

Jordan E. Bisanz

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Employment

Pennsylvania State University Assistant Professor of Biochemistry and Molecular Biology	State College PA, USA 2021-
University of California San Francisco Postdoctoral Scholar and Fellow Principal Investigator: Peter Turnbaugh	San Francisco CA, USA 2015-2021

Training and Education

Doctor of Philosophy Department of Microbiology and Immunology, University of Western Ontario Graduate Advisor: Gregor Reid	London ON, Canada 2010-2015
Institut Pasteur de Lille Visiting Student Collaborators: Bruno Pot and Benoit Folligné	Lille, France 2015
National Institute of Medical Research Visiting Student Collaborators: Joseph Mwanga and John Changalucha	Mwanza, Tanzania 2012
Bachelor of Medical Sciences Schulich School of Medicine and Dentistry, University of Western Ontario Honors Specialization in Microbiology and Immunology with Distinction Western Scholars Honors Society	London ON, Canada 2006-2010

Research Funding, Fellowships, and Awards

K99 AI147165-01A1 (PI: Bisanz) National Institute for Allergy and Infectious Disease Project title: Diet-microbe interactions modulating host energy balance. Application received impact score of 10.	\$271,648 2020-2022
NSERC Postdoctoral Fellowship Natural Sciences and Engineering Research Council of Canada 180 awarded internationally, ranked in top 15% of applications	\$90,000 2015-2017
Alexander Graham Bell Doctoral Canada Graduate Scholarship Natural Sciences and Engineering Research Council of Canada 261 awarded nationally, ranked in top 15% of applications	\$105,000 2012-2015
Ontario Graduate Scholarship Ontario Ministry of Training, Colleges and Universities, declined 2013	\$15,000 annually 2011-2013
Students for Development Grant Canadian International Development Agency	\$6,500 2012

Selected Publications**Total publications: 29****Total first/co-first author: 11****Citations: 3,192* H-index: 19* I-10 index: 24***

*Data collected from Google Scholar 3 March 2021

Bisanz JE, P Soto Perez, C Noecker, AA Aksenov, KN Lam, EN Bess, HJ Haiser, TS Kyaw, FB Yu, VM Rekdal, CWY Ha, S Devkota, EP Balskus, PC Dorrestein, E Allen-Vercoe, and PJ Turnbaugh. **2020**. A genomic toolkit for the mechanistic dissection of intractable human gut bacteria. **Cell Host & Microbe**. 27(6):1001-1013.

Bess EN, **JE Bisanz**, F Yarza, A Bustion, B Rich, X Li, S Kitamura, E Waligurski, QY Ang, D Alba, P Spanogiannopoulos, S Nayfach, S Koliwad, D Wolan, A Franke, and PJ Turnbaugh. **2020**. Genetic basis for the cooperative bioactivation of plant lignans by *Eggerthella lenta* and other human gut bacteria. **Nature Microbiology**. 5(1):56-66.

Bisanz JE, V Upadhyay, JA Turnbaugh, and PJ Turnbaugh. **2019**. Meta-analysis reveals reproducible gut microbiome alterations in response to a high-fat diet. **Cell Host & Microbe**. 26(2):265-272.

Soto Perez P*, **JE Bisanz***, JD Berry, KN Lam, J Bondy-Denomy, and PJ Turnbaugh. **2019**. CRISPR-Cas system of a prevalent human gut bacterium reveals hyper-targeting against phages in a human virome catalog. **Cell Host & Microbe**. 26(3):325-335. ***Equal contributions**.

Carmody RN, **JE Bisanz**, CF Maurice, S Lyalina, BP Bowen, KB Louie, D Treen, K Chaideh, VM Rekdal, EN Bess, P Spanogiannopoulos, KC Bauer, TW Balon, KS Pollard, TR Northen, and PJ Turnbaugh. **2019**. Cooking shapes the structure and function of the gut microbiome. **Nature Microbiology**. 4(12):2052-2063.

Rekdal VM, EN Bess, **JE Bisanz**, PJ Turnbaugh, and EP Balskus. **2019**. Discovery and inhibition of an interspecies gut bacterial pathway for Levodopa metabolism. **Science**. 364(6645):eaau6323.

Bisanz JE, P Spanogiannopoulos, LM Pieper, AE Bustion, and PJ Turnbaugh. **2018**. How to determine the role of the microbiome in drug disposition. **Drug Metabolism and Disposition**. 46(11):1588-1596.

Bisanz JE, MK Enos, G PrayGod, S Seney, JM Macklaim, S Chilton, D Willner, R Knight, C Fusch, G Fusch, GB Gloor, JP Burton, and G Reid. **2015**. The microbiota at multiple body sites during pregnancy in a rural Tanzanian population and the effects of Moringa supplemented probiotic yogurt. **Applied and Environmental Microbiology**. 81(15):4965-4975.

