**2021 St. Bonaventure University Summer Research Program for High School Students (SBU-SRPHS)**

**Application Deadline:** Friday, April 16, 2021

**Announcement of Acceptance:** Friday, May 7, 2021

**Program Dates:** Monday, July 19 – Friday, July 30, 2021 (2 weeks)
Half day in-person (with SBU faculty), half day online (from home)

- One-on-one research opportunities with SBU faculty
- Different STEM career talks
- Celebrate project completion with Poster Presentations

*A special thanks to our co-sponsors:*

**Keenan Grant**
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 pending on university policy approval. 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 in summer 2021.

Depending on campus policies for COVID prevention in July, accepted participants may be required to present proof of a negative COVID test result or else before entering SBU campus.

Application Submission

To apply, prepare the following:

1. An unofficial copy of your high school transcript.
2. A one-page personal statement describing why you want to apply to this program.
3. Rank your top three areas of interest from any of the followings:
   - Biochemistry, Bioinformatics, Chemistry, Cyber Physical Systems, Molecular Genetics, Neuroscience

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

This is not a residential program. Due to the ongoing pandemic, no housing accommodations will be available through the program.

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. Kaitlyn Dykstra:** In my lab we study how leukemia develops and is maintained at the cellular level by looking at what genes are abnormally turned on or off in the presence of certain mutations using molecular genetics and biochemical approaches.

**Dr. Audrey Hager:** My research is focused in neuroscience by examining neuroplasticity or how networks in the brain change in relation to cognitive processes such as learning, memory and attention.

**Dr. Scott Simpson:** I use density functional theory (DFT) calculations to study the interaction between molecules and surfaces for applications in catalysis. These calculations require a supercomputer to run and divulge important information about chemistry!

**Dr. Huihui Wang:** My research interests are about Cyber Physical Systems (CPS), Internet of Things (IoT), and Cybersecurity. I am interested in working with high school students on the design and development of an autonomous system especially for health under the big umbrella of IoT and CPS.

**Dr. Xiao-Ning Zhang:** Healthy living organisms produce balanced levels of oxidants and antioxidants daily. My research is interested in how environment and genetic makeup influence this balance in plants using biochemistry, bioinformatics and molecular genetics approaches.