

Graduate Program in Materials Science and Engineering

December 17, 2020



LEHIGH UNIVERSITY | Materials Science
and Engineering

Today's Panelists

- **Xuanhong Cheng**

Professor and Director, MSE Grad program

- **Lesley Chow**

Assistant Professor

- **Lisa Arechiga**

Graduate Coordinator

- **Mari-Therese Burton**

PhD student

- **Michael Pires**

PhD student

- **Vamseed Vemuri**

PhD student



About Lehigh University



Located in Pennsylvania's beautiful Lehigh Valley, Lehigh is one of the most distinguished private research universities in the U.S. Through academic rigor, an entrepreneurial mindset, and collaborative opportunities, we challenge our students to become the leaders of the future. With five distinguished colleges and an ideal student-to-faculty ratio, Lehigh offers world-class academic opportunities on one of the nation's most beautiful campuses. [lehigh.edu]



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Materials Science
and Engineering



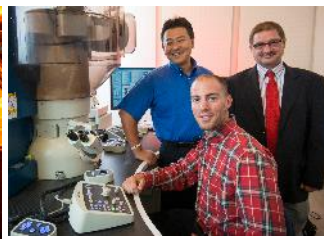
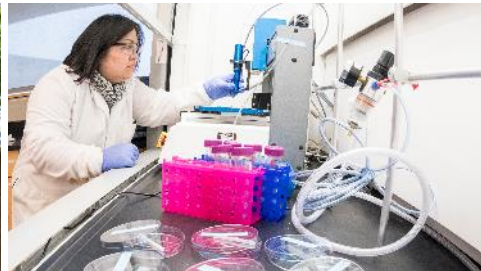
Rossin College: A Snapshot



- **140 tenure track faculty in 8 academic departments**
- **2,200 undergraduates, 850 graduate students**
- **The Rossin College generates >50% of Lehigh's Ph.D. graduates, journal publications, and research expenditures.**
- **30% of current engineering faculty members are NSF CAREER Award recipients**
- **31% of Lehigh engineering students are female (versus the 18% national average)**



Department of Materials Science and Engineering



- Founded in 1891; accredited since 1936
- 2020 *US News and World Report* top 30 (graduate programs in materials science)
- Current research pillars
 - Sustainable materials and manufacturing
 - Materials for advancing human health
 - Advanced characterization using machine learning



Graduate degrees in Materials Science

- PhD in Materials Science & Engineering
- MS/MEng in Materials Science & Engineering
- PhD/MS/ME in Polymer Science and Engineering
- Graduate-level certificates in
 - Nanotechnology
 - Polymer Science and Engineering



Graduate Admissions

- **Deadline for consideration of financial support: Jan. 15**
- **Final deadline for fall admission: Jul. 15**
- **GRE not required for 2021 admission**

For international students:

Minimum TOEFL

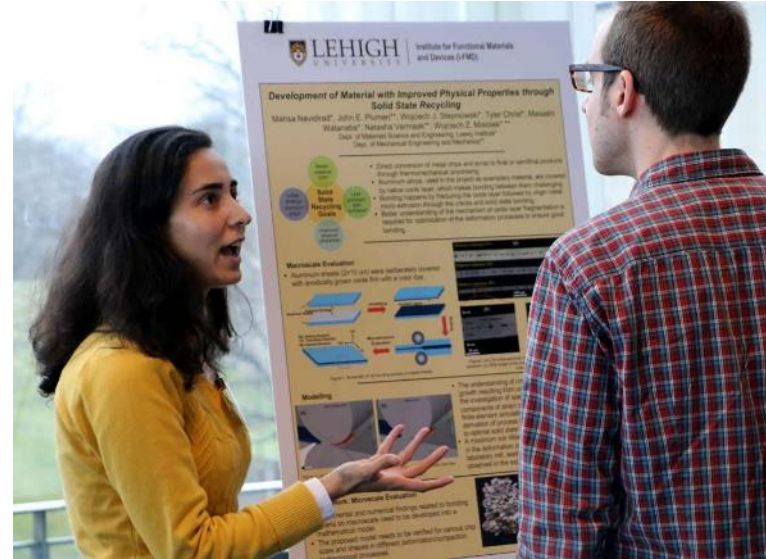
- Reading: 20
- Listening: 20
- Speaking: 23
- Writing: 22
- COMPOSITE: 85