Bisanz JE, MK Enos, J Mwanga, J Changanlucha, JP Burton, GB Gloor, and G Reid. **2014**. Randomized open-label pilot study of the influence of probiotics and the gut microbiome on toxic metal levels in Tanzanian pregnant women and school children. **mBio**. 5(5):e01580-14.

Bisanz JE, S Seney, A McMillan, R Vongsa, D Koenig, GB Gloor, M Sumarah, B Ford, D Herman, JP Burton, and G Reid. **2014**. A systems biology approach investigating the effect of *Lactobacillus rhamnosus* GR-1 and *L. reuteri* RC-14 on the vaginal microbiome and host responses in a double blind, placebo-controlled clinical trial of postmenopausal women with intermediate Nugent scores. **PLoS ONE**. 9(8):e104511.

Bisanz JE, and G Reid. **2011**. Unraveling how probiotic yogurt works. **Science Translational Medicine**. 3(106):106ps41

Patents

Bisanz JE, G Reid, M Monachese, JET Van Hylckama Vlieg, T Smokvina, and JP Burton. Food grade bacteria for the removal of toxic compounds. EU Patent #EP2833898B1, US Patent # US10487305, Chinese Patent #CN 104755090B.

Bisanz JE, G Reid, M Monachese, JET Van Hylckama Vlieg, T Smokvina, and JP Burton. *Lactobacillus rhamnosus* CNCM I-4716 food grade bacteria. US Patent #US9540609B2, EU Patent #EP3031931B1.

Selected Oral Presentations

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| International Symposium on Microsomes and Drug Oxidation
Title: Exploiting microbiome variation to uncover drug metabolism | Prague, Czech Republic
2020 (Postponed 2021) |
| UC Berkeley CCB/SPH Bioinformatics Seminar
Title: Probing microbial functional diversity in human health | Berkeley CA, USA
2020 |
| University of Washington Microbiology Seminar
Title: Caloric restriction reshapes the gut microbiome | Seattle WA, USA
2020 |
| Chan Zuckerberg Microbiome Initiative Symposium
Title: Dissecting intraspecific competition in <i>Eggerthella lenta</i> | San Francisco CA, USA
2019 |
| Dartmouth M&I Seminar
Title: Probing microbial functional diversity in human health | Lebanon NH, USA
2019 |
| UC Davis Innovation Institute for Food & Health 2019 Innovator Summit
Title: The effects of very-low calorie diet on the gut microbiome | Davis CA, USA
2019 |
| Infectious Disease Association of California Winter Symposium
Title: The effects of the gut microbiome on the fate of orally administered drugs | Oakland CA, USA
2019 |
| Anaerobe Society of the Americas: Anaerobe 2018
Title: The gut microbiome affects the uptake and metabolism of drugs | Las Vegas NV, USA
2018 |
| UCSF Microbial Pathogenesis and Host Defense Seminar Series
Title: The effects of very low-calorie diet on gut microbiome composition and function | San Francisco CA, USA
2017 |
| Charité Hospital Center for Cardiovascular Research
Title: The microbiome influences drug absorption in the intestine | Berlin, Germany
2016 |
| Berchtesgaden Microbiome Science Days
Title: The microbiome influences drug absorption in the intestine | Berchtesgaden, Germany
2016 |
| Beneficial Microbes Conference
Title: Developing novel probiotic approaches to detoxification of environmental pollutants | The Hague, Netherlands
2015 |
| Institut Pasteur Seminar Series
Title: Mechanistic studies on the role of microbes in host toxic metal uptake | Lille, France
2015 |

Curriculum Vitae

Jordan E Bisanz

International Union of Microbiological Societies

Montreal QC, Canada

Title: Mechanisms by which lactic acid bacteria act on mercury

2014

International Scientific Association for Probiotics and Prebiotics

Aberdeen, Scotland

Title: Mercury rising: from sequence to function

2014

Exploring Human Host-Microbiome Interactions in Health and Disease

Cambridge, England

Title: Efficacy of fermented foods in reducing host toxin uptake

2013

University of Reading: Whiteknights Guest Seminar

Reading, England

Title: Mechanisms through which lactic acid bacteria act on environmental toxins

2013

National Institute for Medical Research Guest Seminar

Mwanza, Tanzania

Title: Understanding and manipulating the human microbiome

2012

Canadian Society of Microbiologists Student Symposium Competition

St. John's NL, Canada

Title: *Lactobacillus* in vaginal health

2011

Teaching Experience

Instructor (Microbial Bioinformatics Workshop Series)

2020

Benioff Center for Microbiome Medicine

Prepared and co-taught sessions on BASH, package managers, cluster computing, QIIME2, R, and the Tidyverse developed in response to need for training opportunities during COVID-19 shelter-in-place order.

