Spring 2020
Biomedical Engineering
Graduates
The Pennsylvania State University
A Message from the Department Head

On behalf of the Pennsylvania State University Biomedical Engineering Department, I would like to extend sincere congratulations to you on your graduation! Your years of hard work have finally paid off. Today, in your eyes, you are graduating with a Biomedical Engineering degree. But, in our eyes, we witnessed your intellectual and personal growth. Remember the first day you joined the University? I believe you will agree that you have matured both socially and academically.

The uniqueness in graduating from the Biomedical Engineering Department, no matter which option you have chosen, is your adaptability to rigorous and multi-disciplinary training. We all share one common goal-- to improve human medicine and healthcare. Even though our paths may be different, I sincerely wish all of you will continue your future journey in completing this goal. No matter where you are or what you do, never stop believing in the genius that is within you.

I would also like to extend gratitude to the parents, spouses/partners, children and friends of our graduates. Our graduating students’ success is a reflection of support, love and sacrifices that you provided for them. Your continued guidance and encouragement have shaped each of them into the great individual they are today.

In the future, I ask that you please not forget your roots and remain connected to the Biomedical Engineering Department. I encourage you to provide updates on the many achievements you will experience in your careers and personal lives, while continuing to give back to the college/department by supporting our activities, programs and scholarships.

Congratulations to our newest alumni and I wish you all the best in your future endeavors!

Distinguished Professor & Department Head
Department of Biomedical Engineering
Melissa Ling has been selected as the student marshal for the biomedical engineering baccalaureate degree program for Penn State’s spring commencement, to be held virtually on May 9. Ling will receive a bachelor of science degree in biomedical engineering. A Schreyer Honors Scholar, Ling completed an undergraduate honors thesis titled “The Role of Lamin A/C and the LINC Complex in TGFB1-induced Epithelial to Mesenchymal Transition.”

Ling’s academic honors include the President’s Freshman Award, the President Sparks Award and the Evan Pugh Scholar Award. In addition, she has received the Schreyer Academic Excellence Scholarship and the CSL Behring Biotech Scholarship.

Ling completed two internships, one as an analytical chemistry intern with Bristol-Myers Squibb, and the other as a bioprocess development purification intern with Seattle Genetics.

Ling’s extracurricular activities included serving as a learning assistant in fall 2017, an undergraduate teaching assistant in an organic chemistry instrument room in fall 2018 and the service chair for the Society of Women Engineers in fall 2017 and fall 2018.

Ling is the daughter of Jessie Ng and Ted Ling of Downingtown and is a 2016 graduate of Coatesville Area Senior High School.

Following graduation, Ling will attend the University of Washington in fall 2020 to pursue a doctoral degree in molecular engineering.
Abdalmajeed Iyoun, Biochemical
Capstone Project Title: 
After Graduation Plans:

Abigail Van Wormer, Biomechanics
Dance Major
Capstone Project Title: EM Calibration Test Fixture for Philips Ultrasound
After Graduation Plans: Working for Philips Ultrasound as a manufacturing engineer at the Reedsville site.

Alanoud Alsubhi, Biomechanics
Capstone Project Title: Housing unit for cryogenic electron microscopy
After Graduation Plans: Job hunting

Alda Chau, Biomaterials
Capstone Project Title: 
After Graduation Plans:

Alex Thomas, Biomechanics
Capstone Project Title: 
After Graduation Plans:
Alexander Kutz, Biochemical
Capstone Project Title: Penn State Human Powered Vehicle
After Graduation Plans: Pharmaceutical or Medical Device Industry

Alexander Nelson, Biomechanics
Capstone Project Title:
After Graduation Plans:

Alexander Tittensor, Biochemical
Capstone Project Title:
After Graduation Plans:

Ali Altalibi, Biomechanics
Capstone Project Title:
After Graduation Plans:

Alicia Kasson, Biomechanics
Engineering Mechanics Minor
Capstone Project Title: Distributed Telemedicine by Electronic Auscultations in Times of Social Distancing
After Graduation Plans: Project Manager at Epic in Verona, WI

