



# Brady Nichols

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## EDUCATION

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### University of California, Davis

PhD, Animal Behavior; **GPA: N/A**

*Advisor:* Stacey Combes

*Activities:* N/A

Davis, California

*Sep 2024 – 2029 (Expected)*

### Bowdoin College

B.A.; Physics (Highest Honors) & Math, Biology Minor; **GPA: 3.88/4.00**

*Senior Thesis:* Drivers of synchrony in the sea star crawl-bounce gait transition

*Activities:* Ultimate Frisbee, Concert Band (Clarinet)

Brunswick, Maine

*Sep 2020 – May 2024*

### Marine Academy of Technology and Environmental Science

High School Diploma

*Activities:* Birding Club, Envirothon, Shore Bowl, Project Terrapin

Manahawkin, New Jersey

*Sep 2016 – Jun 2020*

## RESEARCH

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### Bowdoin College – Johnson Lab

*Summer Research Fellowship + Honors Project*

- Summer team research project developed into independent honors thesis for the physics department. Analyzed sea star locomotion kinematic data with Fourier techniques, then compared to model results.

Brunswick and Harpswell, Maine

*Jun 2023 - May 2024*

### Bowdoin College – Rogalski Lab

*Research Assistant*

- Ecotoxicology research investigating the response of water fleas (*Daphnia ambigua*) from different ponds in Maine to various levels of salinity to understand how populations are adapting to pollution.

Brunswick, Maine

*Sep 2021 – Dec 2023*

### Middle Tennessee State University Computational Sciences

*NSF REU Participant*

- NSF-REU in mathematical biology modeling the transmission of West Nile Virus between birds and mosquitoes. Project title: “An early-season model of West Nile Virus in birds of Rutherford County, TN.”

Murfreesboro, Tennessee

*Summer 2022*

### Project Terrapin

*Research Assistant*

- Multi-year mark-recapture study of Northern Diamondback Terrapins in Barnegat Bay.

Manahawkin, New Jersey

*Summers 2018-2021*

## ADDITIONAL TRAINING

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### UW Friday Harbor Labs

*Ecological Biomechanics course*

Friday Harbor, Washington

*Summer 2024*

**Misc. Technologies:**  $\text{\LaTeX}$ , Python, Julia, R, MATLAB, Mathematica

**Selected courses (Bowdoin):** Animal Behavior, Population Genomics, Ecology, Biomechanics, Multivariate Calculus, Linear Algebra, Statistics, Advanced Topics in Dynamical Systems, Methods of Computational Physics, Methods of Theoretical Physics

## TEACHING

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### **Marine Academy of Technology and Environmental Science**

Manahawkin, New Jersey

*Teaching Assistant, Summer Experience*

*Summers 2018, 2019, 2021, 2024*

- Day program for 7th-9th graders. Taught students about pine barrens, marsh ecology, and general scientific reasoning and observation via seining, birding, kayaking, water quality testing, and more.

### **Bowdoin College**

Brunswick, Maine

*Teaching Assistant, BIOL 3554: Biomechanics*

*Spring 2024*

## PUBLICATIONS

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Rogalski, M. A., Baker, E. S., Benadon, C. M., Tatgenhorst, C., & **Nichols, B. R.** “Lake water chemistry and local adaptation shape NaCl toxicity in *Daphnia ambigua*” (2024). *Evolutionary Applications*, 17(3), e13668. <https://doi.org/10.1111/eva.13668>

## PRESENTATIONS

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**Nichols, B.**, Johnson, A. S., Syphers, D., Ellers, O., Zeeman, M. L. “Fall forward, spring back: Drivers of synchrony in the sea star crawl-bounce gait transition” (May 3, 2024). Bowdoin College Physics Honors Final Presentations. Talk.

**Nichols, B.**, Lucas, G., Marriott, H., Ellers, O., Zeeman, M. L., Syphers, D., Johnson, A. “Fall forward, spring back: Mechanical drivers of the sea star bouncing gait” (January 2-6, 2024). Society for Integrative and Comparative Biology 2024 Meeting. Poster presentation.

**Nichols, B.**, Marriott, H., Lucas, G., Johnson, A., Ellers, O. “Bouncing, flouncing, jouncing sea stars: characterizing the oscillatory gait of *Asterias forbesi*” (July 21, 2023). Bowdoin College Summer Research Final Symposium. Team talk.

**Nichols, B.**, Vogel, S., Leander, R., Ding, W. “An Early-Season Model of West Nile Virus in Birds of Rutherford County, TN” (July 29, 2022). MTSU-COMS REU Final Symposium. Team poster presentation.

**Nichols, B.**, Wnek, J. “Mathematical modeling of road-to-plastron heat transfer and its effect on internal temperatures of *Malaclemys terrapin terrapin*” (August 20, 2021). 2021 Mid-Atlantic Diamondback Terrapin Working Group Meeting. Talk.

## GRANTS & AWARDS

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**UC Davis Animal Behavior Graduate Group Fellowship**, Fall 2024; \$25,000

**FHL Scholarship**, Summer 2024; \$4,500

**Henry L. and Grace Doherty Charitable Foundation Coastal Studies Research Fellowship**, Summer 2023; \$4980

**MTSU-COMS NSF REU**, Summer 2022; \$5400

**Save Barnegat Bay Student Grant**, Summer 2020;

**MATES – Bob Raimann Scholarship**, Spring 2020;

**MATES – Pete McClain Natural Science Award**, Spring 2020;

