

# IAN C. DUNN

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## Education

### **Rowan University, Glassboro, NJ**

Expected: May 2019

Bachelor of Science, Chemical Engineering

Mathematics Minor & Honors Studies Concentration

GPA 3.95/4.0, University Scholar, Dean's List, Summa Cum Laude Honors expected

## Employment

### **Sterile Liquids Commercialization Intern, Merck & Co, Inc., West Point, PA**

05/2018 - 08/2018

- Designed and executed formal stability studies for a monoclonal antibody product
- Lead a team through laboratory execution and analytical testing for stability studies

### **Scientific Nomenclature Intern, Merck & Co, Inc., Rahway, NJ**

05/2017 - 08/2017

- Wrote ad-hoc python scripts for computing yields from high throughput mass spectroscopy data sets
- Implemented algorithms for computing similarity metrics for spelling and phonetics of generic drug names
- Deployed python application with tkinter GUI; enabled department members to screen proposed generic drug names against existing drug names; reduced screening process from days to minutes
- Built scalable XML parsers in python for processing scientific publication metadata; transformed data dumps so that they could be imported into a database; enabled launch of company-wide publication repository

### **Technical Assistant, Dominion Virginia Power, Freeman, VA**

06/2016 - 08/2016

- Created VBA subroutines to scrape weather data to aid scheduling of plant performance testing
- Used python to scrape psychrometric data from NOAA resources to enable conversion between atmospheric condition metrics that had no analytical or empirical model
- Performed computations on historic data and generated visualizations indicating that the turbine chiller system performance levels were not meeting contract specifications

## Academic Research Experience

### **Rowan University, Glassboro, NJ**

#### ***Sustainable Materials Laboratory Research Assistant***

09/2016 - present

- Synthesized sustainably sourced resins for 3D printing of high-performance materials; co-authoring publication
- Built MATLAB application capable of parsing molecular data files, generating undirected graph models of polymer units, and generating features for predicting physical properties
- Implemented quantitative structure property relationship correlations to estimate physical properties from molecular structure features
- Deployed to 20+ laboratory researchers and partners at Army Research Laboratory

#### ***Systems Medicine Laboratory Research Assistant***

09/2017 - 09/2018

- Identified limitations and potential improvements of chemotherapy scheduling processes
- Developed facile gradient-based method for parameter estimation and dosage optimization from patient data

## Leadership and Honors

- Chapter President, Tau Beta Pi National Engineering Honors Society 04/2018 - 04/2019
- Outreach Chair, AIChE Rowan University Chapter, 11/2017 - 11/2019
- 1<sup>st</sup> place AIChE Mid-Atlantic Regional Conference Paper Competition 2018
- 1<sup>st</sup> place AIChE Annual Student Conference Poster Session, Materials Engineering and Sciences Division 2017
- AIChE Donald F. Othmer Sophomore Academic Excellence Award 2017

## Technical Expertise

**Data Analytics:** Python, Visual Basic, Java, SQL, Tableau, HTML, CSS, Javascript

**Analytical Techniques:** DSC, TGA, GPC/APC, MFI, HPLC, H-NMR, FTIR, DMA, Preparative Chromatography

**Software:** PI Processbook, Aspen, COMSOL, SolidWorks, AutoCAD