

Michael “Max” Ferrin

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EDUCATION

B.S. Molecular, Cellular, and Developmental Biology

University of Washington, Seattle, WA
Overall GPA: 3.65, Major GPA: 3.54

June 2015

High School Diploma

Issaquah High School, Issaquah, WA
Distinguished Graduate
GPA: 3.946

June 2011

RESEARCH EXPERIENCE

Research Technician

Subramaniam Lab, Fred Hutchinson Cancer Research Center, Seattle, WA
Research focus: nutrient signaling and regulation of protein synthesis

July 2015-Present

Undergraduate Research Assistant

Mougous Lab, UW Department of Microbiology, Seattle, WA

Research focus: interbacterial interactions mediated by the type VI secretion system (T6SS)

March 2012-July 2015

GRANTS AND FELLOWSHIPS

Washington Research Foundation

University of Washington, Seattle, WA
Undergraduate Research Fellowship

September 2014-June 2015

Institute for Maximizing Student Development

University of Washington, Seattle, WA
Undergraduate Research Scholarship

June 2013-August 2014

American Society for Microbiology

Undergraduate Research Fellowship

June 2013-September 2013

Educational Opportunity Program

University of Washington, Seattle, WA
Endowed Scholarship

February 2013

Mary Gates Endowment for Students

University of Washington, Seattle, WA
Undergraduate Research Scholarship

March 2012-November 2013

PUBLICATIONS

Chou S, Daugherty MD, Peterson SB, Biboy J, Yang Y, Jutras BL, Fritz-Laylin LK, **Ferrin MA**, Harding BN, Jacobs-Vagner C, Yang XF, Vollmer W, Malik HS, Mougous JD. Transferred interbacterial antagonism genes augment eukaryotic innate immune function. *Nature*. 2015;518(7537):98-101. doi: 10.1038/nature13965

Whitney JC, Chou S, Russel AB, Biboy J, Gardiner TE, **Ferrin MA**, Brittnacher M, Vollmer W, Mougous JD. Identification, structure, and function of a novel type VI secretion peptidoglycan glycoside hydrolase effector-immunity pair. *J Biol Chem*. 2013;15:26616–26624. doi: 10.1074/jbc.M113.488320.

POSTERS AND PRESENTATIONS

Exploiting the Antimicrobial Properties of Type VI Secretion (oral)

Undergraduate Research Symposium
University of Washington, Seattle, WA

May 2015

Mougous Lab Meeting
University of Washington, Seattle, WA

January 2015

Investigating the Role of Type VI Amidase Effectors in Shaping Polymicrobial Communities (poster)

Health Sciences Center Summer Research Student Poster Session
University of Washington, Seattle, WA

August 2014

Summer Undergraduate Research Symposium
University of Washington, Seattle, WA

August 2014

American Society for Microbiology General Meeting
Boston Convention and Exhibit Center, Boston, MA

May 2014

Undergraduate Research Symposium
University of Washington, Seattle, WA

May 2014

Type VI Amidase Effectors and Polymicrobial Communities: Influence and Applications (oral)

Mougous Lab Meeting
University of Washington, Seattle, WA

March 2014

Characterization of a Novel Domesticated Antibacterial Toxin in Blacklegged Ticks (oral)

Mougous Lab Meeting
University of Washington, Seattle, WA

September 2013

Characterization of a Novel Domesticated Antibacterial Toxin in Blacklegged Ticks (poster)

Health Sciences Center Summer Research Student Poster Session
University of Washington, Seattle, WA

August 2013

Summer Undergraduate Research Symposium
University of Washington, Seattle, WA

August 2013

A Bacterial Sulfonolipid Triggers Multicellular Development in the Closest Living Relatives of Animals (oral)

Mougous Lab Journal Club
University of Washington, Seattle, WA

May 2013

LABORATORY SKILLS

Recombinant protein expression in *E. coli*
Fast Protein Liquid Chromatography (FPLC)
Isothermal titration calorimetry (ITC)
Protein crystallization screening
Site-directed mutagenesis
Western blot analysis
Preparation of competent *E. coli* cells
GIMP Image Manipulator

DNA and protein gel electrophoresis
In vitro bacterial lysis assays
Molecular cloning
Generation of mutant DNA library
Tick dissection and microinjection
Immunoprecipitation
MacVector
Lab website maintenance

REFERENCES

Dr. Joseph Mougous (mougous@uw.edu)
Associate Professor, UW Department of Microbiology

Dr. Seemay Chou (schou@uw.edu)
Postdoctoral Fellow, UW Department of Microbiology