

Parsa Zareiesfandabadi

EDUCATION AND APPOINTMENTS

- 2021- present: Ph.D. Candidate in the Department of Biology Duke University - Advisor: Prof. Sonke Johnsen
 - 2024 - 2027: NIH F31HD114438 Graduate Research Fellow
 - 2025 - 2026: Preparing Future Faculty Certificate - Duke University
 - 2023 - 2024: Certificate in College Teaching - Duke University
 - 2020 - 2021: Research Associate, Elting Lab, Department of Physics - NCSU
 - 2018 - 2020: Undergraduate Researcher, Elting Lab, Department of Physics - NCSU
 - 2017 - 2020: B.S., Physics, *Magna Cum Laude* - NCSU
 - 2012 - 2017: Associate Degree in Science, *Honors Roll* – DTCC
 - 2016 - 2017: Line Cook, Mercato Restaurant, Carrboro, NC
 - 2013 - 2016: Customer Service Assistant Manager, Southern Season Store, Chapel Hill, NC
 - 2011 - 2013: Bartender – Banquet/Restaurant Server, Marriott Hotel, Chapel Hill, NC
 - 2011 - 2011: Houseman, Marriott Hotel, Chapel Hill, NC
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HONORS AND AWARDS

- 2026 - Associate Degree in Arts, *honoris causa*, DTCC.
- 2026 - [Keynote commencement speaker at DTCC graduation ceremony.](#)
- 2026 - Press: [Iranian refugee's journey of perseverance leads to Durham Tech commencement stage.](#)
- 2026 - Press: [Iranian refugee and Durham Tech alumnus to serve as College's 2026 Commencement speaker.](#)
- 2024-2027 - Fellowship: NIH F31HD114438
- 2024 - Summer fellowship: Duke Graduate School
- 2024 - [Keynote commencement speaker at NC State Physics department graduation ceremony.](#)
- 2023 - Best microscopy image award of the year in the Cell Biology Department.
- 2023 - Summer fellowship: Lamb Family Fellowship Award
- 2023 - Honorable mention: National Science Foundation Graduate Research Fellowship
- 2022 - Summer fellowship: Lamb Family Fellowship Award for summer
- 2022 - Best microscopy image award of the year in the Cell Biology Department.
- 2022 - Press: [video interview invited by the assistant dean of the graduate school for involvement with diversity initiatives at Duke.](#)
- 2021 - 2022 - Fellowship: Duke Biology Department
- 2021 - Honorable mention: National Science Foundation Graduate Research Fellowship
- 2020 - Press: [Featured in The National Society of Physics Students Observer](#)

- 2020 - Outstanding Undergraduate Research Award: National Society of Physics Students, American Institute of Physics
 - 2020 - Travel funding: National Society of Physics Students, American Institute of Physics
 - 2020 - Travel funding: Office of Undergraduate Research, N.C. State University
 - 2019 - Poster award: McCormick Symposium poster award, N.C. State University
 - 2019 - Research funding: Office of Undergraduate Research, N.C. State University
 - 2019 - Press: "[Unwavering determination takes Durham Tech alumni around the world to physics award at N.C. State.](#)"
 - 2018 - Research funding: Provost's Professional Experience Program, Physics Department, N.C. State University
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RESEARCH

Publications

- MA Begley, T. Mahoney, CP Medina, **P Zareiesfandabadi**, et al. Mechanical coupling with the nuclear envelope shapes the *Schizosaccharomyces pombe* mitotic spindle. *Cytoskeleton* (2025). DOI: <https://doi.org/10.1002/cm.22035>
- **P Zareiesfandabadi**, MW Elting. Force by minus-end motors Dhc1 and Klp2 collapses the *S. pombe* spindle after laser ablation. *Biophysical Journal* **121**(2), 267 (2021). <https://doi.org/10.1016/j.bpj.2021.12.019>
 - **Press:** [L. A. Chacko, preLights, Company of Biologists, 06-24-2021.](#)
- **P Zareiesfandabadi**, MW Elting. Viscoelastic relaxation of the nuclear envelope does not cause the collapse of the spindle after ablation in *S. pombe*. *Journal of Undergraduate Reports in Physics* **30**(1), 58 (2021). DOI: [10.1063/1.5006352](https://doi.org/10.1063/1.5006352)
- ASM Uzsoy, **P Zareiesfandabadi**, J Jennings, AF Kemper, MW Elting. Automated tracking of *S. pombe* spindle elongation dynamics. *Journal of Microscopy* **284**, 83 (2021). DOI: [10.1111/jmi.13044](https://doi.org/10.1111/jmi.13044)

