

Christopher J. O'Brien

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Summary of Qualifications

- **Ph.D.-level education** in Chemical Engineering with experimental and theoretical experience
- **Large range of technical skills** spanning molecular biology and protein expression to purification and biophysical characterization
- **Leadership experience** involving numerous student leadership roles as well as teaching and mentoring

Education

Ph.D. Chemical Engineering

Expected Spring 2017

Research advisors: Dr. Christopher J. Roberts and Dr. Anne S. Robinson

GPA: 3.46/4.00

University of Delaware, Newark, DE

Dissertation topic: Modulating Protein Aggregation with Rationally Designed Point Mutations

B.S. Chemical Engineering

May 2010

Minor in Biochemistry, Magna Cum Laude

GPA: 3.87/4.00

Rensselaer Polytechnic Institute, Troy, NY

Research and Professional Experience

BRD Graduate Intern at Eli Lilly

AllSourcePPS, Indianapolis, IN

July 2016 – Present

- Characterized protein-protein interactions, conformational stability, and aggregation rates

Graduate Research Assistant

January 2011 - Present

University of Delaware, Newark, DE

- Applied molecular modeling tools to predict single amino acid substitutions expected to alter protein-protein interactions and protein aggregation rates
- Prepared mutant protein genes for expression using site-directed mutagenesis and molecular cloning techniques
- Expressed protein variants in *E. coli* and *S. cerevisiae* and purified proteins using tangential flow filtration, affinity chromatography and size exclusion chromatography
- Characterized protein conformational stability, protein-protein interactions, protein aggregation kinetics, and protein activity

Late Stage Cell Culture Intern

May 2009 – July 2009

Genentech, South San Francisco, CA

- Evaluated and quantitatively compared methods to monitor cell growth in CHO cell culture
- Developed expertise in sterile laboratory techniques and cell culture cultivation

Undergraduate Research Assistant

August 2008 – May 2009

Rensselaer Polytechnic Institute, Troy, NY

Research advisor: Dr. Pankaj Karande

- Evaluated solution conditions for high-throughput peptide screening using chemiluminescence

Selected Technical Skills

Molecular Biology and Cell Culture

- DNA cloning and subcloning
- Bacterial, yeast, and CHO culture
- PCR and site-directed mutagenesis
- SDS-PAGE and western blotting