Minimum IELTS

- Reading: 6.5
- Listening: 6.5
- Speaking: 7.0
- Writing: 6.0
- OVERALL: 6.5

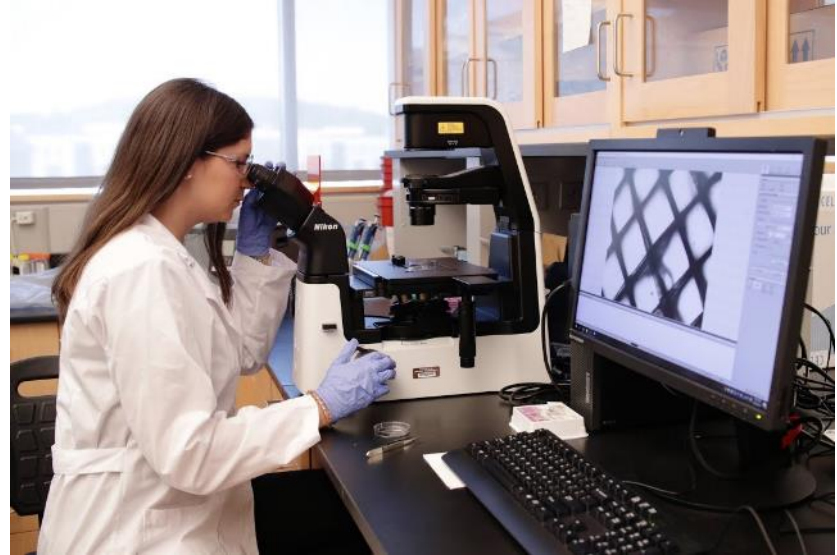
Minimum ITP

- Reading: 56
- Listening: 54
- Writing: 53
- OVERALL: 543



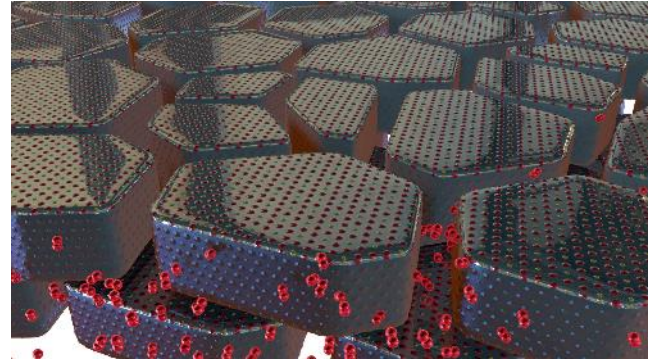
PhD Student support

- **First-year support**
 - Presidential Fellowships (~1)
 - University Fellowships (~1)
 - Rossin Teaching Fellowships (~4)
- **Subsequent support**
 - Research contracts
 - Teaching Assistantships
 - Other Fellowships



Research activities

- **Sustainable Materials and Manufacturing**
 - Material Synthesis
 - Energy Conversion
 - Additive Manufacturing and Joining
- **Materials for Advancing Human Health**
 - Biomaterials
 - Biodevices
- **Advanced Characterization Using Machine Learning**
 - Data Science
 - Materials Characterization



PhD requirements

- Minimum of 72 credit hours after BS degree, or 48 credit hours after MS degree
- Three core courses
- TA Requirement: 1-2 full time TA (20 hrs/week)
- Research with a professor



MS/MEng requirements

- 30 credits of graduate work, including a 15-credit core in materials, electrical engineering, and physics
- At least 24 credit hours of 300- and 400-level coursework (18 at the 400-level)
- At least 18 credit hours in the major field (15 credit hours at the 400-level)
- One Year MS/MEng Option



Where do our students go?

3M

ARKEMA
INNOVATIVE CHEMISTRY

DYNALENE
Tomorrow's Solutions Flow Through Us

DUPONT

BETTIS™

Industry

intel

ExxonMobil.



CARPENTER
TECHNOLOGY



ALCOA

CORNING



UNIVERSITY OF
ILLINOIS
URBANA-CHAMPAIGN



Academia



UC San Diego



JOHNS HOPKINS
APPLIED PHYSICS LABORATORY

NIST

Gov't labs



Sandia
National
Laboratories



OAK RIDGE
National Laboratory



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Questions?



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