

Deniz Korman

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EDUCATION

University of Cincinnati Cincinnati, Ohio

Aug 2020 – Present

Ph.D. Candidate at the Morehouse Lab – Department of Biological Sciences

Dissertation: Depth perception in hunting spiders

- Delivered a comparative account of the visual systems & depth perception mechanisms of hunting spider families using morphology, optics, computer vision, and behavioral experiments.
- Spearheaded a seminal x-ray imaging study on live jumping spiders to reveal how retinal movements results in dynamic changes to the focus of the visual system akin to accommodation.

Harvey Mudd College Claremont, California

Sep 2013 – May 2017

B.S. in Mathematical and Computational Biology

Thesis: Modeling the foraging behavior of arboreal lizards

- Developed a computational model that simulates the prey detection probabilities & energetics of foraging lizards to assess whether their behaviors are energetically optimal.
 - This model accurately predicted the behaviors of the lizards, revealing underlying kinematics.

Relevant Courses: Data Structures & Program Development, Statistical Linear Models, Stochastic Processes, Biostatistics, Advanced Mathematical Biology, Intro to Meta-analysis, Grant Proposal Writing

EXPERIENCES

Project Manager for IRiS Graduate Research Fellowship Cincinnati, OH

Sep 2023 – May 2024

Developed an accessible music program for Clovernook Center for the Blind & Visually Impaired

- Connected with local musicians and educators to develop, test and launch a summer program.
 - Provided consulting & solutions on issues we identified in Clovernook's engagement methods.
- Took on a leadership role in an interdisciplinary team and served as the liaison with our partners.

Staff Research Associate at University of California, Berkeley Berkeley, California

Jul 2017 – Jun 2020

Investigated brain aging and dementia through analyzing PET and MRI images in the Jagust Lab

- Developed and operated a large-scale image processing pipeline for the longitudinal (4D) analysis of PET and MRI images for a 100+ million dollar national clinical study (ADNI).
- Generated data summaries that informed the development of diagnostic criteria, provided guidance for the future of the study, and were used by various research cohorts for publication.

Teaching Assistant University of Cincinnati, Department of Biological Sciences

Aug 2020 – Present

Instructed numerous semesters of Anatomy & Physiology Lab & Introductory Biology Lab

- Taught anatomical material & best practices for administering core physical examinations to students en route to become healthcare professionals.
- Helped students internalize core biological concepts and educated them on how to effectively design, conduct and communicate scientific experiments.

Teaching Assistant Harvey Mudd College

Sep 2014 – May 2015

Served as a grader and tutor at open lab hours for Introduction to Computer Science

- Worked with students one on one to help them build an intuition around how to solve problems using core computer science approaches and algorithms.

PUBLICATIONS

Yoon, B., Guo, T., Provost, K., **Korman, D.**, Ward, T.J., Landau, S.M., and Jagust, W.J. 2022. Abnormal tau in amyloid PET negative individuals. *Neurobiology of aging*, 109, 125-134.

Guo, T., **Korman, D.**, Shaw, L.M., Trojanowski, J.Q., Jagust, W.J., Landau, S.M. and the Alzheimer's Disease Neuroimaging Initiative. 2020. CSF p Tau/AB40 ratio adjusts for the variance of CSF production and predicts brain tau accumulation in Alzheimer's disease. *Alzheimer's & Dementia*, 16:e038679. <https://doi.org/10.1002/alz.038679>

Guo, T., **Korman, D.**, Baker, S.L., Landau, S.M., and Jagust, W.J. 2020. Longitudinal cognitive and biomarker measurements support a unidirectional pathway in Alzheimer's disease pathophysiology. *Biological Psychiatry*, <https://doi.org/10.1016/j.biopsych.2020.06.029>

PUBLICATIONS CONTD.	<p>Guo, T., Korman, D., La Joie, R., Shaw, L.M., Trojanowski, J.Q., Jagust, W.J., Landau, S.M. and the Alzheimer's Disease Neuroimaging Initiative. 2020. Normalization of CSF pTau measurement by Aβ40 improves its performance as a biomarker of Alzheimer's disease. <i>Alzheimer's Research & Therapy</i>, 12:97. https://doi.org/10.1186/s13195-020-00665-8</p> <p>Yoon, B., Baker, S.L., Korman, D., Tennant, V.R., Harrison, T.M., Landau, S., Jagust, W.J. 2020. Conscientiousness is associated with less amyloid deposition in cognitively normal aging. <i>Psychology and Aging</i>. 35(7):993-999. https://content.apa.org/doi/10.1037/pag0000582, PMID:33166168</p> <p>Sonni, I., Lesman Segev, O.H., Baker, S.L., Iaccarino, L., Korman, D., Rabinovici, G.D., Jagust, W.J., Landau, S.M., La Joie, R. 2020. Evaluation of a visual interpretation method for tau PET with 18F flortaucipir. <i>Alzheimer's & Dementia</i>. 12:e12133. https://doi.org/10.1002/dad2.12133</p>
MEDIA PUBLICATIONS	Korman D. Improving cities to fight increasing urban temperatures. <i>Climate Change, Energy, Ecology, Health</i> edited by J. Emil Morhardt. CloudRipper Press, 2017, pg 97-111.
CONFERENCE PRESENTATIONS	<p>Talks:</p> <p>Korman D., Michaels J., Harris O.K., Alexander E., Morehouse N., Investigating retinal dynamics & focal accommodation in jumping spiders through x-ray video imaging. Society for Integrative and Comparative Biology Conference; January 3-7 2025; Atlanta, Georgia. USA.</p> <p>Posters:</p> <p>Korman D., Morehouse N., Modeling the potential use of multiple depth perception strategies in hunting spiders. Sensorium; November 11-12 2023; Chicago, IL. USA.</p> <p>Korman D., Morehouse N., Stereopsis in a miniature world: Modeling the potential for stereopsis in hunting spiders. 15th International Congress on Neuroethology; July 24-29 2022; Lisbon, Portugal.</p> <p>Korman D., Morehouse N., Living in a 3D World with 2D Sensors: Depth perception in humans and non-human animals. IRiS Ignite; May 25-26 2022; Cincinnati, OH. USA.</p> <p>Korman D., Landau S.M., William Jagust. An MRI-free, template-based method for quantifying cortical florbetapir uptake in-vivo. 13th Human Amyloid Imaging Conference; January 13-15 2019; Miami, FL. USA</p>
GRANTS & FELLOWSHIPS	<p>University of Cincinnati Department of Biological Sciences Weiman-Benedict Research Grant \$750 2023</p> <p>University of Cincinnati IRiS Graduate Research Fellowship Program \$3500 2022/23</p> <p>Howard Hughes Medical Institute Summer Research Grant. \$5000 2016</p> <p>Howard Hughes Medical Institute Summer Research Grant. \$5000 2015</p>
AFFILIATIONS	<p>Member of the Society for Integrative and Comparative Biology Jan 2025 – Present</p> <p>Treasurer for the Biology Graduate Student Association, University of Cincinnati May 2023 – Present</p> <p>Secretary for the Biology Graduate Student Association, University of Cincinnati Aug 2022 – May 2023</p>