

# Cory A. Jones

coryAjones92@gmail.com

---

## EDUCATION

### Ph.D. Student in Chemical Engineering

The Pennsylvania State University, State College, PA

August 2016 - Present

### Bachelor of Science in Chemical Engineering

Minor in Mathematics

University of Florida, Gainesville, FL

GPA 3.6/4.0; Honors Program; Deans List, Magna Cum Laude

August 2011 - May 2016

### Riverview High School

Sarasota, Florida

GPA 3.9/4.0; International Baccalaureate Diploma; class rank 9/585

August 2007 - May 2011

## RESEARCH EXPERIENCE

### The Pennsylvania State University

#### *Graduate Researcher with Dr. Manish Kumar*

- Conducting research on light driven ion transport through membranes for use biophysical and biomedical applications.

May 2016 – Present

### ZoomEssence

#### *Research and Development Engineer*

- Fabricated testing platform to study particle velocity of emulsions of various flavors and viscosities to optimize current processes.
- Created various high speed laser and LED pulse circuits on PCBs which controlled time intervals for captured images using PIV for analysis; and developed structures to house all components and align optics with SolidWorks.

May 2016 – June 2016

### Duke Energy - Integrated Product and Process Design

#### *Chemical Engineer & Team Leader*

- Worked two semester multidisciplinary design team building and testing authentic products for industrial sponsors.
- Analyzed factors leading to high Silt Density Index ratings of wastewater using light scattering, spectroscopy and microscopy techniques.
- Designed and installed filtration systems to selectively target troublesome particles to optimize the processing of wastewater used to generate steam on the UF campus co-generation plant.

May 2015 – May 2016

### University of Florida Department of Chemical Engineering

#### *Undergraduate Research with Dr. Peng Jiang*

- Researched cold programmed Shape Memory Polymers (SMPs) for responsiveness to differing chemical solvents.
- Constructed and developed equipment and methods to consistently test and characterize the color changing properties of cold programmed SMPs.
- Participated in University Scholars Program and presented at AIChE National Conference.

December 2014 – May 2016

### University of Kentucky Department of Chemical & Materials Engineering

#### *Engineered Bioactive Interfaces and Devices REU Internship with Dr. Barbara Knutson*

- Researched the encapsulation of plant derived anti-inflammatories into nanostructured lipid carriers and onto functionalized stober particles for drug delivery.
- Developed method to effectively load large amounts of anti-inflammatories onto stober particles
- Published research<sup>[1]</sup> and presented poster at the AIChE National and Regional Conference (2<sup>nd</sup> Place).

May 2013 - August 2013

### University of Florida Department of Neuroscience

#### *Undergraduate Research with Dr. David Borchelt & Dr. Pedro Cruz*

- Researched molecular mechanisms underlying Neurodegenerative diseases.
- Gained experience in several laboratory methods: western blots, digestions, PCR reactions, linkers, ligations, transformations, cultures, minipreps, maxipreps, transfections, virus harvesting, and transductions.
- Participated in a published abstract<sup>[2]</sup>, showed that by using recombinant adeno-associated viruses expressing different fluorescent protein genes (XFP) under the control of cell type specific promoters, it is possible to simultaneously target different cells in the neuroglial architecture.

October 2012 – May 2016

## WORK EXPERIENCE

### IneosBio - New Planet Bioenergy

#### *Process Engineer Intern*

- Optimized plant utilities saving over \$100,000/yr: Designed a piping system to replace potable water with greywater and performed a materials balance of plant nitrogen which found process leaks on crucial equipment.
- Led contracting team to replace failed ductwork, managed/audited plant equipment master list.
- Designed sumps and sized pumps to remove process waste from operating areas.

May 2015 - August 2015

### Ascend Performance Materials

January 2014 - August 2014

**Process Technology Co-Op**

May 2014 – August 2014

- Worked on a team utilizing novel catalyst technology to develop new processes to make bulk chemicals.
- Led research project into the potential for fouling of novel catalyst.
- Modeled new pilot process in Aspen HYSYS and built/implemented in unit with successful application.
- Saved \$3,000,000/yr by managing the installation of density indicators designed to control reactor catalyst in a packed bed reactor.

