

## Jordan A. Berg

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CONTACT INFORMATION	Department of Biochemistry, University of Utah 15 N Medical Drive East Rm. 4100 Salt Lake City, UT 84112	ORCID: 0000-0002-5096-0558 Website: <a href="https://j-berg.github.io/">https://j-berg.github.io/</a> Email: <a href="mailto:jordan.berg@biochem.utah.edu">jordan.berg@biochem.utah.edu</a>
RESEARCH INTERESTS	Metabolism, Gene Regulation, Biological Networks, Pattern Recognition, Software Development	
EDUCATION	2016-2022	Ph.D. in Biochemistry, University of Utah
	2010-2016	B.S. in Molecular Biology, Brigham Young University
RESEARCH EXPERIENCE	2016-2022	Graduate Research Assistant, Jared Rutter Lab, University of Utah
	2013-2016	Undergraduate Research Assistant, Julianne Grose Lab, Brigham Young University
SERVICE	2020-present	<i>Codechecker</i> , CODECHECK organization
	2018-2022	<i>Web Designer/Social Media Outreach Officer</i> , University of Utah SACNAS Chapter
	2018	<i>Lead Recruitment Host</i> , Molecular Biology Graduate Program, University of Utah
	2018	<i>Volunteer</i> , Adventure Scientists
	2014-2016	<i>Volunteer</i> , Provo Youth Mentoring, Provo, UT
	Reviewer (ad hoc): <i>Bioinformatics</i> , <i>NAR Genomics and Bioinformatics</i> , <i>Comput Struct Biotechnol J</i> , <i>F1000 Research</i> , and <i>Journal of Emerging Investigators</i> . <i>See Publons record.</i>	
HONORS, AWARDS, AND FELLOWSHIPS	2020-2022	<i>F99 Predoctoral Fellow</i> , National Cancer Institute
	2018-2020	<i>T32 Graduate Trainee</i> , National Institute of Diabetes and Digestive and Kidney Diseases
	2016	<i>Outstanding Research Award</i> , Department of Microbiology and Molecular Biology, Brigham Young University
	2014	<i>iGem Silver Medal</i> , iGEM World Jamboree, Boston, MA
SELECTED PUBLICATIONS	<i>&amp; indicates co-corresponding authors</i> <i>* indicates co-first authorship</i>	
	George I*, <b>Berg JA</b> * <sup>&amp;</sup> , Zhou Y, Wang B, Hicks KG, Rutter J <sup>&amp;</sup> . Predicting protein-metabolite allosteric interactions and cellular contexts. [working draft] [software]	
	<b>Berg JA</b> <sup>&amp;</sup> , Zhou Y, Ouyang Y, Waller TC, Cluntun AA, Conway ME, Nowinski SM, Van Ry T, George I, Cox JE, Wang B, Rutter J <sup>&amp;</sup> . Metaboverse: Automated discovery and visualization of diverse metabolic regulatory patterns. <i>bioRxiv</i> . (2020) <a href="https://doi.org/10.1101/2020.06.25.171850">https://doi.org/10.1101/2020.06.25.171850</a> . [working draft] [software]	
	<b>Berg JA</b> <sup>&amp;</sup> , Belyeu JR, Morgan JT, Ouyang Y, Bott AJ, Quinlan AR, Gertz J, Rutter J <sup>&amp;</sup> . XPRESSyourself: Enhancing, Standardizing, and Automating Ribosome Profiling Computational Analyses Yields Improved Insight into Data. <i>PLoS Comp. Biol.</i> (2020) <a href="https://doi.org/10.1371/journal.pcbi.1007625">https://doi.org/10.1371/journal.pcbi.1007625</a> . [software]	

**Berg JA**, Merrill BD, Breakwell DP, Grose JH, Hope S.  
A PCR-based method for distinguishing between two common beehive bacteria, *Paenibacillus larvae* and *Brevibacillus laterosporus*.  
*Journal of Appl Environ Microbiol.* (2018) <https://doi.org/10.1128/AEM.01886-18>. [software]

**Berg JA**, Merrill BD, Crockett JT, Esplin KP, Evans MR, Heaton KE, Hilton JA, Hyde JR, McBride MS, Schouten JT, Simister AR, Thurgood TL, Ward AT, Breakwell DP, Burnett SH, Grose JH.  
Characterization of five novel *Brevibacillus* bacteriophages and genomic comparison of *Brevibacillus* phages.  
*PLoS ONE.* (2016) <https://doi.org/10.1371/journal.pone.0156838>.

