

Candice E. Paulsen

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Chemical Biology Doctoral Program
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EDUCATION

Purdue University, West Lafayette, IN

B.S., Genetic Biology (05/2006)

GPA: 3.8 (4.0 scale)

Research Advisor: Dr. Sergey N. Savinov

University of Michigan, Ann Arbor, MI

Ph.D., Chemical Biology (Pursuing)

GPA: 7.6 (8.0 scale)

Principle Investigator: Dr. Kate S. Carroll

RESEARCH INTERESTS

My research interests include developing and implementing immunological tools specific to higher cysteine oxidation states for use in probing the underexplored sulfoproteome. Additionally, I am interested in utilizing these immunological tools to study repair and degradation of proteins containing oxidized cysteines with an eye towards delineating how biology has capitalized on said modifications as functionally relevant PTMs.

RESEARCH EXPERIENCE

2006-present, Graduate Studies

The University of Michigan, Ann Arbor, MI

Principle Investigator: Dr. Kate S. Carroll

- Working towards synthesizing sulfenic and sulfinic/sulfonic acid-specific haptens for use in developing antibodies against said modifications
- Determined the effect of dimedone analogues on peroxide-induced transcription factor nuclear localization and yeast growth rate
- Chromosomally tagged a yeast peroxidase

Other skills:

- Growth curves
- Fluorescence microscopy

- Yeast genetics
- Organic synthesis

Rotation Advisor: Dr. Richard R. Neubig

- Developed fluorescence polarization (FP) assay to report on interactions between PDZ domains and transmembrane receptors

Other skills:

- Protein purification
- Fluorescence polarization
- HTS

Rotation Advisor: Dr. Jason E. Gestwicki

- Worked towards synthesizing curcumin analogues
- Tested the ability of dihydropyrimidine analogues to stimulate or inhibit huntingtin aggregation in a yeast model

Other skills:

- Aldol chemistry
- Mass spectrometry
- Yeast genetics
- Fluorescence microscopy

2004-2006, Undergraduate Studies

Purdue University, West Lafayette, IN

Research Advisor: Dr. Sergey N. Savinov

- Genetically engineered three Split Intein-Mediated Circular Ligation of Peptides and Proteins (SICLOPPS) plasmid constructs
- Transformed SICLOPPS plasmids into *Escherichia coli*
- Induced expression of SICLOPPS proteins in *E. coli*

- Mapped out peptide cyclization reaction mechanism and determined key residue placement resulting in optimal splicing

Other Skills:

- Molecular biology skills
- Protein purification
- Mechanistic elucidation

TEACHING EXPERIENCE

Tutoring

- General and organic chemistry tutor in the Purdue University chemistry resource room from 08/2005 – 05/2006
- Tutoring included assisting large groups of students (up to 10 at a time) with weekly homework assignments, prelab assignments, laboratory reports, and preparing for exams
- Subjects tutored occasionally was extended to analytical chemistry, calculus and biology

PUBLICATIONS

None, as of yet.

AWARDS AND AFFILIATIONS

2005 Howard Hughes Summer Undergraduate Research Internship

Alpha Chi Sigma Professional Chemistry Fraternity

Beta Beta Beta Biological Honors Society

Dean's List (6 semesters)

Honor Roll (7 semesters)

REFERENCES

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