Allison Brown, Biomaterials
Capstone Project Title: Nature in Automobiles
After Graduation Plans: Master's degree in Bioengineering at the University of Pittsburgh.
Ameya Patankar, Biochemical  
**Capstone Project Title:** SiN Chip Vitrification Project  
**After Graduation Plans:** Medical School, US Army

Anna Macasinag, Medical Imaging and Devices  
**Capstone Project Title:**  
**After Graduation Plans:**

Arvin Xia, Biochemical  
**Capstone Project Title:** Microneedle Injection Device  
**After Graduation Plans:** Biochemist-Materials Engineer at Agilent Technologies

Bailey Klein, Biochemical  
**Capstone Project Title:**  
**After Graduation Plans:**

Blaine Hoak, Medical Imaging and Devices  
**Capstone title:** Penn State College of Medicine Knee/Hip Data Collection  
**After Graduation Plans:** Master's degree in Computer Science and Engineering here at Penn State starting Fall 2020

Brayden Royer, Biochemical  
**Capstone Project Title:**  
**After Graduation Plans:**
Brady Houtz, Biochemical
IUG Bioengineering
**Schreyer Honors College Student**
**Honors Thesis Title:** A Study of the Effect of Hematocrit on an Elevated Beat Rate in the 12cc Penn State Pediatric Ventricular Assist Device
**Capstone Project Title:** Large Scale RNA Sequence Analysis for Human Induced Pluripotent Stem Cells
**After Graduation Plans:** Sidney Kimmel Medical College at Thomas Jefferson University

Brandon Kong, Biochemical
**Capstone Project Title:**
**After Graduation Plans:**

Brianna Frederick, Biomaterials
Nanotechnology Minor
**Capstone Project Title:** B. Braun IV Bag Spike Analysis
**After Graduation Plans:** Professional Scientific Services, upstream vaccine processing, Eurofins Lancaster Laboratories

Caden Hall, Biomechanics
**Capstone Project Title:**
**After Graduation Plans**

Christopher Wible, Medical Imaging and Devices
**Capstone Project Title:** Electromagnetic Calibration Test Fixture
**After Graduation Plans:** Graduate degree in Electrical Engineering
Colm Parrish, Biochemical Biology Minor
**Capstone Project Title:** 3D Printed Guide for Spine Level Identification
**After Graduation Plans:** Global Operations Leadership Development Biologics Associate, Catalent Pharma Solutions

Connor Ott, Biomaterials
**Capstone Project Title:**
**After Graduation Plans:**

Daniel Kats, Biochemical Entrepreneurship & Innovation Minor
**Capstone Project Title:** SiN Chip Housing – Team 1
**After Graduation Plans:** Complete co-op with Johnson & Johnson, then possibly AmeriCorps St. Bernard Project

Dominic Giannageli, Biomechanics Mechanical Engineering Concurrent Major
**Capstone Project Title:** Hip Fracture Fixation Torque and Force Measurement Mechanism
**After Graduation Plans:** Philips Biomedical and Mechanical Engineer

Dor Tillinger, Biomechanics Mechanical Engineering Concurrent Major Engineering Leadership Development Minor
**Capstone Project Title:** Measuring Walking Speed in Rehabilitation Clinics - Team 1
Emma Angotti, Biomaterials  
Capstone Project Title: Braun Bag Spike  
After Graduation: Full-time in Industry

Emma Christensen, Biochemical  
Capstone Project Title: Drone Delivery Test Kit  
After Graduation Plans: Gap year in the pharmaceutical industry then medical school

Emma Daly, Biomaterials  
Capstone Project Title: UVC Self-Sanitizing Sink Faucet Knobs  
After Graduation Plans: Employment

Erica Vasti, Biomechanics  
Engineering Leadership Development Minor  
Capstone Project Title: Dynamic Mechanical Environment Tendon Tissue Culture System  
After Graduation Plans: Associate Technical Consultant at srcLogic

Evan Lomis, Medical Imaging and Devices  
Capstone Project Title: IV Bag Spike Geometry and Stress Analysis  
Forest Ledrick, Biochemical
Capstone Project Title: Design of a Toxic Algae Harvester
After Graduation Plans: Industry

