

MATERIALS SCIENCE AND ENGINEERING

DEPARTMENT GRADUATION CEREMONY

May 2, 2025



James B. Hunt Jr. Library
Hunt Auditorium



*For a full list of MSE graduates and honors
please visit **mse.ncsu.edu/graduation***

NOTE TO SPECTATORS

Arrangements have been made for a professional photographer to take pictures of the degree recipients. It is hoped that this will minimize the need for other picture-taking. Press photographers, family members and friends of the degree recipients who still want to take photographs during the ceremony are asked to avoid blocking the view of others seated in the audience.

Order of Events

Processional	Bachelor's, Master's, Doctoral Candidates and Faculty
Welcome	Professor Donald Brenner Department Head Kobe Steel Distinguished Professor
Presentation of Bachelor's Candidates	Professor Yaroslava Yingling Associate Department Head Director of Undergraduate Programs Kobe Steel Distinguished Professor Hillary Stone, M.S. Academic Advisor
Undergraduate Address	Nethra Vasudevan '25
Senior Design Recognition	Professor Sharon Thorne Teaching Professor
Undergraduate Awards	Professor Yaroslava Yingling
Presentation of Master's Candidates	Professor Douglas Irving Director of Graduate Programs University Faculty Scholar Alumni Distinguished Undergraduate Professor
Presentation of Doctoral Candidates	Professor Douglas Irving
Closing Remarks	Professor Donald Brenner

You are cordially invited to a reception at the conclusion of this program
on the first floor atrium of Engineering Building I.

BACHELOR OF SCIENCE

Materials Science and Engineering

Darien David Alpern	Joshua Sawyer McClure *** ^{B †}
Sofia Patricia Elsie Antinozzi **	Liam Andrew McWhorter **
James Deren Austin ^N	Patrick Ryan Moran **
Dalton Alexander Avant	Emily Grace Morris ***
Khia Renee Cotton	Rachid Moumni
Ava Manzi DeLucia ^B	Caitlyn Elyse Obrero ***
Kaley Grace Edgington ***	Gabriel James Ossi
Benjamin Robert Finley ***	Taylor Christine Sanborn [◇]
Shawn D. Fowler, Jr.	Mason Patrick Shaffer **
Ariel Gomez Arellano ^B	Vedika Shah **
Robert Anthony Grant	Kirby Ashford Smith
Aidan Patrick Hennessee	Nethra Vasudevan ** ^{B ◇}
Mary Josephine Hoult ^N	Seth Jeremiah Wardlaw
Sophia Isacco ***	Zoe Anna Margarete Watts *
Grace Scott Kiel ***	Fannie Xia ^B
Kara Krogh ***	Xiaoyan Zhang
Andrew L. Liao	

MASTER OF

Materials Science and Engineering

Tanjun Ahmed	Alexandra Knowles
Dean Moshe Bass	Sophie McKeever Parkes
Kevin Matthew Boyle	Kennedy Alexis Misher
Jonah Patrick Bridges	Anthony Thomas Mole
Sydney Elise Cook	Yusuf Afolabi Olanrewaju, Ph.D.
Sadra Darabi	Kelsey Snead
Theodosios Diplas	Aldina Sultana

MASTER OF

Science

Yash Dineshbhai Bharodiya
Victoria Rose Himelstein
Zizhi Zhuang

MASTER OF

Nanoengineering

Adrien Roulston D'costa
Robert James Petrie
Jose Luis Rosario Figueroa

DOCTOR OF PHILOSOPHY

Materials Science and Engineering

Matthew Steven Chagnot

August 2024

Electrochemical Kinetics of Cation Insertion in Transition Metal Oxides

Under direction of Professor Veronica Augustyn

Matthew Robert Clary

May 2024

Magnetic Materials and Structures for Reprogrammable Soft Robots and Cardiac Devices

Under direction of Professor Joseph Tracy

Matthew deJong

April 2025

Effects of GARS Powder Feedstock on ODS Steel Fabricated via Laser Powder Bed Fusion

Under direction of Professor Djamel Kaoumi (NE)

Michael Hall

October 2024

Nanostructuring and Spin-Carrier Interactions for Enhanced Thermoelectric Performance: A Study of GaSb and Magnetic Mn-Based Chalcogenides

Under direction of Professor Daryoosh Vashaee (ECE)

Alexander Timothy Helmer

November 2024

Towards Sustainable Design: Corrosion Studies of Magnesium-Based Alloys

Under direction of Professor Rajeev Gupta

Tamzid Ibn Minhaj

August 2024

Design, Fabrication and Characterization of Low-Frequency Capacitive Micro-Machined Ultrasonic Transducers for Focused Beam Applications

Under direction of Professor Omer Oralkan (ECE)

Ishita Kamboj

August 2024

Design of Lithium-ion Battery Cathode Materials and Architectures

Under direction of Professor Veronica Augustyn

Jacob Paul Mauthe

December 2024

Data-Driven Materials Informatics Investigation of Structure-Property Relationships in Organic Electronics

Under direction of Professor Aram Amassian

Sean O'Brien

December 2024

Development and Study of Corrosion-Resistant Multi-Principal Element Alloys

Under direction of Professor Franky So

Raphael Simha Orenstein, MD

November 2024

A Composite Solid Electrolyte to Improve the Safety and Cost of Lithium Metal Batteries, and Exploration of Lithiation of Silicon as a Prelude to an All-Solid-State Anode Battery

