2025 St. Bonaventure University Summer Research Program for High School Students (SBU-SRPHS)

Application Deadline: Monday, April 7, 2025

Announcement of Acceptance: Thursday, April 24, 2025

Program Dates: Monday, July 14 – Friday, July 25, 2025 (2 weeks)
Approximately 9AM-4PM, but can be flexible

One-on-one research opportunities with SBU faculty

Different STEM career talks

Celebrate project completion with Poster Presentations

Program Description

Are you a high school junior or sophomore interested in pursuing a STEM career and wanting to go to college? Then consider a research experience by working with St. Bonaventure University faculty on an authentic research project.

Your research experience will take place on the SBU campus. A faculty mentor will work with you on a cutting-edge science topic. Scientists from different STEM fields will share their insights in your future career paths and give you advice on how to prepare for your future success remotely.

You will conclude your research experience by presenting your own project as a poster. Here you will hone your science communication skills and make your family proud. Throughout the program you will have the opportunity to bond with peers who have the same interest in STEM and passionate scientists who you interact with.

Program Eligibility

Applicants must be completing high school sophomore or junior year before summer 2025.

Application Submission

To apply, prepare the followings:

1. **Transcript**: An unofficial copy of your high school transcript.
2. **Personal Statement**: A one-page personal statement describing why you want to apply to this program.
3. **Housing**: A statement on whether you need on-campus housing accommodations or not. If you do, an adult must accompany you during your stay on campus.
4. **Sponsorship**: A statement on whether an organization/school will sponsor your participation if accepted. If there is, please provide the name of your sponsor and their contact information. Need-based scholarship is available for students without sponsors pending on the availability of funds.
5. **Research Interests**: Read ***Faculty Research Descriptions*** on the next page and rank your top three areas of interest from the followings:

Biochemistry, Bioinformatics, Computational Chemistry, biopsychology, Mechanical/Electrical Engineering, Human-Computer Interaction, Materials/organic Chemistry, Microbiology, Molecular Genetics

See the list of faculty research descriptions on the next page.

This is not a residential program. However, on-campus housing options are available. For students who need housing accommodations during the program, please contact Dr. Zhang for details.

*Once accepted, a **$1000** program fee is required to secure a seat. If an organization/school is sponsoring their student(s), please provide school contact information. Need-based scholarship is available for students without sponsors pending on the availability of funds. Please contact Dr. Zhang for details.*

Please send your application materials electronically to:

Dr. Xiao-Ning Zhang
Professor of Biology, Director of Biochemistry Program
Email: xzhang@sbu.edu
Phone: (716) 375-2485

See program highlights from past years at www.sbu.edu/hsstudentresearch.

Faculty Research Descriptions:

Dr. Chris Bopp: AI is helping computers better understand human language. This Human-Computer Interaction (HCI) research examines systems like ChatGPT's ability to understand the English language, and then seeks to understand how people might use this technology.

Mr. Tae Cooke: My area of interest is the intersection between electronics and mechanics. If you're interested in one or both of these, we could be a good match. Some options could be: programming a RGB light controller, building a 3D-printed automated coin sorter, making a line-following robot, etc. Whatever you make, you get to take it home at the end!

Dr. Audrey Hager: My research, in biopsychology, is interested in how interventions such as mindfulness meditation, breathing exercises, and even nature can affect cognitive processes and emotional wellbeing through measuring heart rate variability and brain wave activity.

Dr. Devin Mulvey: My research lies within the broad field of theoretical and computational chemistry, where scientists solve complex chemical problems by simulating them on a computer. Consider a summer research project in computational chemistry if you are interested in computer hardware and programming and how scientists use them to study biomolecules!

Dr. Alexander Rupprecht: My research is focused on materials/organic chemistry to develop novel materials through the use of surface chemistry. Through the use of surface chemistry, the surface's properties can be tuned to deliver corrosion resistance, improved biocompatibility, or antifouling.

Dr. Johanna Schwingel: Microbial communities work together to foster helpful (ex. decomposition and health) or harmful (ex. infection and corrosion) outcomes. This project will examine bacterial communities using microbiology, bioinformatics, and molecular genetics.

Dr. Xiao-Ning Zhang: Climate change threatens the wellbeing and food supplies for organisms. My research is interested in how the genetic makeup plays a role in organism's response to environmental stresses using biochemistry, bioinformatics and molecular genetics approaches.