Gareth Howe, Biomechanics
Mechanical Engineering Concurrent Major
Capstone Project Title: Distributed Telemedicine by Electronic Auscultations in Times of Social Distancing
After Graduation Plans: Epic in Madison, Wisconsin

Ghadeer Al Lawati, Biomechanics
Engineering Mechanics Minor
Capstone Project Title: PSU Human Powered Vehicle
After Graduation Plans: Graduate School or Industry

Gopal Jayakar, Biochemical
Chemistry Minor
Schreyer Honors College Student
Honors Thesis Title: Random Forest Classification in Copy Number Variation Discovery
Capstone Project Title: Housing for SiN Chip Vitrification
After Graduation Plans: NIH Post-Bac Program

Hannah Kemper, Biochemical
Capstone Project Title: Guide for Placement of External Ventricular Drain
After Graduation Plans: Master’s degree in Education at University of Notre Dame

Hunter Johnstone, Biochemical
Engineering Leadership Development minor
Capstone Project Title: Distributed Telemedicine with Electronic Auscultations in Times of Social Distancing
After Graduation Plans: Manufacturing Technical Services for Catalent, Bloomington, IN.
Hussain Albahrani, Medical Imaging and Devices
Engineering Leadership Development Minor
Capstone Project Title: Microneedle Injection Device
After Graduation Plans:

Jack Williams, Medical Imaging and Devices
Capstone Project Title: 
After Graduation Plans:

Jacob Halle, Biomaterials
Capstone Project Title:  
After Graduation Plans:

Jacob Leibowitz, Biomechanics
Mechanical Engineering Concurrent Major
Capstone Project Title: Housing for SiN Chip Vitrification
After Graduation Plans: Product Development Engineer, Medical Products Division, W. L. Gore & Associates, Phoenix, AZ

Jonathan Florian, Biomaterials
Biology Minor
Schreyer Honors College Student
Honors Thesis Title: Genetic Analysis of the Drosophila Complex Protein, VPS24, Reveals Requirements in Lysosome Homeostasis and Autophagy
Capstone Project Title: Redesign of Rolling Cane to Assist Independent Living
After Graduation Plans: PhD in Biomedical Engineering, University of Virginia.
Jordan Hicks, Biomechanics
Capstone Project Title: 
After Graduation Plan:

Joseph Gregory, Biochemical
Capstone Project Title: 3D printed incision guide for spine surgery
After Graduation Plan: Industry

Juan Dalo, Biomaterials
Capstone Project Title: Stretchable Wire for Wearable ECG Monitoring Device
After Graduation Plan: Medical School

K’Ashe McKinney, Medical Imaging and Devices
Capstone Project Title: Preventing the Spread of a Future Epidemic through the Use of a Sanitary Device
After Graduation Plan: Graduate School, UCLA

Katherine Martin, Biomaterials
Capstone Project Title: Introducing Nature into the Interior of an Automobile
After Graduation Plan: New Business Development Specialist, Boehringer Laboratories
Kathryn Chesnick, Biomechanics
Capstone Project Title: IV Blood Bag Spike Analysis
After Graduation Plans: Attend Law School to Become a Patent Attorney

Keith Jones, Medical Imaging and Devices
Capstone Project Title: Guide for Placement of External Ventricular Drain Team 2
After Graduation Plans: Development Engineer at Phillips Ultrasound, Reedsville, PA

Kerrick Johnstonbaugh, Medical Imaging and Devices
Capstone Project Title: 
After Graduation Plans:

Kiersten Bradnam, Biomechanics
Chemistry Minor
Capstone Project Title: 3D Printed Incision Guide for Spine Surgery
After Graduation Plans: Career in R&D for medical devices

Kyle McIlroy, Biochemical
MS in Bioengineering
Schreyer Honors College Student
Honors Thesis Title: Modeling Serum-Drug Kinetics for the Prediction of Cancer Resistance to Second Line Therapeutics
Capstone Project Title: User-friendly Software for Fast Simulations of Multimodality Medical Imaging
After Graduation Plans: Data Analysis at Exxon HQ in Houston
Lauren Cain, Biomechanics
Engineering Mechanics Minor
**Capstone Project Title:** Designing a Fixture got Ultrasound Transducer Calibration - Philips Ultrasound
**After Graduation Plans:** Industry

