergic neurotransmission. Seminar, Department of Neurobiology, University of Pittsburgh

43. 2006. Contribution of NMDA receptors in the auditory midbrain. Student Research Forum, American Academy of Audiology Convention, Minneapolis, Minnesota

44. 2005. Vestibular-evoked myogenic potentials: a clinical case study. Electrophysiology Grand Rounds, Ohio Academy of Audiology State Conference, Columbus, Ohio

45. 2005. Glutamate in the central auditory system. Graduate Student Seminar, Northeastern Ohio Universities College of Medicine

46. 2004. Hearing preservation following vestibular schwannoma resection: the role of auditory intraoperative monitoring. Seminar, Neurobiology Department, Northeastern Ohio University College of Medicine

47. 2001. Auditory intraoperative monitoring and hearing preservation for acoustic neuroma surgery. Medical Grand Rounds, Cleveland Clinic

TEACHING

2024-cur	Instructor: Introduction to audiology, CSD 318. NU
2016-cur	Section instructor: Auditory system, NUIN 401-2. NU
2015-cur	Instructor: Electrophysiology of the human auditory system, CSD 425. NU
2014-cur	Instructor: Introduction to audiology distance learning, School of Profession Studies, CSD 318. NU
2014-cur	Section Instructor: Advanced neurobiology, NEUROBIO 402. NU
2013-cur	Section Instructor: Seminar on professional development, CSD 545. NU
2018-20	Instructor: Anatomy and physiology of central hearing, CSD 422. NU
2017-19	Co-Instructor: Auditory journal club, CSD 516. NU
2014-18	Co-Instructor: Vestibular science, CSD 428. NU
2013-18	Instructor: Introduction to audiology, CSD 318. NU
2013-14	Instructor: Pathologies of the ear II, CSD 499. NU
2013	Developer: Introduction to audiology online, School of Professional Studies, CSD 318. NU
2012	Section Instructor: AuD grand rounds, central auditory anatomy & physiology, CSD 599. NU
2009	Instructor: Advanced hearing science, SPHSC 509. UW
2007	Instructor: Anatomy & physiology of the peripheral auditory system, SP/A 70201. KSU
2006	Instructor: Introduction to hearing science, SP/A 33101. KSU
2005	Section instructor: Hearing science, COSI 3/421. Case Western Reserve University
2003	Section instructor: Clinical preparation in audiology, SP/A 33101. KSU
2002	Section instructor: Sensitivity & specificity issues in com. disorders, SP/A 74600. KSU
2002	Section instructor: Electrophysiology instrumentation principles, SP/A 74506. KSU
2001	Section instructor: Electrophysiology principles in CAP, SP/A 73691. KSU
2001	Section instructor: Somatosensory & visual evoked potentials, Ohio State University
2000	Co-instructor: Adult audiologic rehabilitation course, The Cleveland Clinic Foundation

UNDERGRADUATE ADVISING & MENTORING

2023-24 Lamptey, A., **Project:** *In ovo electroporation successfully targets neurons in the avian cochlear nucleus.* Undergraduate senior honors thesis, Department of Neurobiology, Weinberg College of Arts and Sciences, Northwestern University. Summer Undergraduate Research Grant (SURG), Northwestern University

2019-20 Vanchiswar, M., **Project:** *Ion channel contribution to spontaneous activity in the auditory brainstem.* Undergraduate senior honors thesis, Department of Neurobiology, Weinberg College of Arts and Sciences, Northwestern University

2018-19 Shin, J., **Project:** *NT3 and auditory brainstem development.* Summer Undergraduate Research Grant (SURG), Northwestern University

2018-19 Helfer, C., **Project:** *Determinants of action potential reliability.* Summer Undergraduate Research Grant (SURG), Northwestern University

2017-18 Cohen, A., **Project:** *Hidden hearing loss in humans.* Undergraduate senior honors thesis, Department of Communication Sciences and Disorders, School of Communication, Academic Year Undergraduate Research Grant (URG), Northwestern University

2015 Feinstein, B., **Project:** *The role of sodium channel maturation on rapid auditory temporal processing.* Summer Undergraduate Research Grant (SURG), Northwestern University

2014-14 Otto-Meyer, S., **Project:** *The role of presynaptic metabotropic glutamate receptors in the developing auditory brainstem.* Summer Undergraduate Research Grant (SURG), Northwestern University