**Manufacturing Engineer Co-Op**

January 2014 – May 2014

- Developed new sampling procedures for nitric acid and added essential alarms to control boards.
- Investigated and applied new methods to maintain process purge that increased reliability and improved yield.

**University of Florida Housing Office**

May 2012 – May 2016

**Resident Assistant**

- Led and advised 50 residents focusing on community building and conflict resolution.
- National Residence Hall Honorary (NRHH) – recognized as the top 1% of resident-student population.

**INVOLVEMENT / LEADERSHIP****American Institute of Chemical Engineers (AIChE)**

September 2011 – May 2016

**Vice President**

May 2013 – January 2014

- Planned and led general body (100+ students) and officer (26 students) meetings.
- Organized a Mentor/Mentee Program with 50 participants with activities and events weekly.
- Designed a car powered through a chemical reaction for competition as a ChemE car team member.

**Webmaster / Public Relations**

May 2012 – January 2014

- Ran, operated, and updated information; developed ways to enhance improve website layout.
- Managed weekly department newsletter and efforts to increase member outreach.

**Honors Ambassadors**

January 2012 – May 2016

**Vice President**

March 2014 – May 2015

- Organized and gave tours to prospective students of the University of Florida Honors Program.
- Led and coordinated conferences and events for students to become acclimated to the university.
- Optimized tour logistics and improved outreach increasing tour participation by 50%

**Taekwondo Club**

August 2011 – May 2016

**President and Head Instructor**

May 2013 – May 2016

- Coached and organized team members using 10 years of experience as a 4<sup>th</sup> Degree Black Belt.
- Raised \$10,000 for tournament travel and equipment purchases. Represented the University of Florida in Olympic style sparring tournaments.

**PUBLICATIONS****Publication**

- Schlipf, D.M., et al., *Flavonoid adsorption and stability on titania-functionalized silica nanoparticles*. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2015. **478**: p. 15-21.<sup>[1]</sup>

**Published Abstract**

- Assisting in Simultaneous cell type specific targeting by multiple AAVs in primary neuroglia: implications for neuroglial connectomics and cell type specific disease modification. <sup>[2]</sup>

**PRESENTATIONS****“Optimization of Waste Water Effluent”**

- IPPD Final Design presentation March 2016
- IPPD Prototype Design presentation November 2015

**“Shape Memory Polymers”**

- Magna Cum Laude Honors Thesis Defense March 2016
- AIChE National Conference Salt Lake City, Utah November 2015

**“Methods of Biogen Extraction”**

- UF Chemical Engineering Unit Ops II Presentation April 2015

**“Simultaneous cell type specific targeting by multiple AAVs in primary neuroglia**

- UF College of Medicine Celebration of Research February 2015

**“rAAV Capsid-Promoter Combinations for Transduction of Primary Neuroglia Cultures”**

- UF College of Medicine Celebration of Research March 2014

**“Effect of Functionalization on the Adsorption of Plant-Derived Anti-Inflammatory Compounds onto Silica Particles”**

- University of Florida Undergraduate Seminar Series October 2013 & 2014
- AIChE Regional Conference San Juan, Puerto Rico (2<sup>nd</sup> place award) March 2014
- AIChE National Conference San Francisco, California November 2013
- University of Kentucky poster competition August 2013

## **HONORS and AWARDS**

- University of Florida Honors Program Graduate May 2016
- Awarded Magna Cum Laude, defended thesis May 2016
- UF Chemical Engineering Department Travel Award November 2015
- Accepted into the University Scholars Program August 2015 - May 2016
- 2<sup>nd</sup> Place Poster AIChE Regional Conference San Juan, Puerto Rico March 2014
- Inducted into the National Residence Hall Honorary (NRHH) December 2014
- Dean's List Award August 2011 – May 2016
- Florida Bright Futures State Scholarship August 2011 – May 2016

## **SKILLS**

Conversational Spanish • SolidWorks • MATLAB • Python • Electronics/Circuitry • Aspen suite • PI Processbook •  
Microsoft Office & VBA • HTML