OTHER  
PUBLICATIONS

Hicks KG, Cluntun AA, Schubert HL, Hackett SR, **Berg JA**, Leonard PG, Ajalla Aleixo MA, Blevins A, Barta P, Tilley S, Fogarty S, Ahn H-C, Allen KN, Atsushi M, Block SD, Ding J, Dreveny I, Gasper C, Ho Q, Palladino MJ, Prajapati S, Sun PK, Tittmann K, Tolan DR, Unterlass J, VanDemark AP, Vander Heiden MG, Webb B, Yun C-H, Zhap PK, Hill CP, Nonato MC, Muller FL, Gottschling DE, Cox JE, Rutter J.  
Protein-Metabolite Interactomics Reveals Novel Regulation of Carbohydrate Metabolism.  
*bioRxiv.* (2021) <https://doi.org/10.1101/2021.08.28.458030>.

Winter JM, Fresenius H, Keys HR, Cunningham CN, Ryan J, Sirohi D, **Berg JA**, Tripp S, Barta P, Agarwal N, Letai A, Sabatini D, Wohlever M, Rutter J.  
Co-deletion of ATAD1 with PTEN primes cells for BIM-mediated apoptosis.  
*bioRxiv.* (2021) <https://doi.org/10.1101/2021.07.01.450781>.

Nuebel E, Morgan JT, Fogarty S, Winter JM, Lettlova S, **Berg JA**, Chen Y-C, Kidwell CU, Maschek JA, Clowers KJ, Argyriou C, Chen L, Wittig I, Cox JE, Roh-Johnson M, Braverman N, Steinberg SJ, Gygi SP, Rutter J.  
The biochemical basis of mitochondrial dysfunction in Zellweger Spectrum Disorder.  
*EMBO Reports.* (2021) <https://doi.org/10.15252/embr.202051991>. [code notebook]

Cluntun AA\*, Badolia R\*, Lettlova S\*, Parnell KM, Shankar TS, Diakos NA, Olson KA, Taleb I, Tatum SM, **Berg JA**, Cunningham CN, Van Ry T, Bott AJ, Krokidi AT, Fogarty S, Skedros S, Swiatek WI, Yu X, Luo B, Merx S, Navankasattusas S, Cox JE, Ducker GS, Holland WL, McKellar SH, Rutter J, Drakos SG.  
The Pyruvate-Lactate Axis Modulates Cardiac Hypertrophy and Heart Failure.  
*Cell Metabolism.* (2020) <https://doi.org/10.1016/j.cmet.2020.12.003>. [code notebook]

Nowinski SM, Solmonson A, Rusin SF, Maschek JA, Bensard CL, Fogarty S, Jeong M, Lettlova S, **Berg JA**, Morgan JT, Ouyang Y, Naylor BC, Paulo JA, Funai K, Cox JE, Gygi SP, Winge DR, Deberardinis RJ, Rutter J.  
Mitochondrial fatty acid synthesis coordinates oxidative metabolism in mammalian mitochondria.  
*eLife.* (2020) <https://doi.org/10.7554/eLife.58041>. [code notebook]

Waller TC, **Berg JA**, Lex A, Chapman BE, Rutter J.  
Compartment and Hub Definitions Tune Metabolic Networks for Metabolic Interpretations.  
*GigaScience.* (2020) <https://doi.org/10.1093/gigascience/giz137>. [software]

Hughes CE, Coody TK, Jeong M, **Berg JA**, Winge DR, Hughes AL.  
Amino acid toxicity drives age-related mitochondrial decline by altering iron metabolism.  
*Cell.* (2020) <https://doi.org/10.1016/j.cell.2019.12.035>. [code notebook]

Bensard CL\*, Wisidigama DR\*, Olsen KA, **Berg JA**, Krah NM, Schell JC, Nowinski SM, Fogarty S, Bott AJ, Wei P, Dove KK, Tanner JM, Panic V, Cluntun A, Lettlova S, Earl CS, Namnath DF, Vázquez-Arregun K, Villanueva CJ, Tantin D, Murtaugh LC, Evason KJ, Ducker GS, Thummel CS, Rutter J.  
Regulation of Tumor Initiation by the Mitochondrial Pyruvate Carrier.  
*Cell Metabolism.* (2019) <https://doi.org/10.1016/j.cmet.2019.11.002>. [code notebook]

Van Vranken JG, Nowinski SM, Clowers KJ, Jeong M, Ouyang Y, **Berg JA**, Gygi J, Gygi SP, Winge DR, Rutter JP.