2013 Otto-Meyer, S., **Project:** *Whole-cell patch-clamp electrophysiology techniques in the auditory brainstem.* Summer Internship Grant Program (SIGP), Northwestern University

2013-14 Ghelani, S., **Project:** *Role of glutamate transporters on NMDA-receptor transmission in the auditory brainstem.* Summer Undergraduate Research Grant (SURG), Northwestern University

2013-14 LaBelle, S., **Project:** *Rationale for using different internal patch-pipette recording solutions.* Early Research Experience Assistance Program (EREAP), School of Communication, Northwestern University

2013-14 Speedy, S., **Project:** *Potential mechanisms regulating AMPA-R trafficking in the developing auditory brainstem.* Undergraduate Research Assistant Program (URAP), Northwestern University

GRADUATE ADVISING & MENTORING

2024-cur Jenkins, E., and Lehmann, C., **Project:** *Avian cochlear nucleus neurons exhibit tonotopic specialization across development.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. Riley, Krull, and **Sanchez** (Chair).

2024-cur Amartey, B., **Project:** *Vocal Emotion Recognition: The Role of Intonation Perception and the Impact of Background Noise.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. Souza (Chair), Chatterjee, and **Sanchez**.

2021-cur Szatkowski, G., **Project:** *The effect of over-the-counter hearing aids on everyday communication.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. Souza (Chair), Chatterjee, and **Sanchez**.

2021-cur McLellan, K., **Project:** *Uncovering the functional effects of neurotrophins in the auditory brainstem.* Northwestern University Interdepartmental Neuroscience (NUIN) PhD Program. Northwestern University. Committee members: Drs. **Sanchez,** McClean (Chair), Raman and Cheatham. NRSA F31 recipient.

2019-cur Roy, A., **Project:** *TBD.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. Souza (Chair), TBD, and **Sanchez**.

2023-24 Wei, Enchi (Isaac)., **Project:** *Exploring the vestibular system's role in motion sickness.* Department of Neurobiology, Master of Science in Neurobiology, Northwestern University. Thesis committee members: Drs. Gallio, Lee, and **Sanchez** (Chair).

2023-24 Suresh, P., and Coleman, K., **Project:** *Characterizing the relationship between distortion product otoacoustic emissions (DPOAE) and auditory brainstem responses (ABR) level growth functions in individuals with normal hearing.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** and Dhar (Chairs) and Reilly.

2022-23 Ortiz Baca, P., **Project:** *Specialized potassium currents in the avian cochlea nucleus.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Reilly.

2022-23 Ramos, I., and Niemann, J., **Project:** *Relating speech-in-noise tests with different sensory demands to a proxy of cochlear synaptopathy.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Reilly.

2022-23 Hecksel, M., and Mirdad, D., **Project:** *Characterizing the relationship between distortion product otoacoustic emissions (DPOAE) and auditory brainstem responses (ABR) level growth functions in individuals with normal hearing.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** and Dhar (Chairs) and Reilly.

2021-22 Kidwell, E., and Herb, I., **Project:** *Electrocochleography: Does montage matter?* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Reilly.

2021-22 Kosh, G., and Engelke, K., **Project:** *Comparison of commercially available auditory brainstem response stimuli and threshold intensity levels.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Reilly.

2020-22 Bartley, S., **Project:** *The Physiological Role of Amyloid Beta Oligomers in the Developing Central Nervous System.* Department of Neurobiology, Master of Science in Neurobiology, Northwestern University. Thesis committee members: Drs. Cline (Chair), Schmidt, and **Sanchez**

2020-22 McDonnell, M., **Project:** *Characterization of chick hatchlings' auditory brainstem responses.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Committee members: Drs. **Sanchez** (Chair) and Reilly.

2019-24 McFarlane, K., **Project:** *Speech in noise difficulty despite normal audiogram: Exploring the role of temporal coding at the auditory peripheral, central, and perceptual levels.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. **Sanchez** (Chair), Siegel, Norton, and Souza.

2019-24 Glavin, C., **Project:** *Cochlear manifestations of speech perception in noise ability.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Committee members: Drs. Dhar (Chair), Souza, Siegel, and **Sanchez**. NRSA F32 recipient.

2018-23 Ordiway, G., **Project:** *Biophysical properties regulating spike-time dependent reliability.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Dissertation committee members: Drs. **Sanchez** (Chair), Siegel, and Cheatham.