Lucas Sainburg, Medical Imaging and Devices
**Capstone Project Title:** How might we bring nature into the interior of the automobile experience?
**After Graduation Plans:** PhD in Biomedical Engineering, Vanderbilt University

Luke Carter, Medical Imaging and Devices
**Capstone Project Title:**
**After Graduation Plans:**

Madison Emanski, Biomechanics
Engineering Mechanics Minor
**Capstone Project Title:** Redesigning of Rolling Cane to Assist Independent Living
**After Graduation Plans:** BME Patent Examiner for USPTO

Madison Evans, Biochemical
Pre-Medicine, Global Health Minor
Schreyer Honors College Student
**Honors Thesis Title:** Building 3D Structural Density Maps of p53 Obtained from U-87 MG Glioblastoma Cell Line
**Capstone Project Title:** CSL BEHRING 2: In-depth Analytics of Ethanol from Different Sources
**After Graduation Plans:** Digital Consultant Analyst in Health & Public Services then obtain MD/MPH
Maria Carolina Araujo, Biochemical
**Capstone Project Title:** Dynamic Mechanical Environment Tendon Tissue Culture System
**After Graduation Plan:** MS in Management, Georgetown University in D.C.

Marisa Deichert, Biomechanics
Schreyer Honors Student
**Honors Thesis Title:** Therapeutic ultrasound to melt fatty infiltrations in muscles
**Capstone Project Title:** PSU Human Powered Vehicle
**After Graduation Plan:** Reliability Engineer at Philips Ultrasound

Matthew Aronson, Biochemical
Schreyer Honors College Student
**Honors Thesis Title:** Engineering Biomimetic Anticancer Therapies
**Capstone Project Title:** Redesign of a Rolling Cane Assist Independent Living
**After Graduation Plan:** PhD in Bioengineering, University of Pennsylvania

Matthew Klitchko, Biomechanics
**Capstone Project Title:**
**After Graduation Plans:**
Maximillian Moran, Biomechanics
Mechanical Engineering Concurrent Major
Engineering Leadership Development Minor
**Capstone Project Title:** Lincoln Aviator Center Console Latch Redesign
**After Graduation Plans:** Leadership Rotation Program at Siemens Healthineers

Megan Dimmick, Biomechanics
Mechanical Engineering Concurrent Major
Engineering Mechanics Minor
**Capstone Project Title:** Housing for SiN Chip Vitrification-Team 2
**After Graduation Plans:** Project Industrialization Engineer at Philips Ultrasound, Reedsville, PA

Meghan Lukac, Biomechanics
**Capstone Project Title:**
**After Graduation Plans:**

Meredith Bachman, Biochemical
**Capstone Project Title:** Guide for Placement of External Ventricular Drain
**After Graduation Plans:** Drug Product Engineer for Regeneron Pharmaceuticals.
Mi Le, Biochemical
Biology and Spanish Minors
Capstone Project Title: Brain Exhibit for Children
After Graduation Plans: Drug development with Frontage Laboratories

Michael Buzas, Biochemical
Capstone Project Title: 
After Graduation Plans:

Michelle Carney, Biomechanics
Capstone Project Title: 
After Graduation Plans:

Mitchell McKinney, Biomechanics
Capstone Project Title: 
After Graduation Plans:

Mohamed Osman, Biomechanics
Mechanical Engineering Concurrent Major
Capstone Project Title: Protein Binding Characteristics of Graphene
After Graduation Plans: Masters/Ph.D. in Bioimaging and Photonics
Molly Smith, Biomaterials  
**Capstone Project Title:** Preventing the Spread of a Future Epidemic (Mystery Team 2)  
**After Graduation Plans:** Excited to start my engineering career working in industry.

