JAYSON COSGROVE

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EDUCATION

Ph.D. in Chemical Engineering — **Sept. 2017 – Present**
Drexel University, Philadelphia, PA 19104
Dissertation: "Selective laser sintering of reactive polymer powders"
Advised by Dr. Giuseppe Palmese and Dr. Nicolas Alvarez

BS in Chemical Engineering — **Sept. 2013 – May 2017**
Rowan University, Glassboro, NJ 08028
GPA: 3.753
Honors: Magna Cum Laude

TEACHING EXPERIENCE

Drexel University

Teaching Assistant—Graduate Chemical Engineering Thermodynamics — **Fall 2018**
Provided feedback on exam development, graded student homework assignments, met with students weekly, and lectured intermittently.

Teaching Assistant—Chemical Engineering Thermodynamics — **Winter and Spring 2018**
Created homework solution sets, graded homework assignments, and lectured on a weekly basis.

Teaching Assistant—Senior Chemical Plant Design — **Fall 2017**
Helped students with ASPEN Plus simulations and graded all written assignments, including final exams.

Rowan University

Peer Tutor—Chemical Engineering Thermodynamics — **Fall 2016 – Spring 2017**
Met with students on a weekly basis to help reinforce lecture concepts and gave tips for solving homework problems.

RESEARCH EXPERIENCE

Drexel University

Graduate Research Assistant — **Jan. 2018 – Present**
Department of Chemical and Biological Engineering
PIs: Dr. Giuseppe Palmese and Dr. Nicolas Alvarez
Development of thermosetting systems compatible with laser sintering processing techniques. Examining polyimide and epoxy-imidazole systems for their ability to be 3D printed. Characterizing systems with ATR-FTIR, DSC, ^{1}H-NMR, rheology, microscopy, and mechanical testing.

Rowan University
Guest Researcher **May 2017 – Aug. 2017**
Department of Chemical Engineering
PI: Dr. Joseph Stanzione III
Synthesized polycarbonate oligomers from alternative methods. Oligomers were functionalized with methacrylate endcaps and characterized with ^{1}H-NMR, GPC, and DSC techniques.

Rowan University
Undergraduate Researcher **Fall 2016 – Spring 2017**
Department of Chemical Engineering
PI: Dr. Joseph Stanzione III
Epoxy-amine thermosets were synthesized by replacing methylene dianiline with alternative crosslinking agents that had fewer toxicity concerns. Glass-transition temperatures and thermomechanical properties were evaluated with DMA, TGA, and DSC.

Rowan University
Undergraduate Researcher **Fall 2015 – Spring 2016**
Department of Mechanical Engineering
PI: Dr. Smitesh Bakrania
A microcombustion reactor was evaluated for its ability to provide thermal energy to thermoelectric generators (TEGs). Temperature profiles across the reactor were measured to determine if the rate of heat transfer between the reactor and the TEGs was sufficient enough to provide portable power.

PRESENTATIONS

"Novel Chemistries and Engineering for the Replacement of Methylenedianiline in Polymer Composites" **March 2017**
Cosgrove, J.D.; Schmalbach, K.M.; Stecca, O.M.; Bassett, A.W.; La Scala, J.J.; Stanzione III, J.F.
American Institute of Chemical Engineers Mid-Atlantic Regional Conference
Rowan University, Glassboro, NJ 08028

AWARDS

1st Place—Student Paper Competition **March 2017**
AIChE Mid-Atlantic Regional Conference

PROFESSIONAL AFFILIATIONS

American Institute of Chemical Engineers (AIChE)—Member **Fall 2015 – Present**

SERVICE POSITIONS

Executive Board Member **Fall 2018 – Present**
Chemical and Biological Engineering Graduate Student Association
Drexel University, Philadelphia, PA 19104