Julia Fukuyama

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Current position

Postdoctoral Research Fellow
Department of Computational Biology
Fred Hutchinson Cancer Research Institute

Education

PhD Statistics, Stanford University 2017
Advisor: Susan Holmes

MS Statistics, Stanford University 2012

BS Biology, *magna cum laude*, Yale University 2010

Publications

*Julia Fukuyama**, Laurie Rumker*, Kris Sankaran*, Pratheepa Jeganathan, Les Dethlefsen, David A. Relman, Susan Holmes. Multidomian analyses of a longitudinal human microbiome intestinal cleanout perturbation experiment. *PLoS Computational Biology*, 2017.

Elena Vendrame*, *Julia Fukuyama**, Dara Strauss-Albee, Susan Holmes, Catherine Blish. Mass cytometry analytical approaches reveal cytokine-induced changes in natural killer cells. *Cytometry Part B: Clinical Cytometry*, 2016.

Benjamin Callahan, Kris Sankaran, *Julia Fukuyama*, Paul McMurdie, and Susan Holmes. Bioconductor workflow for microbiome data analysis: from raw reads to community analyses. *F1000Research*, 2016.

Benjamin Callahan, Diana Proctor, *Julia Fukuyama*, David A. Relman, Susan Holmes. Reproducible research workflow in R for the analysis of personalized human microbiome data. *Pacific Symposium on Biocomputing*, 2016.

Dara Strauss-Albee, *Julia Fukuyama*, Emily Liang, Yi Yao, Justin Jarrell, Alison Drake, John Kinuthia, Ruth Montgomery, Grace John-Stewart, Susan Holmes, Catherine Blish.

Human NK cell repertoire diversity reflects immune experience and correlates with viral susceptibility. *Science Translational Medicine*, 2015.

Alex Kay, Nick Bayless, *Julia Fukuyama*, Natali Aziz, Cornelia Dekker, Sally Mackey, Gary Swan, Mark Davis, Catherine Blish. Pregnancy does not attenuate the antibody or plasmablast response to inactivated influenza vaccine. *Journal of Infectious Diseases*, 2015.

Alex Kay, *Julia Fukuyama*, Natali Aziz, Cornelia Dekker, Sally Mackey, Gary Swan, Mark Davis, Susan Holmes, Catherine Blish. Enhanced natural killer-cell and T-cell responses to influenza A virus during pregnancy. *Proceedings of the National Academy of Sciences*, 2014.

Miling Yan, Sunje Pamp, *Julia Fukuyama*, Peter Hwang, Do-Yeon Cho, Susan Holmes, David A. Relman. Nasal microenvironments and interspecific interactions influence nasal microbiota complexity and *S. aureus* carriage. *Cell Host and Microbe*, 2013.

Julia Fukuyama, Paul McMurdie, Les Dethlefsen, David A. Relman, Susan Holmes. Comparisons of Distance Methods for Combining Covariates and Abundances in Microbiome Studies. *Pacific Symposium on Biocomputing*, 2012.

Jeffrey Isenberg, Yifeng Jia, *Julia Fukuyama*, Christopher Switzer, David A. Wink, David D. Roberts. Thrombospondin-1 inhibits nitric oxide signaling via CD36 by inhibiting myristic acid uptake. *Journal of Biological Chemistry*, 2007.

Preprints

Julia Fukuyama. Adaptive gPCA: A method for structured dimensionality reduction. arXiv preprint arXiv:1702 00501, 2017. In revision at *Annals of Applied Statistics*.

Presentations

Adaptive gPCA. Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS), Woods Hole, MA, August 2017.

Beyond UniFrac. Interdisciplinary Microbiome Perspectives, Stanford, CA, June 2017.

Improved phylogenetic ordinations for microbiome data. Joint Statistical Meetings, Chicago, IL, August 2016.

Phylogenetically informed analysis of microbiome data using adaptive gPCA in R, UseR, Stanford, CA, June 2016.

Interpretable ordinations for microbiome data using sparse double principal coordinates analysis.
Biomedical Computation at Stanford, Stanford, CA, April 2015.

Comparisons of distance methods for combining covariates and abundances in microbiome studies.
Pacific Symposium on Biocomputing, Kona, HI, January 2012.

Teaching

Strategies and Techniques for Analyzing Microbial Population Structures August 2017
Marine Biological Lab, Woods Hole, MA
Research Facilitator

Biostatistics Autumn 2016
Statistics Department, Stanford University
Teaching assistant, led sections

Introduction to Statistical Methods: Precalculus Summer 2015
Statistics Department, Stanford University
Teaching assistant

Modern Applied Statistics: Data Mining Spring 2015
Statistics Department, Stanford University
Teaching assistant

Biostatistics Autumn 2015
Statistics Department, Stanford University
Teaching assistant

Understanding Statistical Models and their Social Science Applications Winter 2014
Statistics Department, Stanford University
Teaching assistant

Data Mining and Analysis Stanford, Autumn 2014
Statistics Department, Stanford University
Teaching assistant

Modern Statistics for Modern Biology Summer 2014
Statistics Department, Stanford University
Teaching assistant, designed lab materials

Biostatistics Autumn 2013
Statistics Department, Stanford University
Teaching assistant

Understanding Statistical Models and their Social Science Applications — Winter 2013
Statistics Department, Stanford University
Teaching assistant

Introduction to Statistical Methods: Precalculus — Autumn 2012
Statistics Department, Stanford University
Teaching assistant, led weekly sections

Service to the profession

Referee for the *Annals of Applied Statistics* and *Microbiome*.

Awards

Bio-X Stanford Interdisciplinary Graduate Fellowship	2014-2017
Yale College William R. Belknap Prize for Excellence in Biology	2010
Yale College Dean's Research Fellowship in the Sciences	2009
Yale College Fellowship for International Research in the Sciences and Health Studies	2008

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