Jonah E. Einson

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EDUCATION

Columbia University: New York, NY — Fall 2017 - Current
PhD Student: Biomedical Informatics
Advisor: Tuuli Lappalainen

University of Massachusetts: Amherst, MA — Fall 2013 - Spring 2017
Bachelor of Science: Biochemistry and Molecular Biology — *Cum Laude*
Bachelor of Science: Mathematics - Statistics
Commonwealth Honors College

RESEARCH EXPERIENCE

Department of Systems Biology, Lappalainen Lab, Columbia University, New York Genome Center
Summer 2018 - Present
Analyzed human allele specific expression data from GTEx using a new statistical method, and am currently developing approaches to study incomplete penetrance from the perspective of alternative splicing and regulatory variation.

Department of Systems Biology, Rabadan Lab, Columbia University
Rotation Student - Spring 2018
Investigated viruses in the peripheral T-Cell lymphoma microenvironment, through genomic signatures.

Department of Systems Biology, Vitkup Lab, Columbia University
Rotation Student - Fall 2017
Studied the ecological dynamics of the human microbiome.

Department of Food Science, Sela Lab, UMass Amherst
Fall 2014 - Spring 2017
Conducted independent research in microbial ecology, genomics, and food related human health.

PUBLICATIONS

Pejman Mohammadi, Stephane E. Castel, Beryl B. Cummings, **Jonah Einson**, Christina Sousa, Paul Hoffman, Sandra Donkervoort, Payam Mohassel, Reghan Foley, Heather E. Wheeler, Hae Kyung Im, Carsten G. Bonnemann, Daniel G. MacArthur, Tuuli Lappalainen, "Quantifying genetic regulatory variation in human populations improves transcriptome analysis in rare disease patients," *Science, Under Review*

Jonah E. Einson*, Asha Rani*, Xiaomeng You, Clifton L. Randell, Allison A. Rodriguez, Tammy Barnaba, Mark K. Mammel, Michael L. Kotewicz, Christopher A. Elkins, David A. Sela, "A vegetable fermentation facility hosts distinct microbiomes reflecting the production environment," *Applied Environmental Microbiology*
*Co first author

Xiaomeng You, **Jonah Einson**, Cynthia Lopez-Peña, Mingyue Song, Hang Xiao, Julian McClements, David Sela, "Food-grade cationic antimicrobial ε-polylysine transiently alters the gut microbial community and predicted metagenome function in CD-1 mice," *npj Science of Food*

CAPSTONE THESIS

J. Einson, X. You, C. Randell, A. Rodriguez, M. Kotewicz, C. Elkins, M. Mammel, C. Tartera, T. Barnaba, A. Kinchla, D. Sela, "The Environmental Microbiomes of an Industrial Food Fermentation Facility," Undergraduate Research Conference, University of Massachusetts, Amherst MA, April 2017

SELECTED TALKS

"Allele specific expression analysis of population scale transcriptome data is sensitive to rare genetic variation" **Gordon Research Conference on Human Genetics and Genomics**, Waterville Valley NH, July 2019

SELECTED POSTERS

J.Einson, C. Sousa, P. Mohammadi, T. Lappalainen, "Quantifying genome wide allelic specific expression variation prioritizes rare variants with regulatory effects" Human Genetics in NYC Conference, New York NY, February 2019

J. Einson, P. Mohammadi, S. Castel, T. Lappalainen, "An allele specific expression based approach for functional rare variant discovery," Columbia University Department of Biomedical Informatics Fall Retreat, New York NY, September 2018

J. Einson, X. You, C. Randell, A. Rodriguez, M. Kotewicz, C. Elkins, M. Mammel, C. Tartera, T. Barnaba, A. Kinchla, D. Sela, "The Environmental Microbiomes of an Industrial Food Fermentation Facility," Strategic Research Alliance Exposition, University of Massachusetts, Amherst MA, April 2017

J. Einson, X. You, C. Randell, A. Rodriguez, M. Kotewicz, C. Elkins, A. Kinchla, D. Sela, "The Use of Next-Generation Sequencing to Study Microbial Ecology in Industrial Food Production," CAFE Summer Scholars Poster Session, Amherst MA, September 2016

J. Einson, X. You, H. Klein, A. Rodriguez, C. Randell, M. Bartlett, D. Sela, "Phyllosphere Microbial Ecology of Succulent Plants in a Greenhouse Environment," ASM Microbe Meeting, Boston MA, June 2016

TEACHING EXPERIENCE

Teaching Assistant BINF G4006
Spring 2019 New York, NY
Assisted Dr. Adler Perotte with administrative tasks and wrote lab assignments for *Computational Methods*, a required survey course of statistics and machine learning for all students in the Department of Biomedical Informatics.

Teaching Assistant BINF G4001
Fall 2018 New York, NY
Scheduled speakers and graded essays for *Introduction to Computer Applications in Healthcare and Biomedicine*, a course designed to introduce students to the field of biomedical informatics.

Teaching Assistant Biochem 526
Fall 2016 Amherst, MA
Assisted running a senior biochemistry lab course. Responsibilities included conducting prep work, aiding in experimental design, and reviewing students' writing.

Supplemental Instruction Leader UMass Learning Resource Center
Spring 2014 - Fall 2016 Amherst, MA
Attended classes and held biweekly review sessions for Multivariate Calculus.

AWARDS AND SCHOLARSHIPS

CAFE Summer Scholars Program *Summer 2016* A program directed by the Center for Agriculture, Food, and the Environment at UMass that provides students an opportunity to conduct research in a mentor's lab for the summer.

American Society for Microbiology Undergraduate Research Fellowship *Summer 2015* A national fellowship awarded to an undergraduate wishing to pursue a Ph.D. Included poster presentation and capstone program at the ASM Microbe Meeting, June 2016.

Research Assistant Fellowship *Spring 2016, Fall 2016* A grant presented by Commonwealth Honors College, to give a student the opportunity to explore independent research under the guidance of a faculty sponsor.

PROFESSIONAL MEMBERSHIPS

American Medical Informatics Association

Phi Kappa Phi Honors Society