




Plant Genomics at Michigan State

2007 Summer Research Experience for Undergraduates


<http://www.plastid.msu.edu/internships/undergrads.html>



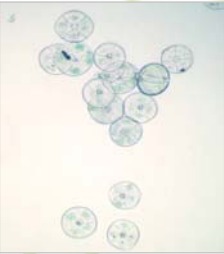
Core program dates: Full time 10 weeks, May 28-August 3, 2007. Some flexibility possible based on school schedules.

Functional Genomics Research at MSU

Researchers at Michigan State University extensively utilize model plant and microbial organisms to rapidly improve our understanding of plant biochemistry, cellular biology and developmental biology.




Arabidopsis is a laboratory workhorse - a small and fast growing flowering plant whose entire 29,000 gene sequence is completely known. Despite its small stature, it is an excellent stand-in for larger and economically important plants used for food, fiber and biomass. The increasingly sophisticated functional genomics toolkit available for this organism has inspired researchers worldwide to attempt what has never been done for any plant or animal - cataloguing a function for each of its genes by the end of this decade (The National Science Foundation 2010 Project). Researchers at MSU use Arabidopsis to study a wide variety of biochemical and cellular biological projects ranging from hypothesis-driven research on nutritionally important pathways and stress adaptation mechanisms to genome-scale functional genomics projects.



Tomato is both an important food crop and an increasing popular model organism. It has a relatively small genome, which is currently being sequenced by an international consortium. It is a member of a very important family of plants, the Solanaceae, which includes a large number of food plants. Researchers at MSU are using tomato to study hormone signaling, dissect secondary metabolic pathways and learn more about how plants are protected from insect predation.

What is the MSU Plant Genomics Summer Research Program?



The summer research program consists of coordinated activities with a variety of special visitors including guest faculty, secondary school teachers, and undergraduate students. Faculty, postdoctoral associates, and graduate students will act as mentors for all visiting participants. Students will contribute to the projects by working in the laboratory alongside their mentors, participate in group meetings and activities, and attend weekly informal seminars and pizza lunches where participants and faculty will interact. At the end of the program, students will present short research project summaries of their work to the full project team.


Students will be placed in one of these participating labs:



Dr. Christoph Benning, Dept. Biochemistry & Molecular Biology, <http://bch.msu.edu/faculty/benning.htm>
Dr. Dean DellaPenna, Dept. Biochemistry & Molecular Biology, <http://www.bch.msu.edu/faculty/dellapenna.htm>
Dr. Gregg Howe, Dept. Biochemistry & Molecular Biology and Plant Research Laboratory, <http://www.bch.msu.edu/faculty/howe.htm>
Dr. Jianping Hu, Dept. Plant Biology and Plant Research Laboratory, <http://www.plantbiology.msu.edu/hu.shtml>
Dr. Dan Jones, Dept. Biochemistry & Molecular Biology and Dept. Chemistry, <http://www.bch.msu.edu/faculty/jones.html>
Dr. Robert Last, Dept. Biochemistry & Molecular Biology and Dept. Plant Biology, <http://www.bch.msu.edu/faculty/last.html>
Dr. John Ohlrogge, Dept. Plant Biology, <http://www.plantbiology.msu.edu/ohlrogge.shtml>
Dr. Katherine Osteryoung, Dept. Plant Biology, <http://www.plantbiology.msu.edu/osteryoung/>
Dr. Yair Shachar-Hill, Dept. Plant Biology, <http://www.plantbiology.msu.edu/shachar-hill.shtml>
Dr. Bill Wedemeyer, Dept. Biochemistry & Molecular Biology, and Dept. Physics, <http://www.bch.msu.edu/faculty/wedemeyer.htm>

Participant support: Student will receive a stipend of \$3500 as well as paid room and board on campus and \$250 travel allowance (if traveling from out-of-state).

Application requirements:



Students must be entering their junior year or later and have declared a relevant major. Students should not plan on taking any classes during the research program; these are full-time positions.

Interested students should submit a brief resume including up-to-date contact information, an official transcript from their college, and a letter of reference from a current or former teacher, mentor, or employer. Students should also include a 1-2 page letter introducing themselves and explaining why they are interested in joining our program. Please focus on relevant prior scientific experiences in high school and/or college.

Application deadline: March 16, 2007

Send applications to:



Linda Savage, Outreach Coordinator
MSU Plant Genomics Summer Research Program
Michigan State University
301 Biochemistry Building
East Lansing, MI 48824

For more information go to: <http://www.plastid.msu.edu>

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