

Mia E. Hoffman

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EDUCATION

- 2021 – Present **PhD, Mechanical Engineering**, University of Washington, Seattle
Advisors: Dr. Kat Steele and Dr. Heather Feldner
Research: *Mobility and Accessible Play Technologies for Young Children*
- 2023 **MS, Mechanical Engineering**, University of Washington, Seattle
- 2017 – 2021 **BS, Mechanical Engineering**, University of Notre Dame, Notre Dame, IN
Advisor: Maria Holland | Minor: Bioengineering
Senior Thesis: *Computational Study on the Mechanics of Growth and Brain Folding of Non-human Primate Brains.*

PUBLICATIONS

- [4] **Hoffman, Mia E.**, Katherine M. Steele, Jon E. Froehlich, Kyle N. Winfree, and Heather A. Feldner. “Off to the Park: A Geospatial Investigation of Ride-on Car Usage.” *Submitted*.
- [3] **Hoffman, Mia E.**, Katherine M. Steele, Kyle N. Winfree, and Heather A. Feldner. “The Impact of the Built Environment on Early Power Mobility Access.” UrbanAccess’22 Workshop at ASSETS. <https://accessiblecities.github.io/UrbanAccess2022/#accepted-papers>
- [2] Demirci, Nagehan, **Mia E. Hoffman**, and Maria A. Holland. “Systematic cortical thickness patterns in primates suggest a universal physical law of folding.” *Submitted*.
- [1] Darayi, Mohsen, **Mia E. Hoffman**, John Sayut, Shuolun Wang, Nagehan Demirci, Jack Consolini, and Maria A. Holland. 2021. “Computational Models of Cortical Folding: A Review of Common Approaches.” *Journal of Biomechanics*. 2021. <https://doi.org/10.1016/j.jbiomech.2021.110851>.

PRESENTATIONS

Oral Presentations

- [6] Abuatiq, R., **Hoffman, ME.**, Fiss, A., Looper, J., Feldner, H.A. “Exploring the Benefits of a Dynamic Harness System Using Partial Body Weight Support on Gross Motor Development for Infants with Down Syndrome”. Academy of Pediatric Physical Therapy Annual Conference, October 28, 2023, Omaha, NE.
- [5] **Hoffman, ME.**, Abuatiq R., Fiss AL., Looper J., Steele KM., Feldner HA. “Quantifying the Activity Levels of Toddlers with Down Syndrome Playing in a Partial Body Weight Support System”. AACPDM, September 10-13, 2023, Chicago, IL.
- [4] **Hoffman, ME.**, Sloane B., Fragomeni A., Steele KM., Feldner HA. “Exploring the World on Wheels: A Geospatial Comparison of Two Pediatric Mobility Devices”. RESNA, July 24- 26, 2023, New Orleans, LA.

- [3] **Hoffman, ME.**, Steele KM., Winfree KN., Feldner HA. “Why Can’t I go to the Park?” A Geospatial Analysis of How the Built Environment Impacts Adapted Ride-on Car Use”. International Seating Symposium, April 13-15, 2023, Pittsburgh, PA.
- [2] **Hoffman, ME.**, Steele KM., Winfree KN., Feldner HA. “A Geospatial Investigation of Adapted Ride-on Car Usage and the Lived Environment”. Justys F. Lehmann Symposium, June 2, 2022, Seattle, WA.
- [1] **Hoffman, ME.**, Holland, MA. “Analyzing the Cortical Thickness of the Primate Brain using Magnetic Resonance Imaging”. WE20, November 2-13, 2020, Virtual Meeting.