Nathan Nielsen, Biomechanics  
**Capstone Project Title:**  
**After Graduation Plans:**

Nicholas Borsch, Biomechanics  
**Capstone Project Title:**  
**After Graduation Plans:**

Nicholas Jarostchuk, Biochemical  
**Capstone Project Title:**  
**After Graduation Plans:**

Nicholas Pagano, Biomaterials  
**Capstone Project Title:** Bleeding Fan Outfitters Wearable Bobblehead Suspension System  
**After Graduation Plans:** MS in Biomedical Engineering then enter Biotech/Biopharma Industry
Rose Gogal, Biochemical
Capstone Project Title: Improving the Aesthetics and Data-Sharing of an FDA Cleared Medical device
After Graduation Plans: PhD in Biomedical Engineering, University of Iowa

Rui Yang, Biomechanics
Capstone Project Title: After Graduation Plans: Hoping to work in the pharmaceutical industry

Sabrina Carrozzi, Biochemical
Schreyer Honors College Student
IUG student
Honors Thesis title: Development of an in vitro culture and loading protocol to study the mechanobiology of rabbit anterior cruciate ligaments
Capstone Project Title: Wearable Devices in Industry 4.0
After Graduation Plans: Medical school at Georgetown University

Samantha Peebles, Biomechanics
Capstone Project Title: After Graduation Plans:
Samantha Tracy, Biochemical
Capstone Project Title: Drone Delivery Test Kit
After Graduation Plans: Work in R&D, 3D Printing of Hydrogel

Sara Korsunsky, Biomechanics
Capstone Project Title:
After Graduation Plans:

Sean Cavanaugh, Biomechanics
Mechanical Engineering Concurrent Major
Capstone Project Title: System Design and Prototype for the Interactive Lighting Sound and Visualization Components of a Sci-Art Installation
After Graduation Plans: Technical Services for Epic Systems in Madison, Wisconsin

Songning Zhu, Biomaterials
Capstone Project Title:
After Graduation Plans: PhD in Biomedical Engineering, the University of California, Irvine

Soyeon Lee, Biomaterials
Capstone Project Title: EM Calibration Test Fixture sponsored by Philips Ultrasound
After Graduation Plans: Develop Innovative Technology and Medicine at a Biopharmaceutical Company
Stella Makris, Biomaterials
Capstone Project Title: Brain Exhibit for Children
After Graduation Plans: Career in Biotech or Biopharmaceutical industry and pursue a Master’s Degree

Thomas Day, Biomechanics
Capstone Project Title:
After Graduation Plans:

Thomas Gerhart, Biomechanics
Capstone Project Title: Tendon Tissue Culture System
After Graduation Plans: Career in Industry in Pharmaceuticals or Medical Devices, then Possibly Graduate School

Timothy Hogan, Medical Imaging and Devices
Capstone Project Title:
After Graduation Plans:

Velika D’Souza, Medical Imaging and Devices
Capstone Project Title:
After Graduation Plans:
Vraj Shah, Biochemical
Capstone Project Title: After Graduation Plans:

Winnie Li, Biochemical
Capstone Project Title: After Graduation Plans:

Xinyi Yang, Medical Imaging and Devices
Mathematics Minor
Capstone Project Title: PSU human powered vehicle
After Graduation Plans: Attend Graduate School

Xixian Jiang, Biochemical
Capstone Project Title: After Graduation Plans:

Youdai Wang, Biochemical
Biology Minor
Capstone Project Title: How might we bring nature into the interior of an automobile experience?
After Graduation Plans: Graduate School
Yue (Jenny) Tu, Biochemical Engineering Mechanics Minor  
**Capstone Project:** 3D printed Spinal Guide  
**After Graduation Plans:** Graduate school to explore stem cell-related research and industry afterward

Yuhaot Zhou, Biochemical Mathematics Minor  
**Capstone Project Title:** B2C Virtual Reality Personalized Cloud Platform for “Hero's Journey”  
**After Graduation Plans:** Graduate School

Zachary Haviland, Biomechanics  
**Capstone Project Title:**  
**After Graduation Plans:**

Zachary Stapes, Medical Imaging and Devices  
**Capstone Project Title:**  
**After Graduation Plans:**

Zining Guo, Biochemical Mathematics Minor  
**Capstone Project Title:** Housing for SiN Chip Vitrification  
**After Graduation Plans:** Graduate School

Ziqiang Cui, Biochemical  
**Capstone Project Title:** How might we bring nature into the interior of an automobile experience?  
**After Graduation Plans:** Industry
Congratulations from the faculty and staff in Biomedical Engineering!

PennState College of Engineering  BIOMEDICAL ENGINEERING