Guest Instructor (BMS270/BMI219 The Human Microbiome)

2017,2019,2021

Biomedical Science / Biological and Medical Informatics Programs (UC San Francisco)

Delivered lecture and tutorial for manipulating high-throughput DNA sequencing and exploratory data analysis of 16S rRNA amplicon sequencing data. Instructor evaluations: 4.5/5 (2018), 4.8/5 (2019).

Tutorial content: jbisanz.github.io/BMS270_BMI219

Lecturer/Teaching Assistant (Microbiology for Nursing 3820A)

2013-2014

Department of Microbiology and Immunology, Western University

Delivered 1-hour lectures on prevention, diagnosis, and treatment of *Neisseria*, *Chlamydia*, and *Spirochetes* for 3rd year undergraduate course of 302 students. Prepared, administered, and graded randomized case studies comprising 25% of final grade.

Teaching Assistant (Introduction to Biology 1002B)

2014

Department of Biology, Western University

Delivered 2-hour lectures and facilitated student discussion groups covering topics relating to scientific literacy and research.

Teaching Assistant (Genetics 2581A)

2013

Department of Biology, Western University

Delivered 1.5-hour tutorial lectures on basic concepts in prokaryotic and eukaryotic genetics.

Teaching Assistant (Biology of Prokaryotes Lab Course)

2011

Department of Microbiology and Immunology, Western University

Taught basic bacteriology lab skills including media preparation, culture, differential biochemical identification tests and API-20E identification.

Relevant Additional Training

Responsible Conduct of Research Course 2021

UCSF Office for Postdoctoral Scholars

Over 8 one-hour sessions, this course addresses important issues including societal implications of scientific misconduct, entrepreneurship, collaborative science, responsible authorship, animal welfare, implications of genomic research, mentorship, and racism in science.

Inclusive Research Mentorship Course 2020

UCSF Office of Career and Professional Development

A 12 hour course covering topics relating to hiring, training, and supervising team members from diverse backgrounds.

Scientific Leadership and Management Skills Course 2019

Gladstone Institutes

Practical strategies and theories for beginning and leading research groups in an academic environment. 16-hours covering the following topics: motivating, managing conflict, strategic time and resource management, staffing, building lab culture, establishing a research program, vision and mission statements, and negotiation.

Leadership/Service

Ad hoc reviewer/referee 2014-Present

Proceedings of the National Academy of Sciences of the United States of America, Science Translational Medicine, The ISME Journal, eLife, Nature Communications, Cell Reports, Applied and Environmental Microbiology, Microbiome, mBio, mSphere, Microbial Genetics, Environmental Science and Technology, Environment International, Biology Communications, British Journal of Nutrition, Frontiers in Nutrition, International Journal of Food Microbiology, Nutrients, Nutrition Research, Beneficial Microbes, PLoS One, iScience, International Journal of Environmental Research and Public Health, Microorganisms, Flanders Research Foundation (FWO) Postdoctoral Fellowship Committee, Graduate Women in Science Fellowship Committee, Benioff Microbiome Center Grant Reviewer

Guest Speaker 2019

NutrigenomX/ Global Society for Genetics and Genome Biology (University of California Berkeley)

Delivered talk to UCB undergraduate students on the microbiota in health and its interactions with diet.

Science Outreach Panelist 2014

London Public Library (London ON, Canada)

Part of an expert panel at a showing of the documentary Microbirth to answer audience questions about the human microbiome and probiotics.

Students and Fellows Association Executive 2013-2015

International Scientific Association for Probiotics and Prebiotics

Co-organized conferences (Aberdeen 2014, Washington DC 2015) and led recruitment efforts for new members.

Lawson Association of Fellows and Students Co-president 2012-2013

Lawson Health Research Institute, London ON, Canada

Social Committee Co-Chair 2011-2012

Microbiology and Immunology Department, Western University

Curriculum Vitae

Jordan E Bisanz

Science Fair Judge

2010-2011

Evaluated high-school projects at local (Lucas Secondary London ON) and national level (Canada Wide Science Fair, Toronto ON).

Science Fair Judge

2010

Junior high-school projects on green technologies
Lucas Secondary School, London ON, Canada

Student Executive Members

2007-2010

Western Heads East
Coordinating fundraising efforts for probiotics-based social microenterprise program.

Orientation Week Leader

2007-2010

Faculty of Science, University of Western Ontario

Relevant Work Experience

London Public Health Laboratory

2008-2009

Seasonal Laboratory Assistant
Ontario Ministry of Health/ Ontario Public Health Agency
Supervisors: Abdul Chagla, and Christine Fry.