Bioinformatics, which focuses on the applications of computer science and statistics in the field of molecular biology, is one of the fastest growing areas in science today. The need for bioinformatics has been driven by the vast amount of data that can now be generated rapidly due to improvements in current bio-technologies such as DNA sequencing. As personalized medicine and other high-technology domains emerge in pharmaceutical and agricultural industries, bioinformatics is becoming an increasingly important discipline that enables and facilitates novel biological and biomedical discoveries. In 2008, the Ohio Bioinformatics Consortium initiated a scholarship program, funded by a grant from the Choose Ohio First (COF) Scholarship Initiative Program of the State of Ohio. Miami University is a partner of the statewide consortium of a dozen universities and industries. The goal of the COF-Bioinformatics Scholarship Program is to set Ohio on the track to be a leader in the bioinformatics industry by ensuring a well-prepared pool of diverse, highly-trained students to enter the bioinformatics workforce in Ohio.

Scholarship Selection Criteria

The COF-Bioinformatics Scholarship Program is designed to blend both merit and need-based aid for academically talented Ohio residents with an emphasis on academic excellence, leadership, and preparation for a future career in science and technology. Eligibility will be based on academic achievement, as assessed by GPA, class rank, standardized test scores, and financial need. To ensure access for all Ohioans, special consideration will be given to underrepresented minorities and those who are first generation or low-income students.

To capture potential students that may find bioinformatics late in their academic careers, undergraduates may apply as freshmen, transfer students or at any time during their academic career. Students who wish to apply may major in a range of academic disciplines that utilize computer science to manage biological data. These majors include biology, botany, microbiology, zoology, computer science, chemistry/biochemistry, math, statistics, physics, geology, and those in School of Engineering.

Eligibility

- Ohio residency
- Freshmen applicants should have a minimum 26 ACT or 1170 SAT, with a minimum High School GPA of 3.70 and current college GPA of 3.0
- All other undergraduates should have an overall college GPA of 3.0 or above

Students with a lower GPA who can show evidence of strong interest in bioinformatics will be also considered. All applicants will also be evaluated on the statement of their future career goals and how participating in this program will impact their career goals.

Application Deadline July 1, 2016
Successful applications from undergraduate students other than freshman need to demonstrate a strong interest and motivation in bioinformatics. Examples of acceptable evidence could be any of the following, but not limited to:

1. Be enrolled or have completed one of the following courses: MBI 223/224 Phage Genomics I/II, BIO CSE CHM MBI 466 Bioinformatics Computing Skills, BIO CHM MBI 485 CSE 456 Bioinformatics Principles, and CSE 470B Computational Genomics;

2. Participation in an independent study related to bioinformatics;

3. Work in a wet-lab or computational lab doing bioinformatics related research;

4. Regular participation in bioinformatics-related seminars.

In Miami University, currently the following labs involve research work in bioinformatics. You can work in labs not listed here, as long as your research project is connected to bioinformatics.

(A) Bioinformatics Lab: Chun Liang (BIO)

(B) Other labs that might involve bioinformatics: Luis Actis (MBI), Mitchell Balish (MBI), Xiao-Wen Cheng (MBI), Natosha Finley (MBI), Lori G. Isaacson (BIO), Michael A. Kennedy (CHM), Andor Kiss (MBI), Christopher A. Makaroff (CHM), Richard Moore (BIO), Rachael Morgan-Kiss (MBI), Dhananjai Rao (CSE), Katia Del Rio-Tsonis (BIO), Michael L. Robinson (BIO), Haifei Shi (BIO), Yoshinori Tomoyasu (BIO) and Jiangjiang (Chris) Zhu (CHM).

Moreover, special consideration will be given to undergraduate students who are pursuing the bioinformatics minor (see below). We encourage applications from freshmen and sophomores who can demonstrate an interest in both computer science and biology thorough their course records, past experience, a convincing future career goal statement, and so on.

Renewal of the scholarship will be based on the performance of students in the previous semesters, evaluation of the scholarship committee, and the availability of funding.

Retention

All COF-Bioinformatics Scholarship students will be personally mentored or advised by faculty members involved in bioinformatics research and education. These students are required to participate in bioinformatics forums in addition to taking a bioinformatics related course. All students are strongly encouraged to perform faculty-mentored independent study and/or participate in research projects in a research lab. Different from new applications, renewal applications require a recommendation letter from the professor or faculty member you have been working with. Scholarship recipients will build community across the State by participating annually at Great Lakes Bioinformatics Conference.

Bioinformatics Minor

A bioinformatics minor is now offered cooperatively by the Departments of Biology, Computer Science and Software Engineering, Microbiology, and Statistics. For more information, please visit the website (http://miamioh.edu/cas/academics/departments/microbiology/academics/minors/bioinformatics/index.html). Students must declare the minor by completing a "Change of Major, Minor, Thematic Sequence" form in your home department office in order to get a transcript notation for the minor.