Talks

- **P Zareiesfandabadi**, Yufei Wu, Sean Sun, Sonke Johnsen, Michel Bagnat. Pressure Gradients Define the Notochord Response to Mechanical Perturbations. *Ecology, Evolution, and Organismal Biology Seminar, Durham, NC* (Oct. 2025).
- **P Zareiesfandabadi**, Yufei Wu, Sean Sun, Sonke Johnsen, Michel Bagnat. Pressure Gradients Define the Notochord Response to Mechanical Perturbations. *Duke Zebrafish Meeting, Durham, NC* (Sept. 2025).
- **P Zareiesfandabadi**, Yufei Wu, Sean Sun, Sonke Johnsen, Michel Bagnat. Pressure Gradients Define the Notochord Response to Mechanical Perturbations. *Cell Biology Departmental Seminar, Durham, NC* (Sept. 2025).
- **P Zareiesfandabadi**, Yufei Wu, Sean Sun, Sonke Johnsen, Michel Bagnat. Pressure Gradients Define the Notochord Response to Mechanical Perturbations. *Triangle Cytoskeleton Meeting, Durham, NC* (Sept. 2025).

- **P Zareiesfandabadi**, Yufei Wu, Sean Sun, Sonke Johnsen, Michel Bagnat. Pressure Gradients Define the Notochord Response to Mechanical Perturbations. *International Zebrafish Conference, Madison, WI* (July 2025). Plenary talk following the keynote speaker.
- **P Zareiesfandabadi**, S Johnsen, M Bagnat. Uncovering the Mechanical Properties of Vacuolated Cells of the Notochord in Zebrafish. *Cell Biology Departmental Seminar* (2024).
- **P Zareiesfandabadi**, S Johnsen, M Bagnat. Uncovering the Mechanical Properties of Vacuolated Cells of the Notochord in Zebrafish. *Cell Biology Departmental Seminar* (2023).
- **P Zareiesfandabadi**, MW Elting. Microtubules and the motor protein dynein mediate the collapse of the spindle following ablation in *S. pombe*. *International American Physical Society March Meeting, Virtual* (March 2021).
- **P Zareiesfandabadi**, MW Elting. Mechanical Intracellular Perturbation. *Virtual Retreat for multi-institution NSF-funded project on building synthetic cytoskeletons*, (July 2020).
- **P Zareiesfandabadi**, Current understanding of microtubule-associated motor proteins, *Virtual Cytoskeleton Journal Club*, 05/13/2020.
- **P Zareiesfandabadi**, MW Elting. Probing force balance in the *S. pombe* mitotic spindle by laser ablation. *International American Physical Society March Meeting, Denver, Colorado* (March 2020). The meeting was canceled to avoid the coronavirus spread, so instead, I presented at DSOFT virtual March Meeting on 03-05-2020.
- **P Zareiesfandabadi**, MW Elting. Laser Ablation of Microtubules in Fission Yeast Mitotic Spindle. *State of North Carolina Undergraduate Research and Creativity Symposium, Duke University, Durham, NC* (Nov. 2019).
- **P Zareiesfandabadi**, MW Elting. Probing the Origin of Spindle Collapse Following Ablation in Fission Yeast. *Quantitative and Computational Developmental Biology: Modeling the Living Embryo Cluster Retreat, Raleigh, NC* (Sept. 2019).

Poster Presentations

- **P Zareiesfandabadi**, MW Elting. Probing the Origin of Spindle Collapse Following Ablation Using Double Fluorescent Microscopy in *S. pombe*. *N.C. State University Summer Symposium, Raleigh, NC* (Aug. 2019).
- **P Zareiesfandabadi**, MW Elting. Ablation in Fission Yeast: Probing the Mechanics and Dynamics of Spindle Elongation Using Nanosecond-Pulsed Laser Perturbation research proposal. *McCormick Symposium, Raleigh, NC* (May 2019).
- **P Zareiesfandabadi***, AS Uzsoy*, MW Elting. Probing mitotic spindle mechanics in *S. pombe* via perturbation of microtubule crosslinkers and targeted laser ablation. *Triangle Cytoskeleton Meeting, Saxapahaw, NC* (Sept. 2018).

TEACHING AND MENTORING

- 2025 - Guest lecturer for Biology 724D: Foundation of Data Science for Biologists
- 2023 - Teaching Assistant for Biology 213: Cell Signaling and Diseases
- 2022 - Teaching Assistant for Biology 220: Cell Biology
- 2020-2021 - Research Mentoring at North Carolina School of Science and Math – Durham
 - Presentation by mentee Bonnie Zhang, 11th grade:
 - [Summer Research & Innovation Program Showcase](#), fall 2021. Measuring the Collapse Response of the Spindle to Laser Ablation in Ase1 Deletion in *S. pombe*.
 - NCSSM Research Symposium, spring 2022. Role of Entropic Force on Collapse of the Spindle Following Laser Ablation in *S. pombe*