# Catherine Lozupone, Ph.D.

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## Current Position:

2023-present Professor: Department of Biomedical Informatics, University of Colorado, Anschutz Medical Campus.

## Education:

**B.S.** (1997) Biology/ Honors, Villanova University. Graduated *Cum Laude*.

**M.S.** (1999) Microbiology, Colorado State University, Fort Collins
*Studied the responses of soil fungi to disturbance under guidance of Dr. Donald Klein*
Thesis: Molecular and cultural assessment of chytrid and *Spizellomyces* populations in grassland soils.

**Ph.D.** (2007) Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder
*Developed and applied bioinformatics tools for microbial ecology research (UniFrac) under guidance of Dr. Rob Knight* Dissertation: The Global Distribution of Bacterial Diversity.

**Postdoctoral** (2007-2013) Biofrontiers Institute, University of Colorado, Boulder.
Center for Genome Sciences, Washington University, St. Louis.
*Developed bioinformatics tools for microbiome research and performed research primarily in human gut microbiome composition in health and disease under guidance of Drs. Rob Knight and Jeffrey Gordon.*

## Academic Appointments:

2013-2018 Assistant Professor: Biomedical Informatics and Personalized Medicine, Department of Medicine, University of Colorado, Anschutz Medical Campus.

2013-present Secondary Appointment: Department of Immunology and Microbiology, University of Colorado, Anschutz Medical Campus.

2018-22 Associate Professor: Biomedical Informatics and Personalized Medicine, Department of Medicine, University of Colorado, Anschutz Medical Campus.

2022-23 Associate Professor: Department of Biomedical Informatics, University of Colorado, Anschutz Medical Campus.

***Training Faculty:***

2013- present Computational Biosciences Training Programs, University of Colorado, Anschutz Medical Campus. **Bioinformatics track Leader (2024-present).**
2013-present Microbiology Training Program, University of Colorado, Anschutz Medical Campus.

2021-present Interdisciplinary Quantitative Biology Program, University of Colorado Boulder Biofrontiers Institute
2022-present Biomedical Sciences Program (BSP) Umbrella PhD Program

## Other Professional Positions:

1999-2001 Professional Research Assistant: Ecology and Evolutionary Biology, Princeton University.
*Studied the evolution and molecular mechanisms of genetic code alterations in ciliated protozoa under guidance of Dr. Laura Landweber.*

2001-02 Bioinformatic Scientist: Informax Inc. (Bethesda, MD)
*Provided technical support and training for sequence and microarray data analysis software.*

2002-03 Professional Research Assistant: MCDB Department, University of Colorado, Boulder.
*Studied amino acid binding RNAs using SELEX under guidance of Dr. Mike Yarus.*

## Honors special recognitions and awards:

1997 Alpha Epsilon Delta Pre-Medical Honor Society: Villanova University
2006 Corporate Activities Student Travel Grant: American Society for Microbiology
2009-12 NIH Health Disparities Loan Repayment Program recipient
2011 Fast moving front paper in Microbiology by Thomson Reuters *ScienceWatch*®
*http://archive.sciencewatch.com/dr/fmf/2011/11marfmf/11marfmfLozuET/*
2015 Kavli Fellow, National Academy of Science
2016 Boonton High School "Hall of Fame" inductee – "renowned Microbiologist"
2016 Outstanding Early Career Scholar: University of Colorado, Department of Medicine
2016 Team Science Award: University of Colorado, Department of Medicine
2018 ISME17 (International Society for Microbial Ecology) Young Investigator Award
2018 Microbiome Hero: World Microbiome Day. Science Foundation of Ireland
2014,17-23 Thomson Reuters/Clarivate Analytics, Highly Cited Researcher

## Links /Press:

- Wikipedia: *http://en.wikipedia.org/wiki/Catherine_A._Lozupone*
- Lozupone Lab Website: *https://www.lozuponelab.com*
- Google Scholar profile: *https://scholar.google.com/citations?user=aK--Aj0AAAAJ&hl=en&oi=ao*
- Featured in New York Times: *https://www.nytimes.com/2013/05/19/magazine/say-hello-to-the-100-trillion-bacteria-that-make-up-your-microbiome.html*
- Talk on HIV microbiome: *https://www.youtube.com/watch?v=Z7NxRmxTzyA*

## Committee and Service Activities:

### ***Departmental/Educational Committees***

2013-17 Preliminary Exam committee: Computational Biosciences Program, CU Anschutz: ***Chair*** *from 2015-2016*

2016-22 Executive Leadership Committee. Division of Biomedical Informatics and Personalized Medicine, CU Anschutz

2020 Preliminary Exam Committee: Microbiology Training Program, CU Anschutz

2021-22 Education Sub-Committee. Department of Biomedical Informatics – ***Chair***

2021 Graduate Admissions Committee: Microbiology Training Program, CU Anschutz

2022-present Education Committee. Department of Biomedical Informatics – ***Chair 2022-2024***

2023-present Curriculum Committee. Computational Bioscience Training Program, CU Anschutz. ***Chair***

### ***Seminar Series Organizer***

2005-07 Organizer of Bioinformatics Supergroup at University of Colorado, Boulder