2018-22 Wilson, U., **Project:** *Assessing the human cochlea using stimulus frequency otoacoustic emissions.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Dissertation committee members: NRSA F31 Funded Project. Drs. Dhar (Chair), Siegel, and **Sanchez.**

2018-20 Bhat, A., Drenthe, C., and Welles, R., **Project:** *Normal audiogram but trouble with speech in noise.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Reilly.

2018-19 Ho, Evalyn., Project: *The surprising expression of amyloid beta oligomers during development: transient expression of AD-relevant proteins in the avian retina.* Department of Neurobiology, Master of Science in Neurobiology, Northwestern University. Thesis committee members: Drs. Cline (Chair), Segraves, and **Sanchez.**

2017-23 Takahashi, M., **Project:** *Neurotrophin signaling in the developing auditory brainstem.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Dissertation committee members: Drs. **Sanchez** (Chair), Siegel, and Cheatham

2017-19 Kelly, L., and Brockner, A. **Project:** *Hidden hearing loss in young adults?* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair) and Scott.

2017-18 Rao, N., **Project:** *The physiological role of Alzheimer's related amyloid-beta oligomers and hyperphosphorylation of tau protein in the developing chick central nervous system.* Department of Neurobiology, Master of Science in Neurobiology, Northwestern University. Thesis committee members: Drs. Cline (Chair), Schmidt, and **Sanchez.**

2016-19 Xu, Y., **Project:** *Towards optical cochlear implants.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Dissertation committee members: Drs. Richter (Chair), **Sanchez**, and Grieco-Calub.

2016-18 Phillips, M. **Project:** *Development towards subjective and objective clinical procedures to identify hidden hearing loss.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair), Siegel, and Riley.

2015-17 McLaughlin, K. **Project:** *Outer Hair Cell Survival in Prestin Knockout/Tecta C1509G Heterozygous Mice.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. Cheatham (Chair), **Sanchez**, and Homma

2015-17 Kahn, E., and Robertson M. **Project:** *The effects of recreational noise exposure on hearing.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. Siegel (Chair), **Sanchez**, and Souza.

2015-17 Stanley, B. **Project:** *A neural basis for audiophilia.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. Kraus (Chair), **Sanchez**, and Trent Nichol.

2015-17 Wade, K. **Project:** *Physiological mechanisms regulating frequency-firing probabilities in the avian nucleus magnocellularis: a computational model.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair), Siegel, and Lu.

2015-17 Parker, J.P., and Keesling, D. **Project:** *Is chirp superior? A comparison of commercially available ABR stimuli at a neurodiagnostic level.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair), Phelan, and Riley.

2015-17 Chihade, D.L., **Project:** *Cortical original of frontal EEG asymmetry in major depressive disorders.* Department of Neurobiology, Master of Science in Neurobiology, Northwestern University. Thesis committee members: Drs. Raij (Chair), Ahveninen, Segraves, and **Sanchez.**

2014-16 Rollman, L., **Project:** *Developmental regulation of frequency firing patterns in the cochlear nucleus.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair), Riley, and Hui Hong.

2013-15 Quinones-Ortiz, K.M., **Project:** *Time-course of short-term synaptic depression in the cochlear nucleus.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. **Sanchez** (Chair), Siegel, and Cheatham.

2013-19 Hong, H., **Project:** *Intrinsic specializations in the developing cochlear nucleus.* Department of Communication Sciences and Disorders, PhD Program, Northwestern University. Dissertation committee members: Drs. **Sanchez** (Chair), Siegel, and Cheatham.

2012-14 Flores, E., **Project:** *Elucidating the Role of Type II Afferent Neurons in Auditory Nociception.* Department of Anesthesiology, Feinberg School of Medicine, PhD Program, Northwestern University. Dissertation committee members: Drs. Miller (Chair), Bartles, Garcia-Anoveros, **and Sanchez.**

2012-14 Baiduc, R., **Project:** *Differential diagnosis of presbycusis: beyond audiometric phenotypes.* Department of Communication Sciences and Disorders, Program in Public Health, PhD Program, Northwestern

University. Dissertation committee members: Drs. Dhar (Chair), **Sanchez**, Siegel, and Cheatham.