Poster Presentations

- [16] Feldner HA, Fragomeni A, Hoffman ME, Ingraham KE, Keithley K, Kuhl PK, Lynn A, Meltzoof A, Zaino NL, Steele KM. “He could go wherever he wanted”: Driving proficiency, developmental change, and caregiver perceptions following powered mobility training for children 1-3 years with disabilities. AACPDM, 2023, Chicago, IL.
- [15] Zaino NL, Ingraham KA, Hoffman ME, Feldner HA, Steele KM. “Quantifying toddler exploration in seated and standing postures with powered mobility.” RESNA, 2023, New Orleans, LA.
- [14] **Hoffman, ME.**, Campos Zamora D., Froehlich, JE. Steele, KM. Feldner, HA. ““Turn right here”: A Quantitative Approach to Testing the Efficacy of Novel Steering Modifications for Adapted Ride-on Cars”. CREATE Research Showcase, June 1, 2023, Seattle, WA.
- [13] **Hoffman, ME.**, Abuatiq R, Looper J, Fiss A, Steele KM, Feldner, HA. “Quantifying the Activity Levels of Toddlers with Down syndrome Playing in a Partial Bodyweight Support System”. Northwest Biomechanics Symposium (NWBS), May 19-20, 2023, Seattle, WA.
- [12] **Hoffman, ME.**, Campos Zamora D., Froehlich, JE. Steele, KM. Feldner, HA. ““Turn right here”: A Quantitative Approach to Testing the Efficacy of Novel Steering Modifications for Adapted Ride-on Cars”. International Seating Symposium, April 13-15, 2023, Pittsburgh, PA.
- [11] **Hoffman, ME.**, Steele KM., Winfree KN., Feldner HA. ““Watch where I am going”: a geospatial investigation of adapted ride-on car usage”. AACPDM, September 21-24, 2022, Las Vegas, NV.
- [10] **Hoffman, ME.**, Steele KM., Winfree KN., Feldner HA. “A Geospatial Investigation of Adapted Ride-on Car Usage and the Lived Environment”. CREATE Community Day & Research Showcase, June 8, 2022, Seattle, WA.
- [9] **Hoffman, ME.**, Feldner HA., Steele, KM. “Grab the Wheel: Steering Modifications for Adapted Ride-on Cars”. NWBS 2022, May 20-21, 2022, Pullman, WA.
- [8] **Hoffman, ME.**, Demirci N., and Holland, MA. “The Relation Between Cortical Thickness and Morphology: A Study of Nonhuman Primate Brains”. SB3C 2021, June 14-18, 2021, Virtual Meeting.
- [7] **Hoffman, ME.**, Sayut, J., Holland, MA., “Analyzing the Cortical Thickness of Mammalian Species through the Segmentation of Magnetic Resonance Imaging Scans”. SB3C 2020, June 17-20, 2020, Virtual Meeting.
- [6] **Hoffman, ME.**, Holland, MA., “Analyzing the Cortical Thickness of the Primate Brain through the Segmentation of Magnetic Resonance Imaging”. Neurizons 2020, May 26-29, 2020, Virtual Meeting.
- [5] **Hoffman, ME.**, Carney, LH., “The Effects of a Precursor Noise on the Intelligibility of Speech Stimuli”. Undergraduate Research and Experiential Learning Showcase, November 9, 2020, Notre Dame, IN.

- [4] **Hoffman, ME.**, Mehta, AH., Allen, EJ., Oxenham, AJ., “Locating Pitch in the Brain Using Harmonic and Inharmonic Tones”. Summer Undergraduate Research Symposium, August 7, 2019, Minneapolis, MN.
- [3] **Hoffman, ME.**, Carney, LH., “The Effects of a Precursor Noise on the Intelligibility of Speech Stimuli”. Notre Dame Scholars Visit Poster Fair, March 25, 2019, Notre Dame, IN.
- [2] **Hoffman, ME.**, Carney, LH., “The Effects of a Precursor Noise on the Intelligibility of Speech Stimuli”. Kearns Research Symposium, July 30, 2018, Rochester, NY.
- [1] **Hoffman, ME.**, Rumpf, W., Buhimschi, IA., Ray, W., “Using Cluster Analysis to Discover Protein Groupings that Identify Preeclampsia”. End of Summer Poster Competition, August 5, 2016, Columbus, OH.

