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**CLINICAL INTERESTS:** Neonatology

**RESEARCH INTERESTS:** Fetal and infant brain development

**EDUCATION:**

- 2023-present: Pediatric Residency, Children's National Hospital, Washington, DC  
**Track:** Integrated Research Pathway
- 2014-2023: MD/PhD program, Georgetown University School of Medicine, Washington, DC  
**Degrees:** 2021, PhD in Neuroscience; 2023, MD
- 2008-2012: Columbia University School of Engineering and Applied Mathematics, New York, NY  
**Degree:** B.S., Applied Mathematics

**RESEARCH EXPERIENCES:**

- Developing Brain Institute, Children's National, DC  
**Dates:** 2024-2026  
**Position:** R38 Scholar  
**Mentor:** Dr. Catherine Limperopoulos  
**Topic:** Investigating the Role of Subplate Dysmaturity in Patients with Congenital Heart Disease.
- Developing Brain Institute, Children's National, DC  
**Dates:** 2022-2024  
**Position:** Researcher  
**Mentor:** Dr. Catherine Limperopoulos  
**Topic:** Investigating the development of sensory systems during infancy
- Laboratory for Computational Cognitive Neuroscience, Georgetown University  
**Dates:** 2016-2021  
**Position:** Doctoral Graduate Student  
**Mentor:** Dr. Maximilian Riesenhuber  
**Topic:** Investigating architecture of adult cortical sensory hierarchies and their interactions
- Functional and Restorative Neurosurgery Unit, National Institutes of Health  
**Dates:** 2012-2014  
**Position:** Intramural Research Training Award Fellow  
**Mentor:** Dr. Kareem Zaghloul  
**Topic:** Investigating the neural correlates of memory and decision-making in humans using intracranial electroencephalography recordings.
- Frontier Laboratories, University of Rochester  
**Dates:** 2010  
**Position:** Research Experience for Undergraduates Fellow  
**Mentor:** Dr. Allison Frontier  
**Topic:** Investigating the synthesis of new classes of bioactive molecules via the Nazarov Cyclization reaction.
- Stojanovic Laboratories, Columbia University Medical Center  
**Dates:** 2006-2007  
**Position:** Research Assistant

**Mentor:** Dr. Milan Stojanovic

**Topic:** Investigating the development of novel DNA aptamer constructs for use in non-invasive drug delivery and monitoring systems

## PUBLICATIONS:

- Damera, S. R., et al., Fetal Subplate Dysmaturity Predicts Early Motor Outcomes in Congenital Heart Disease. (2025). *In Preparation.*
- Banerjee, S. et al., Evidence for hierarchical representations of written and spoken words from an open-science human neuroimaging dataset. (2025) *Under Review*
- Chang, L. et al., et al., Evidence for Hierarchical Representations of Written and Spoken Words from an Open-Science Human Neuroimaging Dataset. (2025). *Under Review.*
- Damera, S. R. et al., Altered Brain State Dynamics Between Preterm and Term-born Infants. *Imaging Neuroscience* (2025).
- Damera, S. R. et al., Regional Homogeneity as a Marker of Sensory Cortex Dysmaturity in Preterm Infants. *iScience*. 109662 (2024) doi:10.1016/j.isci.2024.109662.
- Damera, S. R. et al., Evidence for a Spoken Word Lexicon in the Auditory Ventral Stream. *Neurobiology Lang* 1–40 (2023) doi:10.1162/nol\_a\_00108.
- Damera, S. R. et al., Metamodal Coupling of Vibrotactile and Auditory Speech Processing Systems Through Matched Stimulus Representations. *J. Neurosci.* 43, JN-RM-1710-22 (2023).
- Jiang, X. et al., Cingulate transcranial direct current stimulation in adults with HIV. *Plos One* 17, e0269491 (2022).
- Damera, S.R. et al., From Shape to Meaning: Evidence for Multiple Fast Feedforward Hierarchies of Concept Processing in the Human Brain. *Neuroimage* 117148 (2020) doi:10.1016/j.neuroimage. 2020.117148.
- Trotta, M. S. et al., Surface based electrode localization and standardized regions of interest for intracranial EEG. *Hum Brain Mapp* 39, 709–721 (2018).
- Zavala, B. et al., Human Subthalamic Nucleus Theta and Beta Oscillations Entrain Neuronal Firing During Sensorimotor Conflict. *Cerebral Cortex* 27, 496–508 (2017).
- Haque, R. U. et al., Cortical Low-Frequency Power and Progressive Phase Synchrony Precede Successful Memory Encoding. *The Journal of Neuroscience* 35, 13577–13586 (2015).
- Yaffe, R. B. et al., Reinstatement of distributed cortical oscillations occurs with precise spatiotemporal dynamics during successful memory retrieval. *Proceedings of the National Academy of Sciences* 111, 18727–18732 (2014).
- Taylor, S. K. et al., Triggered Release of an Active Peptide Conjugate from a DNA Device by an Orally Administrable Small Molecule. *Angewandte Chemie International Edition* 48, 4394–4397 (2009).