2012-14 Swedenborg, B., **Project:** *Musical experience and speech in noise perception: the role of the peripheral auditory system.* Department of Communication Sciences and Disorders, AuD Program, Northwestern University. Capstone committee members: Drs. Kraus (Chair), Dhar, and **Sanchez.**

AWARDS & HONORS

2025 The Clarence Simon Award for Outstanding Teacher and Mentor, School of Communication, NU
2019 Faculty Appreciation Recipient, Department of Athletics and Recreation, NU
2015-17 Faculty Honor Roll, Associated Student Government, NU
2015 The Clarence Simon Award for Outstanding Teacher and Mentor, School of Communication, NU
2014 Career Development Award, BRAINS
2014 Young Investigator Award, American Auditory Society
2013 Invited speaker, Family Weekend, Northwestern University
2013 Invited speaker, Lessons for Success Meeting, ASHA
2013 Selected participant, NIH/NINDS sponsored, BRAINS symposium
2011 Audiologist Travel Award, Association for Research in Otolaryngology (ARO) meeting
2010 Poster Award winner, Department of Physiology & Biophysics retreat, UW
2009 Minority Scientist Travel Award, ARO meeting
2008 Minority Scientist Travel Award, Gordon Research Conference, Auditory System
2007 Travel Award, American Academy of Audiology (AAA) meeting
2006 Student Research Forum Award winner, AAA Foundation
2006 Travel Award, ASHA meeting
2005 New Century Scholars' program doctoral scholarship, American-Speech-Language-Hearing Foundation
2003 Mentored research student poster award winner, American Auditory Society
2003 Collegiate all-American scholar, United States Achievement Academy

NORTHWESTERN UNIVERSITY SERVICE

2021-cur Student advisory: Northwestern University Interdepartmental Neuroscience (NUIN) Ph.D. Program.
2020-cur Director of Graduate Studies (DGS): Department of Communication Sciences and Disorders
2020-cur Committee member: Faculty Advisory Committee. Department of Communication Sciences and Disorders
2019-cur Chair: PhD admissions committee, Department of Communication Sciences and Disorder
2015-cur Committee member: Undergraduate Major in Neuroscience Advisory Board, Department of Neurobiology
2014-cur Research advisor, Department of Neurobiology Master's Program in Neurobiology
2024-25 Committee member: Open rank tenure track faculty search, Department of Communication Sciences and Disorders
2014-23 Chair: Knowles Scholar Research Seminar Series
2022-23 Committee member: AuD admissions committee, Department of Communication Sciences and Disorder
2019-22 Committee member: Office for Research Limited Submissions Advisory Committee. Office of Research Development.
2020-21 Committee member: Faculty leave policy. School of Communication
2014-21 Campus Security Authority, Northwestern University
2014-21 Faculty advisor: Graduate student organization, Student Academy of Audiology, Northwestern University
2019-20 Chair: Future direction committee, Department of Communication Sciences and Disorders
2019-20 Committee member: Search for tenure-track position. Speech-Language and Learning. Department of Communication Sciences and Disorders
2017-20 Committee member: Knowles Research Center Annual Symposium
2014-20 Faculty co-advisor: Undergraduate student organization, NeuroClub
2018-19 Faculty judge: Undergraduate Research and Arts Exposition, Office of Undergraduate Research
2018-19 Committee member: Undergraduate Neuroscience Honors Thesis Reviewer. Department of Neurobiology
2016-17 Committee member: Search for a tenure-track faculty position. Hearing. Department of Communication Sciences and Disorders
2016-17 Faculty judge: Undergraduate Research and Arts Exposition, Office of Undergraduate Research

2015-16 Committee member: PhD admissions committee, Interdepartmental Neuroscience Program, Department of Neurobiology and Physiology
2015-16 Committee member: Search for a joint appointment tenure-track position. Hearing and Neuroscience. Departments of Communication Sciences and Disorders and Neurobiology
2014-15 Committee member: Search for *four* tenure-track positions. Speech-Language and Learning. Three of four are currently filled. Department of Communication Sciences and Disorders
2015-18 Committee member: All schools honor committee, School of Communication
2014-18 Co-Chair: Undergraduate Affairs, Department of Communication Sciences and Disorders
2014-16 Co-Faculty advisor: Postdoctoral affairs, Interdepartmental Neuroscience Program
2014-15 Committee member: Search for tenure-track faculty position, Department of Neurobiology
2014-15 Chair: Search committee for two clinical audiologist positions, Department of Communication Sciences and Disorders
2014-15 Faculty judge: Undergraduate Research and Arts Exposition, Office of Undergraduate Research
2013-14 Committee member: Knowles Research Center Annual Symposium
2013-14 Committee member: PhD admissions committee, Interdepartmental Neuroscience Program, Department of Neurobiology and Physiology
2013-14 Committee member: PhD admissions committee, Department of Communication Sciences and Disorders
2012-13 Committee Chair: AuD/PhD dual degree committee, Department of Communication Sciences and Disorders
2012-13 Committee member: Event planning committee, Department of Communication Sciences and Disorders
2012-13 Committee member: PhD recruitment committee, Department of Communication Sciences and Disorders