RESEARCH EXPERIENCE

Sep 2021 - present	<p>Biomechanics & Accessibility Ability & Innovation Lab, University of Washington Co-advisor: Katherine M. Steele IMPACT Collaboratory, University of Washington Co-advisor: Heather A. Feldner <i>Mobility and accessible play technology for young children</i></p>
Aug 2018 – May 2021	<p>Medical Imaging & Solid Mechanics CoMMaND Lab, University of Notre Dame Advisor: Maria Holland <i>Computational mechanics of the non-human primate brain</i></p>
May – Aug 2019	<p>Auditory Neuroscience & MRI, NSF Neuroimaging REU Auditory Perception and Cognition Lab, University of Minnesota Advisor: Andrew Oxenham <i>Identification of “pitch-sensitive regions” of the brain</i></p>
May – Aug 2018	<p>Auditory Neuroscience, NSF Advancing Human Health, From Nano to Network REU Carney Lab, University of Rochester, Rochester, NY Advisor: Laurel H. Carney <i>Impact of a precursor noise on the efferent auditory system</i></p>
June – Aug 2016	<p>Data-Driven Methods, Future Matters Program Battelle Center for Mathematical Medicine, Nationwide Children’s Hospital Advisor: William C. Ray <i>Identification of proteins for the diagnosis of preeclampsia</i></p>

TEACHING & MENTORING

Fall 2023	Mentor at 2023 NextProf Pathfinder Workshop, Oct 22-24, 2023, Ann Arbor, MI.
2023 – Present	Tiffany Li, DPT Student
2023 – Present	Kate Bokowy, ME Undergraduate Student
Winter & Spring 2023	HuskyADAPT Mechanical Engineering Capstones (University of Washington, Seattle, WA)
Advisor	
Winter & Spring 2022	HuskyADAPT Mechanical Engineering and Bioengineering Capstone (University of Washington, Seattle, WA)
Mentor	

Spring 2021 **Introduction to Electrical Engineering and Embedded Systems** (University of Notre
 Teaching Dame, Notre Dame, IN)
 Assistant

- Taught experimental physical computing lab sessions
- Graded 120 lab reports weekly

INVITED TALKS

Nov 2022 Meta Day, University of Washington, Seattle, WA.
 Oct 2022 Oregon Health and Science University Seminar Guest Speaker, virtual.

PROFESSIONAL DEVELOPMENT

Skills Development 2022 NextProf Pathfinder Workshop, Oct 2-4, 2022, San Diego, CA. [Link](#).
Workshop

HONORS & AWARDS

2023 Honorable Mention for Best Poster, Northwest Biomechanics Symposium
 2022 Honorable Mention for Accessibility, CREATE Accessible and Inclusive Textiles Hackfest
 2021 Ron and Wanda Crockett Endowed Fellowship in Mechanical Engineering
 2021 University of Notre Dame Bioengineering Outstanding Undergraduate Researcher Award
 2021 National Science Foundation Graduate Research Fellowship [Link](#)
 2019, 2020 Dean's List, University of Notre Dame
 2018 Sorin Fellow, University of Notre Dame
 2018 Dean's Citation for Broadening Participation in Research, University of Rochester
 2017 Glenna R. Joyce Scholarship, Merit Scholarship, University of Notre Dame

SERVICE

<i>HuskyADAPT, University of Washington</i> Link	Student Executive Chair Design Chair	April 2023 – present June 2022 – June 2023
<i>Mechanical Engineering Graduate Student Association (MEGA), University of Washington</i>	Social Chair Member	March 2022 – January 2023 July 2021 – present
<i>Enable ND, University of Notre Dame</i> Link	President Vice-President Director of Research and Development	2020 - 2021 2019 2018 - 2019
<i>Society of Women Engineers, University of Notre Dame</i>	Director of Diversity Director of Outreach	2020-2019 2018-2019