

Cooper Thome
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Driven, creative, and experienced student and leader pursuing a Ph.D. in biological engineering

EDUCATION

Biological Engineering Ph.D. Program — University of Colorado Boulder — Started August 2019

B.S. Chemical Engineering — University of Tennessee at Chattanooga — December 2018

- Brock Scholars Program in the UTC Honors College
- GPA: 3.97

PROFESSIONAL POSITIONS AND RESEARCH EXPERIENCE

Integer/Lake Region Medical — New Product Introduction Engineer — January 2019 - July 2019

- Integer Holdings Corporation is the largest medical device outsource manufacturer in the world serving the cardiac, neuromodulation, orthopedics, vascular, advanced surgical and power solutions markets
- Personal position involved new product development and existing product troubleshooting in a biomedical manufacturing environment, mainly in the Filmcast cardiovascular catheter value stream

Microreactor Laboratory — Dr. Frank Jones and Dr. Bradley Harris — UTC — 2016 - 2018

- Goal of the lab is to design, fabricate, and operate microreactors and other microfluidic devices
- Personal research for senior honors thesis involved stereolithographic (SLA) fabrication of micro and millifluidic devices for use in undergraduate courses and research at UTC
- Specific work included design of micro and millifluidic devices with AutoCAD software, 3D SLA printing of devices, characterization and analysis of devices, and demonstration of device use in fluid mixing, biodiesel production, and droplet generation studies

Innovation and New Product Development Internship — Chattem, Inc./Sanofi Consumer Healthcare (CHC) — Chattanooga, TN — May 2018 - December 2018

- Chattem, Inc./Sanofi CHC is a large consumer healthcare product producer and marketer of various well-known brands, such as Gold Bond, Allegra, and IcyHot
- Personally responsible for co-development of new consumer healthcare and cosmetic products and line extensions while working in a cGMP setting
- Specific responsibilities include developing new product formulations, making laboratory batches for further analysis, trouble-shooting current production issues, maintaining relationships with suppliers and vendors, and assisting other team members with product formulation, preparation, and testing

2017 NNCI/Cornell iREU Program — Dr. Guoping Chen — National Institute for Materials Science — Tsukuba, Japan — Summer 2017

- Dr. Chen's Tissue Regeneration Materials group focuses on the development of various polymeric scaffolds for applications in tissue engineering
- Personal research in a global research environment focused on fabricating and using micropatterns employed in the study of mesenchymal stem cell spreading and differentiation
- Specific tasks included UV photolithographic fabrication of micropatterned surfaces, culturing of mesenchymal stem cells, analysis with atomic force microscopy, confocal microscopy, and fluorescence microscopy, and providing technical writing help to foreign lab members

2016 SENIC Undergraduate Internship in Nanotechnology — Dr. Elsa Reichmanis — Georgia Institute of Technology's Institute for Electronics and Nanotechnology — Summer 2016

- Dr. Elsa Reichmanis' lab researches organic semiconductors, biomaterials, and liquid crystals
- Personal research involved templating of conductive polymer PEDOT:PSS using cellulose nanocrystals
- Specific responsibilities included thin film creation, conductivity measurement, and surface and phase analysis using x-ray diffraction and atomic force microscopy in a cleanroom setting

ACADEMIC POSITIONS

Academic Coach — Student Support Services — Fall 2015 – Summer 2018

- Provided tutoring and study advice to disadvantaged, disabled, and first-generation college students
- Topics tutored include organic chemistry, physics, biology, and engineering courses

PROGRAMS AND CLUBS

- UTC Brock Scholars Honors Program – 2014 - 2018
- Past President of UTC's AIChE Student Chapter – Member since 2015
- Past President of UTC's Tau Beta Pi Engineering Honors Society Zeta Chapter – Member since 2016
- Member of UTC's Chancellor's Student Advisory Board – 2017 - 2018
- Member of UTC's Chemical Engineering Advisory Board – 2018

AWARDS AND SCHOLARSHIPS

- Dean's Merit Scholarship (2018)
- BASF Corporation eWeek Scholarship (2018)
- UTC Outstanding Senior in Chemical Engineering
- Provost Student Research Award (internal research grant for personal thesis work at UTC, 2017)
- Tennessee Engineering Foundation Scholarship (2017)
- Dean's Merit Scholarship (2017)
- Chancellor's Scholarship (2014 - 2018)
- William E. Brock Scholarship (2014 - 2018)
- Brock Housing Stipend (2014 - 2018)

SELECTED PROFESSIONAL PRESENTATIONS AND PUBLICATIONS

American Society for Engineering Education Southeastern Section Conference — 2019

Paper under review for presentation – “Use of Stereolithographic 3D Printing for Fabrication of Micro and Millifluidic Devices for Undergraduate Chemical Engineering Studies”

Southern Regional Honors Conference — Washington, D.C. — 2018

and

UTC Research Dialogues — Chattanooga, TN — 2018

Poster – “Design of 3D Printed Microreactors for Biodiesel Production”

Georgia Tech SURE Research Symposium — Atlanta, Georgia — 2016

Second Place Poster - “Templating of PEDOT:PSS by Cellulose Nanocrystals”

SKILLS, EQUIPMENT, AND OTHER TRAINING

3D CAD and printing, atomic force microscopy, x-ray diffraction, cleanroom, cell imaging, cell culturing, Good Manufacturing Processes, cosmetic and healthcare formulation, Microsoft Office, Minitab, general laboratory practices, team-based work, and technical writing