

Kathleen "Lee" Schoneman

Green Bay, WI, 54311

kes6022@rit.edu

Education:

Rochester Institute of Technology (RIT)

Rochester, NY

Master of Science in Bioinformatics

GPA: 4.0

Research Advisor: Paul A. Craig

Expected Graduation: May 2026

Rochester Institute of Technology (RIT)

Rochester, NY

Bachelor of Science in Biochemistry

cum laude

Research Advisor: Michael L. Gleghorn

Fall 2021- Spring 2024

Research Experience:

Graduate Research, RIT

Summer 2024 - Present

Research Advisor: Dr. Paul Craig

Project title: Molecular docking with Python in Jupyter Notebooks: Towards the Development of Accessible Docking Procedures

Research: Efforts towards developing a Jupyter Notebook allowing for quick and efficient protein-ligand docking and molecular dynamics simulations, with an end goal of developing an easy-to-use webpage application for undergraduate students and the general public

Techniques: Application of python programming and libraries, development of Python modules and packages for ligand file analysis and editing, use of various applications and interfaces such as Jupyter Notebooks and Anaconda, data analysis, implementation of molecular docking engines including Vina and Smina, application of machine learning algorithms using sci-kit learn

Undergraduate Research, RIT

Spring 2024

Research Advisor: Dr. Paul Craig

Project title: Python Scripting for Biochemistry

Research: Working with public datasets and information and integrating python to automate repetitive tasks, with a focus on molecular dynamics.

Techniques: Python programming, use of various applications and interfaces such as Jupyter Notebooks and Anaconda, utilization of molecular dynamic suites including AMBER22, GROMACS, and CHARMM

Undergraduate Research, RIT

Spring 2023 – Spring 2024

Full-time Summer 2023

Research Advisor: Dr. Michael Gleghorn

Project title: Determination of Crystallized DNA G-Quadruplex Structure Bound to a Luminescent Iridium Complex Ligand

Research: Determining the binding position of a cyclometalated planar ligand on a G Quadruplex using X-ray crystallography to locate quadruplex structures *in vivo*.

Techniques: DNA crystallization, hanging and sitting drop vapor diffusion, ligand soaking, co-crystallization, utilization of Phenix and Coot software to determine DNA crystalline structure

Honors and Achievements:

RIT School of Chemistry and Materials Science Research Scholar (Spring 2024)

RIT College of Science Dean's List (Spring 2023 – Spring 2024)

RIT Emerson Summer Undergraduate Research Fellowship: Rochester Institute of Technology (Summer 2023)

Presentations:

*Schoneman L, Craig P (American Society for Biochemistry and Molecular Biology Annual Meeting, 2025) Molecular Docking with Python in Jupyter Notebooks: Towards the Development of Accessible Docking Procedures; oral presentation

*Schoneman L, Craig P (American Chemical Society Spring Meeting, 2025) Molecular Docking with Python in Jupyter Notebooks: Towards the Development of Accessible Docking Procedures; oral presentation

*Schoneman L, Robinson A, Horowitz R, Reed C, Gleghorn M (Rochester Local Section ACS Undergraduate Research Symposium, 2024) Determination of Crystallized DNA G-Quadruplex Structure Bound to a Luminescent Iridium Complex Ligand; poster

*Schoneman L, Robinson A, Horowitz R, Reed C, Gleghorn M (WNYACS Undergraduate Research Symposium 2024) Determination of Crystallized DNA G-Quadruplex Structure Bound to a Luminescent Iridium Complex Ligand; poster

*Schoneman L, Robinson A, Horowitz R, Reed C, Gleghorn M (RIT Summer Undergraduate Research Symposium, 2023) Determination of Crystallized DNA G-Quadruplex Structure Bound to a Luminescent Iridium Complex Ligand; poster

Teaching and Relevant Experience:

Rochester Institute of Technology, Rochester, NY

Spring 2025

General Biology II (Lab)

Graduate Teaching Assistant

Instructed students on the structures and functions of different body systems and how they differ in various organisms through dissections and assays.

Oversaw set-up of experiments and ensured proper waste disposal of by-products and reagents.

Fall 2024

Molecular Biology (Lab)

Graduate Teaching Assistant

Instructed students on how to perform experiments relating to molecular biology including but not limited to RT-PCR, PCR, gel electrophoresis and SDS-PAGE separations, and data analysis.

Explained principal concepts of molecular biology such as plasmid structure and mapping, bacterial transformation, and gene transcription and translation.

Oversaw set-up of experiments and ensured proper waste disposal of by-products and reagents.

Rochester Institute of Technology, Rochester, NY

Fall 2024

Craig Lab

Graduate Research Assistant

Began the formulation of a series of Jupyter notebooks centering around flexible and accessible molecular docking.

Automated the parsing, editing, and converting of protein and ligand files in various formats.

Assisted in hosting a webinar on using Python programming for molecular docking and answered participant's questions.

Rochester Institute of Technology, Rochester, NY

Spring 2023

Organic Chemistry II (Lab)

Teaching Assistant

Helped students perform experiments relating to organic chemistry including but not limited to distillation, substitution reactions, elimination reactions, and product purification.

Oversaw set-up of experiments and ensured proper waste disposal of by-products and reagents.

Affiliations

American Chemical Society, Member

Summer 2023 - Present

American Society for Biochemistry and Molecular Biology, Member

Summer 2023 - Present

Leadership Experience:

Props and Costumes Manager, RIT Players

Fall 2022 - Spring 2024

Helped execute directors' vision regarding actor's costumes, props, and set design. Made quick decisions when issues arose such as tears in costumes, missing and broken props, and interpersonal conflicts in a high-stress environment. Delegated tasks to crew members to ensure productions ran smoothly.

Relevant Skills:

- Sample preparation and purification
- Macromolecular crystallization and X-ray crystallography
- Separation techniques including gel electrophoresis, SDS PAGE, TLC-MS, HPLC, LC-MS, and GC-MS
- Experience with MacOS and Linux operating systems
- Proficient in using command line interfaces
- Intermediate knowledge of Python, Java, and R programming languages
- Novice understanding of JavaScript, HTML, and Perl programming languages

Work Experience:

Lowe's Companies Inc.

Rochester, NY

February 2023 – Present

Customer Service Associate

Provided insight and personalized solutions to customer's issues regarding lawn and garden care, as well as taught customers different methods and tips to make maintenance more efficient and less time consuming.

Beanz Coffee

Rochester, NY

August 2021 - December 2022

Barista

Memorized the recipes and preparations of a variety of products in a short time span, resulting in quick service to a multitude of customers.

Fleet Farm

Green Bay, WI

February 2021 - July 2022

Front End Officer

Serviced customers in a fast-paced environment and demonstrated quick and efficient customer problem solving tailored to each specific situation and provided training and mentoring to both new and experienced employees on basic customer service and cashier protocol.

References:

References are available upon request.