

MICHELLE KRINER

18550 Stone Ave N ◊ Shoreline, WA 98133

(206) · 930 · 1043 ◊ mkriner@fredhutch.org

EDUCATION

Ph.D. in Microbiology

May 2016

Graduate School of Arts & Sciences, Yale University

New Haven, CT

Dissertation title: Transcriptional regulation of magnesium transporters contributes to cellular homeostasis in bacteria

B.S. in Biochemistry with College Honors

March 2010

College of Arts & Sciences, University of Washington

Seattle, WA

Minor in Chemistry

Magna cum laude, GPA: 3.94

RESEARCH EXPERIENCE

Post-doctoral research associate

2016-present

Arvind Subramaniam Lab

Basic Sciences Division, Fred Hutchinson Cancer Research Center

- Designing experiments to identify environmental and genetic factors that regulate serine metabolism in bacteria and cancer cells

Graduate Student

2011-2016

Eduardo Groisman Lab

Department of Microbial Pathogenesis, Yale University

- Designed and performed *in vivo* experiments to determine how a 5' mRNA leader regulates expression of its associated coding region in *Salmonella*
- Designed and performed *in vitro* experiments to elucidate the mechanism by which RNA secondary structures can regulate RNA polymerase pausing and Rho-dependent transcription termination
- Designed and performed experiments to understand how a stress response controls Mg²⁺ homeostasis in *Salmonella* and determine the physiological role of this regulation

Rotation Student

January-March 2011

Ronald Breaker Lab

Department of Molecular, Cellular & Developmental Biology, Yale University

- Performed structure-based homology searches to identify variants of flavin mononucleotide-binding riboswitches
- Performed *in vitro* structure probing of candidate RNAs to test ligand specificity

Rotation Student

September-December 2010

Christian Tschudi Lab

Department of Epidemiology (Microbial Diseases), Yale University

- Determined cellular localization of three novel small proteins in *Leishmania panamensis* by fluorescence microscopy

Undergraduate Researcher

2007-2010

Pradipsinh Rathod Lab

Department of Chemistry, University of Washington

- Quantified the toxicity of malaria protein over-expression to *E. coli* by measuring viability of strains over-expressing plasmid-encoded *Plasmodium falciparum* DHFR-TS with varying efficiency

- Sequenced *pus1* gene in clinical isolates of *Toxoplasma gondii* to analyze evolutionary pressures on each domain of the protein

SCHOLARSHIP

Publications

Kriner MA and Groisman EA. (In preparation) “A re-balancing act: repression of magnesium uptake maintains magnesium homeostasis during translational arrest”

Kriner MA and Groisman EA. *Nucleic Acids Research* (2016) “RNA secondary structures regulate three steps of Rho-dependent transcription termination within a bacterial mRNA leader”

Kriner MA*, Sevostyanova A* and Groisman EA. *Trends in Biochemical Sciences* (2016) “Learning from the Leaders: Gene Regulation by the Transcription Termination Factor Rho”

*These authors contributed equally

Kriner MA and Groisman EA. *Journal of Molecular Biology* (2015) “The bacterial transcription termination factor Rho coordinates Mg²⁺ homeostasis with translational signals”

Groisman EA, Hollands K, Kriner MA, Lee EJ, Park SY, & Pontes MH. *Annual Review of Genetics* (2013) “Bacterial Mg²⁺ transport, homeostasis and virulence”

Honors & Awards

Chromosome Metabolism & Cancer training grant / Fred Hutch	2016-present
Student poster award / Yale Microbial Pathogenesis Departmental Retreat	2014
Amgen Scholars Alumni Travel Award	2014
Washington NASA Space Grant Scholarship	2006-2010
National Merit Scholarship	2006-2010

Oral Presentations

Microbial Sciences Institute “SMaL Talk” seminar / Yale University	2015
Microbiology Research in Progress Seminars / Yale University	2012-2015
Conference on Post-initiation Activities of RNA Polymerases / Pembroke, VA	2014
RNA Club / Yale University	2014

Poster Presentations

Regulating with RNA in Bacteria and Archaea Conference / Cancun, Mexico	2015
RNA Center Retreat / Yale University	2013, 2015
Microbial Pathogenesis Departmental Retreat / Yale University	2012-2015
RiboClub Annual Meeting / Magog, Quebec	2014
4 th conference on <i>Salmonella</i> , American Society for Microbiology / Boston, MA	2013

Professional Affiliations

RNA Society	2016-present
American Society for Microbiology	2014-2016

TEACHING EXPERIENCE

Teaching Fellow, Undergraduate lab courses in Genetics and Microbiology 2011-2013
Department of Molecular, Cellular and Developmental Biology, Yale University

Teaching Assistant, Undergraduate lecture course in Biochemistry 2010
Department of Biochemistry, University of Washington

UNIVERSITY INVOLVEMENT

Editorial Board member, Yale Journal of Biology & Medicine 2014-2016

Co-organizer, Microbial Sciences Institute “SMaL Talk” seminar series 2014-2016

Graduate student & postdoc committee member, 2015
Microbial Sciences Institute / Department of Ecology & Evolutionary Biology faculty search

Department representative, Yale Graduate Student Assembly (GSA) 2011-2014

Chair, GSA Facilities & Healthcare Committee 2013-2014

Member, Yale Graduate & Professional Student Dental & Eye Plan Committee 2013-2014

Member, Yale Graduate School Committee on Regulations & Discipline 2011-2012

French horn, Yale Medical Symphony 2010-2016

REFERENCES

Dr. Eduardo Groisman

Professor of Microbial Pathogenesis, Yale University
eduardo.groisman@yale.edu
203.737.3150 (before 2pm EST)
203.737.7940 (after 2pm EST)

Dr. Andrew Goodman

Associate Professor of Microbial Pathogenesis, Yale University
andrew.goodman@yale.edu
203.737.3170

Dr. Christian Tschudi

Professor of Epidemiology (Microbial Diseases), Yale University

christian.tschudi@yale.edu
203.785.7332