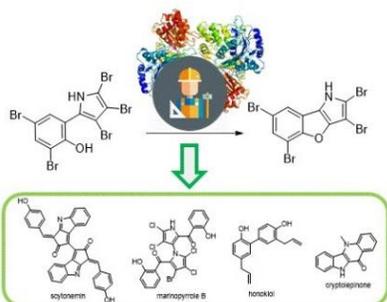


A. Background Information

This is the application form for becoming a research assistant funded by NSF (National Science Foundation, grant #CHE-2102225; https://nsf.gov/awardsearch/showAward?AWD_ID=2102225). If selected, you will conduct research and work as an assistant to undergraduate student researchers and faculty members at Waynesburg University for a month in the summer of 2023. Both housing and a stipend will be provided. Likely your work will involve participating / assisting in chemical synthesis of compounds necessary for the project, growing bacteria that produce the enzyme of interest, sample preparation for LCMS analysis, and/or cleaning and sterilizing of laboratory equipment. In addition, depending on your abilities and the lab needs, there may be opportunities to lead a side project of your own. The exact daily tasks will be decided by your laboratory supervisor.



This NSF-funded research project is highly interdisciplinary in nature and it spans across synthetic organic chemistry, biochemistry, molecular biology, analytical chemistry, and genetics. We are interested in applying the power of bio-engineering to synthesis of molecules that can lead the development of novel drugs for cancer and infectious diseases. For more information, please visit the NSF website (link provided above) and watch this intro video (<https://www.youtube.com/watch?v=i3FEImrwQek>). Due to the unpredictable nature of research work, the exact work schedule

needs to be discussed and decided on a weekly or a daily basis with your supervisor(s). However, in general you'll be working 5 days a week during normal business hours under the supervision of both the college student researchers (who are also NSF fellows) and the faculty members involved in this project.

Selection will be made based on the applicant's documented level of aspiration for a career in scientific research, demonstrable interest in the project, ability to take initiatives, competency in the lab, relevant grades, recommendation by faculty, the high school's support (especially for the research presentation), and contribution to diversification of the STEM workforce. Preference will be given to candidates who plan on pursuing a science degree at Waynesburg University. The Department of Chemistry and Forensic Science at WU offers ACS (the American Chemical Society) certified degrees in chemistry, biochemistry, forensic chemistry, and other options including pharmaceutical science and forensic science degrees. We are one of the very few primarily undergraduate universities that currently offer federal grant-supported research opportunities to undergraduate students.

B. Eligibility and Requirements

You must be currently enrolled as a junior in your high school to apply. You also must be able to work full time from June 22 – July 21 on campus (there may be some flexibility with the dates). An important part of the job of a scientist is to communicate the findings to others. The NSF research assistant is expected to give a presentation of his/her research experience to the peers at his/her high school and therefore must have the support of his/her high school. After the presentation, please share with us how it went!



2022 Summer Research Team at WU

C. Timeline

Please email the completed form and a copy of your **transcript** (unofficial OK) to Dr. Tak Suyama (tsuyama@waynesburg.edu) by March 20, 2023 with a subject line "NSF High School Application". If you have any questions or concerns, please do not hesitate to contact Dr. Suyama by email or phone (724-852-7731). Applications will be reviewed as they arrive. Late applications may be considered if there are not enough qualified applicants. Top candidates will be given remote interviews. You will be notified of the decision before May 1. Please provide answers that fit in the given spaces on this application form.

Applicant Information

Name: _____ GPA: _____

Email: _____ Phone: _____

Birthday & Year: _____ Citizenship Status: _____

Address: _____

Are you authorized to work in the United States?

High School Information

High School: _____

Address: _____ Email: _____

Applicant's Guardian Information

Name: _____

Email: _____ Phone: _____

Address: _____

If the applicant is selected, do you anticipate to consent to his/her participation in the research activities at Waynesburg University and sign relevant waivers?

Academic Questions

1. How would you prepare a 500.0 mL aqueous solution of 1.50 M sodium chloride?

2. Why are you interested in science? In chemistry?

3. Please discuss a particular topic in a science class that you found most interesting.

4. What experience(s) do you have that will contribute to this grant-funded research project(s)?

5. What strengths/skills/qualifications do you have that will contribute to this grant-funded research project(s)?

6. How might you contribute to the diversification of STEM workforce?

Project Specific Questions

1. What do you know about the NSF-funded project at Waynesburg University? About the university?

2. Why are you interested in this research project?

3. What specifically do you hope to accomplish during the research program?

Career Aspirations

1. What is your long-term career goal?

2. How would participation in this program help you achieve your goal?

3. What subject do you plan on majoring in if you attend a college / university? Why?

4. What do you hope to accomplish in college besides completing required coursework?

5. Do you have college(s) or university(ies) in mind that you'd like to attend? If so, which one(s) and why?

6. Have you had a job(s) before? Please describe your experience with it/them.

Recommendation

Please have one faculty member at your high school write you a recommendation letter and have him/her email it to Dr. Tak Suyama (tsuyama@waynesburg.edu). The letter should address the aspiration you have for a career in research / science, your competency in the lab, your reliability, your intellectual capacity to analyze complex ideas, your aspiration for higher education, and your school/teacher's commitment to giving you a platform to present your research experience in the coming school year. We also ask that either you or your recommender will let us know how your presentation went (any documentation of the event). Who will be your recommender (so we know to expect a letter)? Please provide the name and email address. While late recommendation letters will likely be considered, we cannot guarantee their review. Please have the letter submitted by March 20, 2023. Thank you in advance for your time and support of our research program.