Under direction of Professor Xiangwu Zhang (TE)

Alana Pauls

December 2024

Exploiting Surface Dipoles for Magneto-Optical Tunability

Under direction of Professor Martin Thuo

Sabila Kader Pinky

February 2025

Molecular Understanding of the Self-Assembly of Complex Functional Materials

Under direction of Professor Yaroslava Yingling

Hayley Katherine Richardson

June 2024

Biochemical Monitoring via Extended Gate Field-Effect Transistor Sensors with Aptamer-Functionalized Surfaces

Under direction of Professors Spyridon Pavlidis (ECE) and Thomas LaBean

Saeed Mirghani Saeed

May 2024

Mechanisms of Ion Insertion in Solid State Materials for Energy Storage and Hydrogen Atom Transfer

Under direction of Professor Veronica Augustyn

Abdullah Al Shafe

January 2025

Organic Solar Cell Designs to Improve Mechanical Resilience

Under direction of Professor Brendan O'Connor (MAE)

2024-2025

Senior Design Projects

Dalton Alexander Avant, Kara Krogh, Rachid Moumni, Fannie Xia

Investigation of Physical Properties of High Vanadium Nitride Inclusions in Steel

Industry partnership with Nucor Steel South Carolina.

Advised by Zachary Stroman and Professor Rajeev Gupta.

Team 1: Darien David Alpern, Shawn Fowler, Grace Scott Kiel, Patrick Ryan Moran

Team 2: Benjamin Robert Finley, Mary Josephine Hoult, Mason Patrick Shaffer, Kirby Ashford Smith

Identify Suitable Sustainable Materials that can be Used in Typical Paper Making Processes that Significantly Improve Thermal Insulation

Industry partnership with Georgia Pacific.

Team 1 advised by Jose Garcia and Professor Joe Tracy. Team 2 advised by Jose Garcia and Professor Aram Amassian.

Ava Manzi DeLucia, Liam Andrew McWhorter, Shannon Woicak, Xiaoyan Zhang

Model, Production, and Study of EM Response of Layered Surfaces with Different Materials

Industry partnership with Naval Surface Warfare Center-Dahlgren Laboratory.

Advised by Joseph Hunt and Professor Yin Liu.

Team 1: Sofia Patricia Elsie Antinozzi, James Deren Austin, Caitlyn Elyse Obrero, Zoe Anna Margarete Watts

Team 2: Taylor Hildreth, Sophia Isacco, Gabriel James Ossi, Maureen Walsh

Using Selective Laser Melting to Create Metal Bond Abrasive Products

Industry partnership with Saint-Gobain Research North America.

Team 1 advised by David Gebb and Michael Greene. Team 2 advised by David Gebb and Professor Bharat Gwalani.

Aidan Patrick Hennessee, Nethra Vasudevan, Seth Jeremiah Wardlaw

Understanding the Processing-Structure-Property Relationships of a High Strength Cobalt Based Alloy

Industry partnership with ATI Specialty Materials.

Advised by Mark Zaun, Madeline Schroeder and Professor Kinga Unocic.

Team 1: Khia Renee Cotton, Joshua Sawyer McClure, Vedika Shah

Team 2: Kaley Grace Edgington, Robert Anthony Grant, Jack Leonard Maggiore, Emily Grace Morris

Cost-Effective Shielding System to Reduce Electric Field Intensity of Current Limiting Fuses in Testing

Industry partnership with Hitachi Energy.

Team 1 advised by Abdelghafour Bouaicha and Professor Ruijuan Xu. Team 2 advised by Abdelghafour Bouaicha and Professor Franky So.

Guest Information

Reception

You are cordially invited to a reception at the conclusion of this program on the first floor atrium of Engineering Building I.

@NCStateMSE

Be sure to follow the NC State Department of Materials Science and Engineering on social media to stay up to date on the department and graduates.

Photography

NC State MSE has retained a professional photographer for the ceremony, who will take a photo of each graduate at the moment they are called to the stage to be recognized. A photo proof will be sent by the photographer to the student's permanent address with information on how to purchase prints.

Guests will not have access to the stage during the ceremony, however we will have staff taking photos throughout the ceremony. Photos taken by staff will be made freely available in a few weeks via the MSE website at mse.ncsu.edu/graduation.

FACULTY

Aram Amassian	Douglas Irving	Richard Spontak
Veronica Augustyn	Jacob Jones	Sharon Thorne
Nina Balke	Jag Kasichainula	Martin Thuo
Donald Brenner	Albert Kwansa	Joseph Tracy
Ramón Collazo	Thomas LaBean	Raymond Unocic
Maude Cuchiara	Yin Liu	Kinga Unocic
Jerry Cuomo	Jagdish Narayan	Ruijuan Xu
Alexey Gulyuk	Martin Seifrid	Yaroslava Yingling
Rajeev Gupta	Zlatko Sitar	
Bharat Gwalani	Franky So	

STAFF

Vanessa Campos	Juliette Wakefield
Brenda Conover	Valerie Wehiong-Batta
Wendy Cox	Sean West
Will Douglas	Maizie Woodall
Niki Jennings	
Meghan Johnston	
Elias Kitts	
Joseph Matthews	
Angela Morgan	
Hillary Stone	

COST STATEMENT

400 copies of this public document were printed at a cost of \$1232.00 (G.S. 143-170.1)

