# Mia E. Hoffman

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## EDUCATION

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| 2021 – Present | **PhD, Mechanical Engineering**, University of Washington, Seattle<br>Advisors: Dr. Kat Steele and Dr. Heather Feldner<br>Research: *Mobility and Accessible Play Technologies for Young Children* |
| 2017 – 2021 | **BS, Mechanical Engineering**, University of Notre Dame, Notre Dame, IN<br>Advisor: Maria Holland \| Minor: Bioengineering<br>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*

[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*

[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

**Biomechanics & Accessibility**
Ability & Innovation Lab, University of Washington
Co-advisor: Katherine M. Steele
IMPACT Collaboratory, University of Washington
Co-advisor: Heather A. Feldner
*Mobility and accessible play technology for young children*

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| Aug 2018 – May 2021 | **Medical Imaging & Solid Mechanics**<br>CoMMaND Lab, University of Notre Dame<br>Advisor: Maria Holland<br>*Computational mechanics of the non-human primate brain* |
| May – Aug 2019 | **Auditory Neuroscience & MRI,** NSF Neuroimaging REU<br>Auditory Perception and Cognition Lab, University of Minnesota<br>Advisor: Andrew Oxenham<br>*Identification of "pitch-sensitive regions" of the brain* |
| May – Aug 2018 | **Auditory Neuroscience**, NSF Advancing Human Health, From Nano to Network REU<br>Carney Lab, University of Rochester, Rochester, NY<br>Advisor: Laurel H. Carney<br>*Impact of a precursor noise on the efferent auditory system* |
| June – Aug 2016 | **Data-Driven Methods**, Future Matters Program<br>Battelle Center for Mathematical Medicine, Nationwide Children's Hospital<br>Advisor: William C. Ray<br>*Identification of proteins for the diagnosis of preeclampsia* |

## TEACHING & MENTORING

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| Winter & Spring 2022<br>*Advisor* | **HuskyADAPT Mechanical Engineering Capstones** (University of Washington, Seattle, WA) |
| Winter & Spring 2021<br>*Mentor* | **HuskyADAPT Mechanical Engineering and Bioengineering Capstone** (University of Washington, Seattle, WA) |
| Spring 2021<br>*Teaching Assistant* | **Introduction to Electrical Engineering and Embedded Systems** (University of Notre Dame, Notre Dame, IN)<br>• Taught experimental physical computing lab sessions<br>• Graded 120 lab reports weekly |

## INVITED TALKS

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

## PROFESSIONAL DEVELOPMENT

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| *Skills Development Workshop* | 2022 NextProf Pathfinder Workshop, Oct 2-4, 2022, San Diego, CA. Link. |

## HONORS & AWARDS

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| 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 |

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| 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

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