EVA M. NATINSKY, M.S.E.

512-825-3374 · eva.natinsky@utexas.edu

evanatinsky.com

EDUCATION

University of Texas, Austin TX — ***PhD. Engineering****,* est. Summer 2025 —*Current*
Advisor: Dr. Michael Cullinan
Nanoscale Design and Manufacturing Laboratory
Cumulative GPA: 3.89 on a 4.0 scale

University of Texas, Austin TX — ***M.S. Engineering****,* 2022
Advisor: Dr. Michael Cullinan
Nanoscale Design and Manufacturing Laboratory

Austin College, Sherman TX — ***B.A. Physics****,* 2019
Major: Physics
Minors: Math, Spanish

EXPERIENCE

University of Texas at Austin — *Graduate Researcher, 2019 —* ***Current***

Graduate Researcher in the Nanoscale Design and Manufacturing Laboratory
Advisor: Dr. Michael Cullinan

- Data management for machine learning in accelerating nanoscale characterization methods
- Optimization of large-scale nanometrology (atomic force microscopy) and error correction techniques using high-performance computing.
- B-spline curve and NURBS surface modeling of 3D AFM data in python.

Sandia National Laboratories — *R&D Intern, 2021 —* ***Current***

Graduate Research Intern at the Center for Integrated Nanotechnologies

Advisor: Dr. Rémi Dingreville

- Nanometrology data analysis and sparse image reconstruction with machine learning and high-performance computing systems.

Machined Form Design — *Summer Intern,* 2019

- 3D scanning (FARO 3D Scanner, Geomagic Wrap Scan Processor) and SolidWorks CAD modeling for custom automotive redesigns and builds.

Austin College — *Physics Senior Research Project,* 2018-19
Advisor: Dr. David Baker

- Photometric Observations from the Adams Observatory in Support of NASA's TESS Mission.

University of Michigan Ann Arbor — *NSF Sponsored REU,* Summer 2018
Advisor: Dr. Jennifer Ogilvie

- Studied the reaction center of the photosystem II complex in spinach using ultra-fast interferometry.

Rensselaer Polytechnic Institute — *NSF Sponsored REU,* Summer 2017
Advisor: Dr. Vidhya Chakrapani

- Studied changes in electric properties of transition metal oxides

HONORS & AWARDS

- National Science Foundation Graduate Research Fellow, 2021-2024
- Virginia & Ernest Cockrell, Jr. Fellowship in Engineering, 2019-2023
- T. W. Whaley, Jr. Friends of Alec Endowed Scholarship from the University of Texas Cockrell School of Engineering, 2019-2020
- Mary Foulks Gourley & Lloyd E. Gourley Prize for an Outstanding Student in Physics, 2018

PUBLICATIONS

[1] Natinsky, E., Connolly, L.G., & Cullinan, M. (2024). Three-dimensional visualization of large-area, nanoscale topography measurements. *Nanotechnology, 35*. https://doi.org/10.1088/1361-6528/ad8165.

[2] Natinsky, E., Khan, R. M., Cullinan, M., & Dingreville, R. (2024). Reconstruction of high-resolution atomic force microscopy measurements from fast-scan data using a Noise2Noise algorithm. *Measurement*, *227*. https://doi.org/10.1016/j.measurement.2024.114263

[3] Connolly, L., Natinsky, E., Khusnatdinzov, N., Jones, C., Mizuno, M., Messl, M., . . . Cullinan, M. (2020). The role of visualization and error correction in very large area, tip-based topography measurement. *American Society for Precision Engineering*.

[4] Huber, D., Chaplin, W. J., Chontos, A., Kjeldsen, H., Christensen-Dalsgaard, J., Bedding, T. R., … Howard, A. W. (2019). A Hot Saturn Orbiting an Oscillating Late Subgiant Discovered by TESS. *The Astronomical Journal*, *157*(6), 245. https://doi.org/10.3847/1538-3881/ab1488

POSTERS AND PRESENTATIONS

Presentation: "Integrating multimodal metrology with machine learning for reliable characterization in advanced chip packaging." Truman fellowship finalist proposal presentation, January 2025.

Presentation: "Accelerating microscopy for nanoscale fabrication via deep-learning image reconstruction." UT Austin PhD research proposal, April 2024.

Presentation: "Deep learning image reconstruction for microscopy data." Sandia National Laboratories *Beyond*Fingerprinting Grand Challenge External Advisory Board Meeting, April 2024.

Poster: "Reconstruction of sparse, nano-scale metrology data for efficient process control." Sandia Academic Alliance Spring UT Austin Research Poster Session, March 2022.

Presentation: "Signal reconstruction of sparse, nano-scale metrology data for time efficient process control." IS&T Electronic Imaging Symposium, January 2022.

Presentation: "Signal reconstruction of sparse, nano-scale metrology data using Noise2Noise." Sandia National Labs Academic Alliance Program, July 2021.

Poster: "The role of visualization and error correction in very large area, tip-based topography measurement." American Society for Precision Engineering annual conference, October 2020.

Poster: "Detection of exoplanets at the Austin College Adams Observatory." Austin College Scholarship Conference, March 2018.

Poster: "Studying transition metal oxides by tracking electrochemical reactions." NSF sponsored REU at Rensselaer Polytechnic Institute, August 2017.

Presentation: "Using ultrafast laser-pulse spectroscopy for observations of photosynthesis in spinach." NSF sponsored REU at the University of Michigan at Ann Arbor, August 2018.

Presentation: "Simulating the back reaction in gravitational waves with a spring-mass system." Austin College Scholarship Conference, March 2018.

Presentation: "Observing exoplanets with the Austin College Adams Observatory for admission in to KELT." Austin College Spring Research Presentations, April 2017.