Kaitlyn A. Schroyer

www.linkedin.com/in/kaitlyn-schroyer-a927b6202

kschroyer1999@gmail.com (440) 935-0141

EDUCATION

Master of Science in Applied Biomedical Engineering Cleveland State University, Cleveland, OH

Bachelor of Science in Biomaterials and Tissue Engineering The University of Akron, Akron, OH

OBJECTIVE

Analytical and solutions-driven biomedical engineer with research experience in 3D cancer modeling, data analysis, and cross-functional collaboration between engineering and healthcare teams. Adept at translating technical insights into strategic recommendations through data interpretation, scientific writing, and customer communication. **Seeking to apply research, product development, and collaboration** in a full-time position.

EXPERIENCE

Manufacturing Advocacy and Growth Network (MAGNET), Cleveland, OH

Research Fellow

- Partnered with an early-stage wound care company to evaluate the specialized wound dressing market and inform a strategic product re-release.
- Conducted primary and secondary market research, including **reimbursement pathways, competitive landscape, and clinical use settings** (acute, post-acute, home health).
- Analyzed HCPCS, CPT, and DRG coding structures to assess reimbursement feasibility and barriers to adoption.
- Synthesized regulatory, reimbursement, and market data into actionable recommendations supporting product positioning and go-to-market strategy.
- Delivered a final report and presentation outlining **re-release considerations, market risks, and commercialization opportunities.**

Cleveland State University, Cleveland, OH

Graduate Research Assistant

- Designed and optimized a **patient-derived 3D glioblastoma model using GelMA hydrogels.**
- Investigated therapeutic response and safety-critical performance using imaging, viability assays, and cell analysis.
- Integrated confocal microscopy, immunohistochemistry, and materials handling into research workflows.
- Authored and published a peer-reviewed research manuscript detailing methodology, results, and implications for cancer therapy using in vitro 3D models

Graduate Teaching Assistant (MCE 276)

- Graded, proctored, and made corrections to quizzes and exams.
- Gave lecture on abrasives, utilizing the professor's notes and course materials.

Food Equipment Manufacturing Co., Bedford Heights, OH

Mechanical Engineering Co-op

- Designed and implemented industrial parts, assemblies, and machines.
- Interpreted and converted legacy 2D MicroStation drawings into updated 3D SolidWorks assemblies.
- Programmed and monitored CNC manufacturing tools, **ensuring mechanical and safety tolerances were met.**
- Assisted in updating documentation for quality assurance and compliance workflows.
- Worked directly with customers to **design, implement, and test robotic arm industrial machine**.
- Used SmartSheet to track machine builds and process improvements across multiple departments.
- Gained exposure to risk mitigation documentation.

TECHNICAL SKILLS

- Software Proficiencies: SolidWorks, GibbsCam, Microsoft Outlook, Microsoft Excel, Google Suite, SmartSheet, DNAStudio, RStudio, ImageJ, MATLAB
- Hardware skills: machine design, project management, bioprinting, aseptic techniques, cell culture, SEM imaging, confocal microscopy, cell viability analysis, data analysis, machine testing and troubleshooting, experimental design, cell viability and proliferation analyses, problem solving, data analysis, material synthesis, tissue sectioning (cryostat), scientific writing, collaboration, lab protocol fabrication and training

PROJECTS AND PRESENTATIONS

Graduate Research Presentations:

- Provided updates to current research regarding bioprinting hydrogels for modeling to further investigate of mechanisms present in glioblastoma
- Crosslinked hydrogel preparation and UV curing workflows simulating implantable material performance.
- Use of fluorescence and viability imaging techniques to quantify treatment response in hydrogel-embedded cells.
- Analysis of pore structure and gel uniformity to inform design of safer, functional biomedical scaffolds.

FIRST AUTHOR PUBLICATION

Schroyer, K.A.R.; Schmitz, K.M.; Raheja, G.; Su, B.; Lathia, J.D.; Ning, L. Bioprinting of GelMA-Based Hydrogels to Aid in Creation of Biomimetic 3D Models for Glioblastoma. Micromachines 2025, 16, 654. https://doi.org/10.3390/mi16060654