MATERIALS SCIENCE & **ENGINEERING**

2026 RESEARCH & INDUSTRY SHOWCASE

Husky Union Building Lyceum
Monday, March 9, 2026
5:00 - 7:30 p.m.

PROGRAM

5:00 – 5:30 pm Check-In, reception, networking

5:30 – 5:35 pm Opening remarks
Dr. Di Xiao, D*epartment Chair*

5:35 – 6:05 pm Short talks and student activity highlights

Alumni Industry Spotlight:
Dr. Mandana Veiseh, *Polybiomics*
Dr. Aaron Feaver, *JCDREAM/CHARGE*
Dr. Mike Beerman, *Blue Origin*
Dr. Megan Brewster*, Impinj*

Departmental Research Sprints:
Ian Campbell *(Roumeli's research group)*
Yueyao Fan *(Xiao, Cao's research group)*
Max Fu *(Zobeiry's research group)*
Katie Tang *(Arola's research group)*
Wenhao Zhou *(Zhang's research group)*

6:05 – 7:30 pm Poster session, continued reception and mingling

INDUSTRY SPEAKERS

Dr. Mandana Veiseh

‘04 Ph.D. MSE
Founder and President
Polybiomics

Dr. Aaron Feaver

‘07 Ph.D. MSE
Executive Director
JCDREAM/CHARGE

Dr. Mike Beerman

‘07 Ph.D. MSE
Principal Aerospace Systems Engineer
Blue Origin

Dr. Megan Brewster

‘06 B.S. MSE
Vice President of Advanced Technology
Impinj

DEPARTMENTAL RESEARCH SPRINTS

1. **Ian Campbell**
   Adviser: Eleftheria Roumeli
   The Roumeli Group: Innovative sustainable materials from biological matter

2. **Yueyao Fan**
   Adviser: Di Xiao, Ting Cao
   Layerwise Stratification and Band Reordering in Twisted Multilayer MoTe2

3. **Max Fu**
   Adviser: Navid Zobeiry
   Physics-Informed AI for Accelerated Composites Design, Manufacturing, Testing, and Qualification

4. **Katie Tang**
   Adviser: Dwayne Arola
   Overview of the Laboratory of Advanced Materials and Processes

5. **Wenhao Zhou**
   Adviser: Shuai Zhang
   Interfacial Structure and Metal Coordination in Crystalline Peptoid Membranes

POSTERS

1. **Jacob Beitzel**
   Adviser: Miqin Zhang
   Polysaccharide based Hydrogels for Tissue Engineering

2. **Michel Bernardo**
   Adviser: Quansan Yang
   Design and Microfabrication of a PDMS-Based Microfluidic Device for Single-Cell Capture

3. **Vanessa Bradshaw**
   Adviser: Navid Zobeiry
   Degradation of Polyetherimide Blends in the Marine Environment

4. **Vanessa Bradshaw, Nick Engstrom**
   Adviser: Dwayne Arola
   Cavitation Abrasive Surface Finishing For Additively Manufactured Ti-6Al-4V

5. **Katheryne Chen**
   Adviser: Bruce Hinds
   Effect of thermal cycling on thermoplastic composite properties

6. **Cal Davis**
   Adviser: Navid Zobeiry
   The future of cycling isn't carbon fiber

7. **Alex Dixon**
   Adviser: Navid Zobeiry
   Boeing Lightweight Composite Repair

8. **Matilda Gauss**
Adviser: Dwayne Arola
Towards development of cement-free geopolymer concrete with natural clinoptilolite zeolite

9. **Hareesh Iyer**
Adviser: Eleftheria Roumeli
Fabricating Strong and Stiff Bioplastics from Whole Spirulina Cells

10. **Surbhi Kakar**
Adviser: Dwayne Arola
Color-Responsive Materials for IV Failure Detection

11 **Rachael Lee**
Adviser: Dwayne Arola
Evaluating Age-Dependent Whitening Efficacy and Surface Alterations: An Exterior Enamel Analysis Using Hydrogen Peroxide

12. **Rachael Lee**
Adviser: Dwayne Arola
The Future of Oral Health: Colgate-Palmolive Tooth Whitening Project

13. **Kuotian Liao**
Adviser: Eleftheria Roumeli
ML-assisted autonomous assistant robot for high-throughput algal bioplastics fabrication

14. **Celine Lityo**
Adviser: Dwayne Arola
A Multi-Scale Investigation of Structural, Mechanical, and Compositional Differences Between Primary and Permanent Tooth Enamel

15. **Yujin Liu**
Adviser: Quansan Yang
Continuous ultra sensitive biosensor

16. **Picea Liu**
    Adviser: Miqin Zhang
    Pneumatically Controlled Microfluidic Synthesis of Polymeric Nanoparticles for mRNA Delivery

17. **Daniel Lund**
    Adviser: Dwayne Arola
    What are we actually looking at: predicting metal AM performance variations from in-situ data

18. **Ryan Parekh**
    Adviser: Avik Som
    Magnetic Localization for Line Placement Procedures: A Magnetometer Array keeps the Radiation Away!

19. **Ren Pumulo**
    Adviser: Xiaodong Xu
    Magnetically Tunable Coupling in CrSBr-Integrated Photonics

20. **Abigail Sohm**
    Adviser: Matt Yankowitz
    Effects of proximity-induced spin-orbit coupling in rhombohedral graphene

21. **Marcus Uhm**
    Adviser: Dwayne Arola
    Developing a ternary system of cement, natural zeolite, and hydrated lime for maximizing the degree of cement replacement and strength of next-generation structural composites.

22. **Caitlynn Wohlford, Marina Ray**
    Adviser: Mo Chen
    Development and Characterization of Sputtered TiN Thin Films for High-Impedance Microwave Applications