

KYLE JERRELD

BIOMEDICAL ENGINEERING STUDENT

CONTACT

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📍 New York

EDUCATION

Rochester Institute of Technology · Aug. 2017 to Current

Bachelor's of Science Biomedical Engineering 2022

Cumulative GPA of 3.81, Minor in Chemistry and Focus in Medical Devices

Teaching Assistant for Intro Biomaterials for Biomedical Engineering Department in Spring of 2020
Dean's List Each Semester of Undergraduate Career

EMPLOYMENT

Tissue Regeneration and Mechanobiology Lab
Rochester, NY

Undergraduate Research Co-op · Jan. 2021 to Current

- Led multiple research projects under the guidance of a post-doctorate fellow
- Developed and executed test plans
- Leveraged electro-spraying to optimize the production of nanoparticles for the dermal delivery of the drug Resveratrol
- Characterized nanoparticles using Scanning Electron Microscopy, Differential Scanning Calorimetry, Fourier Transform Infrared Spectroscopy, Thermal Gravimetric Analysis, Nuclear Magnetic Resonance, and Raman Spectroscopy
- Electro-spun scaffolds using a cryogenic technique to create porous scaffolds for culturing of human dermal fibroblasts
- Gained experience in presenting technical data in written, visual and graphic forms

DePuy Synthes Companies of Johnson & Johnson
Raynham, MA

Manufacturing Engineering Co-op · June 2020 to Dec. 2020

- Drove operational improvements which resulted in savings and improved profit margins
- Developed team communications and information for project meetings
- Designed tooling and gating for various projects involved in the investment casting process
- Lead and assisted in cost improvement projects that created less reverted material and led to thousands in savings across multiple manufacturing sites

DePuy Synthes Companies of Johnson & Johnson
Raynham, MA

Cleaning and Packaging Process Engineering Co-op · May 2019 to Jan. 2020

- Spearheaded projects to improve the efficiency of processes on the manufacturing floor, including a new in-process cleaning step to reduce rework
- Conducted testing to prove the validity and efficacy of proposed solutions
- Acquired knowledge in processes such as non-conformance records, validations and LEAN Manufacturing
- Altered and created new procedures to make improvements to efficiency and safety of the manufacturing process
- Participated in Cadaver Labs at the Johnson and Johnson Institute during my co-op experience

SKILLS

Manufacturing Engineering, Cooperative Team Work, LEAN Manufacturing, Good Documentation Practices, Engineering Calculations, Microsoft Office, Visual Basic, Matlab, Fusion 360, Computer Aided Design, Siemens NX, Cell Culture, Aseptic Techniques, Multimeter, 3D Printing, 3D Scanning, Investment Casting, Minitab, Microsoft Excel, Presenting, Public Speaking, Project Leadership, Time Management, Organization, Electrospraying/Electrospinning, SEM, Spectrophotometry, FT-IR, NMR, Raman Spectroscopy, Contact Angle Goniometer, DSC, TGA, Test Plan Development, Literature Review, ImageJ, Technical Writing, Problem Solving, GraphPad Prism

ACTIVITIES

RIT Intramurals · Player/Captain

Sept. 2017 to Current

- Played on three to five intramural sports teams each semester of my academic career (excluding semesters which COVID made it unsafe)
- Sports played included Basketball, Volleyball, Soccer, Ultimate Frisbee, Broomball, Inner Tube Volleyball and Dodgeball
- Champions of Volleyball twice, Inner Tube Volleyball and 3v3 Basketball

RIT Goal Ball Club · Founding Member

Aug. 2018 to Current

Adaptive sport played by visually impaired and non-visually impaired athletes

Marathon

Oct. 2021

- Trained for and completed a marathon

Rock Climbing/Hiking

- Hiked all of the "High Peaks" in New York
- Section hiked over 300 miles of the Appalachian Trail
- Indoor bouldering

VOLUNTEERING

Brighton Surgery · Volunteer

Dec. 2021 to Current · Brighton, NY

- Aided with moving patients from beds to their cars post-op
- Helped with stocking operating rooms with the necessary consumables for surgery
- Aided in any other clerical tasks that the doctors, nurses or other staff needed me for

Biomedical Engineering Society · Mentorship Program Chair/Founder

Aug. 2020 to May 2022 · Rochester Institute of Technology

- Organized the founding of the Program
- Led events to help underclassmen members network
- Connected upper classmen to under classmen to help enrich and guide both groups experiences at RIT
- Mentored three underclassmen; helped them choose courses, finding co-op opportunities, and other guidance

RIT BioPrint · Vice President

Sept. 2018 to May 2022 · Rochester Institute of Technology

- Re-established club and became vice-president August 2020
- Organized events to teach club members skills essential to 3D printing
- Coordinated with local disability services groups to work on accessibility projects
- Worked with veterinarians to create prosthetic limbs for dogs with limb amputations

PROJECTS

Multi-Disciplinary Senior Design: EMG Controlled Marble Maze

Aug. 2021 to Current

- Team Leader; managed the team, prepared meeting agendas and ensured that deadlines were met
- Worked on the mechanical actuation team, primarily responsible for the design of mechanical components to be 3D printed
- Created a feedback system using EMG leads, Arduino Uno and servo motors

Increasing Resveratrol's Bioavailability Via Polymeric Micro-Carrier Encapsulation

Jan. 2021 to Current

- Conducted and led research project
- Presented research at Biomedical Engineering Society National Conference October 2021
- Research to be published in early 2022

3D Printed Prosthetic Arm

Jan. 2020 to May 2020

Worked in a team for a class project in which a low cost, 3D printed prosthetic arm was designed and prototyped for use in low resource areas of the world