

Thomas J. Barrett

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Education

- 2024 Ph.D. Mechanical Engineering, Materials Science
 Northeastern University
- 2019 M.S. Mechanical Engineering, Mechanics and Design
 Northeastern University
- 2016 B.S. Mechanical Engineering
 University of Rochester

Research Experience

Northeastern University MINUS Lab

Graduate Research Assistant
Advisor: Prof. Marilyn L. Minus (deceased, 2024)
Dissertation: Towards the multiscale modeling of blended polymer nanocomposite films and fibers.

Northeastern University Applied (Bio)Mechanics and Tribology Laboratory

Graduate Research Assistant
Advisor: Prof. Sinan Müftü (MEIE) & Prof. Brian Helmuth (Marine Sciences)
Thesis: Effects of solar radiation and surface roughness on surface temperatures of coastal rocks.

Publications

Academic Journals

1. **Barrett, T.J.**, Li, M., Gouhier, T., Rilov, G., Helmuth, B., Choi, F., & Müftü S. Fine-scale spatial heterogeneity dictates temperature extremes on coastal rock surfaces. Submitted to Ecological Modelling.
2. **Barrett, T.J.** & Minus, M.L. *pothos*: A Python package for polymer chain orientation and microstructure evolution monitoring. In preparation.
3. **Barrett, T.J.** & Minus, M.L. Nosé-Hoover integrators at-a-glance : Barostat integration has a demonstrable effect on uniaxial tension results. In preparation.
4. **Barrett, T.J.** & Minus, M.L. A hierarchical multiscale framework for semi-crystalline polymer nanocomposites. In preparation.

Fellowships

PACK International Research Experience Fellowship

October - December 2023

Advisor: Prof. Dr. Zeynep Altintas

Topic: In-silico screening Molecularly Imprinted Polymers (MIPs) to detect anastomatic leakage biomarkers.

Funding: NSF Award 1829573

Invited Talks

1. **Kiel University, Night of the Profs.** Composites are cookies. November, 2023.

Conferences

Oral Presentation

1. **Barrett, T.J.** & Minus, M.L. A cluster-based approach for identifying and meshing crystalline regions in molecular dynamics simulations. Materials Research Society (MRS) Spring Meeting 2022. Honolulu, Hawaii (USA), May 2022.

Service

Northeastern University College of Engineering Ph.D. Council, Cofounder

Professional Memberships

Materials Research Society (MRS)

References

References available upon request.