ACP acylation is an acetyl-CoA-dependent modification required for electron transport chain assembly. *Molecular Cell*. (2018) <https://doi.org/10.1016/j.molcel.2018.06.039>. [code notebook]

*A complete list of publications can be found at Google Scholar.*

ORAL  
PRESENTATIONS

***Gazing into the Metaverse — Automated exploration and contextualization of metabolic data***

CSHL Biological Data Science (2020; virtual) - *Selected Talk*

*Program Slides*

ISMB (2020; virtual) - *Selected Short Talk*

*Program Slides*

EMBL/EMBO Epigenetics Meets Metabolism (2019) - *Selected Talk*

*Program Slides*

***XPRESSyourself: Enhancing, Standardizing, and Automating Ribosome Profiling Computational Analyses Yields Improved Insights***

CSHL Genome Informatics (2019) - *Lightning Talk*

*Program*

Bioinformatics Seminar Series, Center for Computational Biology & Bioinformatics, UCSD (2019) - *Invited Talk*

*Program Slides*

***Characterization and analysis of six novel Erwinia phages reveals relationship to Enterobacteriaceae family members***

Tri-branch ASM meeting (2015) - *Selected Talk*

POSTER  
PRESENTATIONS

***A novel metabolic signature in malignant human lung adenocarcinomas is revealed by contextual, reaction-resolution analysis of metabolic data***

Keystone Symposia: Metabolic Decisions in Development and Disease (2021; virtual)

*Poster*

Keystone Symposia: Tumor Metabolism and the Microenvironment (2021; virtual)

*Poster*

***Gazing into the Metaverse — Automated exploration and contextualization of metabolic data***

Systems Approaches to Cancer Biology (2020; virtual)

*Poster*

***XPRESSyourself: Enhancing, Standardizing, and Automating Ribosome Profiling Computational Analyses Yields Improved Insights***

CSHL Genome Informatics (2019)

RECOMB (2018)

***Ribosome profiling reveals translation-level regulation of peroxins in response to loss of peroxisomes***

Frontiers in Metabolism (2018)

GENBANK  
PUBLICATIONS

*A complete listing of bacteriophage genome publications can be found on GenBank (60 total).*

TEACHING EXPERIENCE	2018, 2020	MBIOL 6200: Lit. & Problem Solving, University of Utah (3CR; 4 class hours/week; TA)
	2015-2016	MMBIOL194B: Phage Hunters Genomics, Brigham Young University (2CR; 6 lab hours/week; TA)
	2014-2015	MMBIOL194A: Phage Hunters Discovery, Brigham Young University (2CR; 6 lab hours/week; TA)

TRAINEES *An asterisk indicates those who presented their research at a conference or in a publication.*

Master's students:

Tarun Yadav (U. of Utah)

Undergraduate students:

Ian George* (U. of Utah)	Jonathan Hyde* (Brigham Young U.)
Claudia Charles (U. of Utah)	Moon Hee I (Brigham Young U.)
Nolan Beatty (Brigham Young U.)	Morgan McBride* (Brigham Young U.)
Braden Brundage* (Brigham Young U.)	Sam Pollock (Brigham Young U.)
Alisa Buchanan (Brigham Young U.)	Micah Putnam* (Brigham Young U.)
Minsey Choi* (Brigham Young U.)	Jordan Schouten* (Brigham Young U.)
Justin Crockett* (Brigham Young U.)	Jeremy Severe (Brigham Young U.)
Kyle Esplin* (Brigham Young U.)	Austin Simister* (Brigham Young U.)
Marlee Evans* (Brigham Young U.)	Philip (PJ) Tatlow* (Brigham Young U.)
Hannah Ferguson* (Brigham Young U.)	Trever Thurgood* (Brigham Young U.)
Karli Heaton* (Brigham Young U.)	Charles (CJ) Webb* (Brigham Young U.)
Jared Hilton* (Brigham Young U.)	
Emily Hurst (Brigham Young U.)	

High school students:

Lilly R.

OTHER

Languages: English (native), Spanish (professional working proficiency), Mandarin Chinese (elementary proficiency)

Programming: Python, R, Javascript, HTML/CSS,  $\LaTeX$ , Bash, SLURM, C++, Julia

Relevant Coursework: Foundations of Data Analysis (COMP5960); Stats for Biomed Info (BMI6105); Cell Biology (MBIOL6480); Genes, Genomes, and Gene Expression (MBIOL6420); Protein & Nucl Biochem (MBIOL6410)

Citizenship: United States; Born: 1991

Last update: April 5, 2022