PROFESSIONAL SERVICE

Member NIH/NIDCD, AUD study section (2022-2026)
Ex. Board: Hearing Health Foundation Council of Scientific Trustees (2022-cur)
Ex. Board: Biology of the Inner Ear, University of Chicago Marine Biological Laboratory (2022-cur)
Ex. Board: Brain Health Research Institute, Kent State University (2022-cur)
Ed. Board: Springer Handbook of Auditory Research (SHAR) series (2021-cur)
Ad hoc rev: NIH/NIDCD AUD study section (2021)
Sect. editor Molecular and Cellular, Neuroscience Insights (2018-cur)
Ad hoc rev: Scientific Reports
Ad hoc rev: Journal of the American Academy of Audiology
Ad hoc rev: Biotechnology and Biological Sciences Research Council (BBSRC)
Ad hoc rev: Neural Regeneration Research
Ad hoc rev: Frontiers in Neural Circuits
Ad hoc rev: Journal of Neuroscience
Ad hoc rev: Journal of Neurophysiology
Ad hoc rev: Neuropharmacology
Ad hoc rev: Public Library of Science One (PLoS One)
2016 Consultant: Expert Network LLC. Prospective drug compounds for the treatment of tinnitus
2016 Consultant: Alpha Sights Ltd. Prospective drug compounds for the treatment of tinnitus
2011 Ad hoc reviewer: New investigators research grant, ASHFoundation
2008 Invited chair: Auditory System, Gordon-Kenan Graduate Research Seminar
2007 Invited member: Scientifically based professional practice, ASHA
2006 Invited member: Publications Committee, AAA

PROFESSIONAL AFFILIATIONS, DEVELOPMENT, LICENSURES & CERTIFICATION

2017-cur Licensed audiologist: Illinois Department of Financial and Professional Regulation (license #147.001618)
2016-cur Fellow: American Academy of Audiology (AAA)
2015-cur Invited secondary faculty appointment, Department of Neurobiology, Northwestern University
2015-cur Member: American Auditory Society (AAS)
2013-cur Member: Association for Research in Otolaryngology (ARO)
2012-cur Fellow: Knowles Hearing Center, Northwestern University

2012-cur	Faculty member: Interdepartmental Neuroscience Program, Northwestern University
2001-cur	Certified audiologist: ASHA (certification #12054326)
2023-24	Mid-Career Faculty Service Workshop, Office of the Provost, Northwestern University
2016-22	Licensed audiologist: Ohio Board of Speech-Language Pathology and Audiology (license #A.01333)
2016	Workshop for Research Mentors, The Graduate School, Northwestern University
2012	Faculty teaching workshop, Searle Center for Teaching Excellence, Northwestern University
2011	Developing the emerging scientist, American Speech-Language-Hearing Association (ASHA)
2009	Future faculty fellow, University of Washington and Howard Hughes Medical Institute
2006	Writing and reviewing for scientific journals, American Physiology Society
2005	Developing the emerging scientist, ASHA

PROFESSIONAL FEATURES

Feloy, E. (April 5, 2018). A Sound Approach to the Study of Hearing. Research Features Magazine, pg. 42-45. Issue 125. http://cdn.researchfeatures.com/3d_issues/issue125/index.html

Osman, H. (March 2014). From Clinician to Researcher: An Inside Look at the Career of an AuD/PhD Audiologist. Student Academy of Audiology, The American Academy of Audiology. http://www.audiology.org/SAA/SAA_News/SAA_interviews/Pages/SpecialEdition.aspx

Rowden-Racette, K. (Oct 12, 2010). In the Limelight: Breaking the Mold: Audiologist at a Crossroads: A Career with Harley Davidson or in Research? The ASHA Leader. https://leader.pubs.asha.org/article.aspx?articleid=2291830