## TALKS:

- Damera, S. R. et al., (2023, April 27- May 1). Regional Homogeneity as a Marker of Sensory Cortex Dysmaturity in Premature Infants. [Oral Abstract]. *Pediatric Academic Societies*.
- Riesenhuber, M. et al., (2022, November 12–16). Experience-dependent metamodal coupling of vibrotactile and auditory speech processing systems through matched stimulus representations. [Nanosymposium]. *Neuroscience*.
- Damera, S. R. et al., (2021, October 5-8). Evidence for Multiple Fast Feedforward Hierarchies of Concept Processing in the Human Brain. In Persichetti, A.S. and Martin, A. (Chairs), Semantic Knowledge Representations in the Anterior Temporal Lobe and Beyond [Symposium]. *Society for the Neurobiology of Language Annual Meeting*.

## CONFERENCE ABSTRACTS:

- Damera, S. R. et al., Tensor-Based Morphometry Identifies Impaired Growth of Novel Brain Areas in Fetuses with Congenital Heart Disease. *Pediatric Academic Societies*. 2025.
- Damera, S. R. et al., Regional Homogeneity Tracks Sensory Cortex Dysmaturity and Predicts Future Risk of Autism in Preterm Infants. *Children's National Hospital Research, Education, and Innovation Week*. 2024.
- Damera, S. R. et al., Evidence for a Spoken Word Lexicon in the Auditory Ventral Stream. *Neuroscience* 2022.
- Nikolov, P. et al., Architecture of Speech Production and Speech Perception Pathways. *Neuroscience* 2022.
- Chang, L. et al., Visual Speech Processing Interfaces with Areas Selective for Spoken Words in Ventral and Dorsal Speech Pathways. *Neuroscience* 2022.
- Chang, L. et al., Evidence for Selective and Modality-Dependent Functional Connectivity and Cross-Modal Activation Between the AWFA and VWFA. *Cognitive Neuroscience Society* 2022.
- Damera, S. R et al., A Lexicon in the Anterior Auditory Ventral Stream: Preliminary Evidence From an fMRI-RA Study. *Society for the Neurobiology of Language* 2019.
- Damera, S. R. et al., EEG MVPA Provides Evidence for Short Latency Semantic Representations in Temporal and Parietal Areas Compatible with a Feedforward Simple-to-Complex Hierarchy. *Neuroscience* 2017.
- Yaffe, R. B., et al., Reinstatement of Distributed Spatiotemporal Patterns of Oscillatory Power During Associative Memory Recall. *Neuroscience* 2014.
- Damera, S. R. et al., Oscillatory Power Distinguishes Different Levels of Linguistic Context. *Neuroscience* 2013.

#### **TEACHING EXPERIENCE:**

- Computational Neuroscience NSCI 526  
**Role:** Teaching Assistant
- Drugs, Brain and Behavior ICOS 325  
**Role:** Guest Lecturer
- Medical Neuroscience IMSC 533  
**Role:** Teaching Assistant