2013-present Founder and Organizer of Microbiome Research in Progress seminar series at CU Anschutz

### ***Core Services provider***

2016-21 **Co-Director** of the University of Colorado GI & Liver Innate Immune Program (GALIIP) Microbiota sub-program. https://medschool.cuanschutz.edu/galiip/cores/microbiome

2021-present **Director** of the Mucosal Immunobiology Core (MIC) of the Center for Mucosal Immunology and Rheumatic Disease Pathogenesis (CMIR) https://medschool.cuanschutz.edu/cmir/cores/mucosal-immunobiology-core-(mic)

2021-present **Director** of Anschutz Center for Microbiome Excellence (ACME) https://medschool.cuanschutz.edu/dbmi/faculty-resources/anschutz-center-for-microbiome-excellence-(acme)

### ***External Advisory/Steering Committees***

2010 Symposium Organizer: *From Microbial to Conservation Biology: Exploring Phylogenetic $\beta$ Diversity as a Theoretical Tool Uniting Disciplines* Ecological Society of America. (Pittsburg, PA)

2011 Organizer of thematic session: *Microbiome Dynamics and Health Disparities* American Society for Biochemistry and Molecular Biology (Boston, MA)

2017-22 Organizing and Scientific Committee of the *International Workshop on Microbiome and HIV Pathogenesis, Prevention, and Treatment* (Virology Education)

2018-20 Governance Board for *Microbiome Otago*, University of Otago, New Zealand

2018-21 External Advisory Committee. *Pediatric Obesity Microbiome & Metabolism Study (POMMS)*; Duke University

2019-22 Steering Committee: *Front Range Microbiome Symposium*. Fort Collins, CO

2022-26 Co-Organizer: *Cumming Foundation Mountain West Microbiome Meeting*. Snowbird, UT.

## Review and Referee Work:

### Journals:

2016-18 ***Associate Editor:*** mSystems, published by the American Society for Microbiology

2018-23 ***Editor in Chief:*** npj Biofilms and Microbiomes; Nature Publishing Group

***Ad hoc* Peer Review**:

Alcohol, American Journal of Respiratory Cell and Molecular Biology, American Journal of Respiratory and Critical Care Medicine, Analytical Biochemistry, Brain Behavior and Immunity, BMC Genomics, BMC Microbiology, BMC Medicine, Cell Host & Microbe, Cell Metabolism, Cell Reports, Cell Reports Medicine, Clinical and Experimental Immunology, Clinical Infectious Diseases, Current Biology, Diversity, EBioMedicine, Ecology, Ecology Letters, eLife, Emerging Microbes & Infections, European Journal of Plant Pathology, FEMS Microbiology Ecology, Genome Medicine, Global Ecology and Biogeography, Gut Microbes, Hydrobiologia, International Microbiology, ISME Journal, Journal of Allergy and Clinical Immunology, Journal of Clinical Investigation, Journal of Infectious Diseases, Journal of the International AIDS society, Journal of Pediatric Gastroenterology and Nutrition, Journal of Theoretical Biology, Journal of Virology, Mbio, Methods in Ecology and Evolution, Microbiome, Molecular Ecology, mSystems, Mucosal Immunology, Nature, Nature Biotechnology, Nature Communications, Nature Microbiology, npj Biofilms and Microbiomes, PeerJ, PLoS Computational Biology, PLoS Biology, PLoS One, PLoS Pathogens, PNAS, Science Translational Medicine, and Systematic and Applied Microbiology.

### ***Grant Review:***

#### ***International Grant Review:***

2017 Aukland Medical Research Foundation

2019 European Science Foundation: Research Foundation Flanders' (FWO) postdoctoral fellowship

#### ***Federal Study Panels:***

2014 NIH: Gastric Mucosal Pathobiology Study Section

2014 NIH: *Ad Hoc* review for Centers of Biomedical Research Excellence

2014 NIH: *Ad Hoc* review for Mechanistic Insights from Birth Cohorts (PAR-13-109, R01)

2014 NIH: *Ad Hoc* review for Botanical Dietary Supplement Research Centers (P50)

2015 NIH: Gastric Mucosal Pathobiology Study Section

2015 NSF: *Ad Hoc* review for Arctic Sciences Division general solicitation

2016 NIH: Special Emphasis Panel for RFA "Exploratory Studies for Delineating Microbiome: Host Interactions in Obesity, Digestive and Liver Diseases and Nutrition (R21)"

2016 NIH: Special Emphasis Panel for RFA, Elucidating HIV and HIV-treatment Associated Metabolic/Endocrine Dysfunction

2017 NIH: Special Emphasis Panel for RFA "Exploratory Studies for Delineating Microbiome: Host Interactions in Obesity, Digestive and Liver Diseases and Nutrition (R21)"

2017 NIH: Contract Review: Nonhuman Primate Core Functional Genomics Laboratory for AIDS Vaccine Research and Development, NIAID-DAIDS-NIHAI2016072

2018 NIH: Special Emphasis Panel for RFA "HIV Pathogenesis and the Oral Microbiota"

2019 NIH: Member Conflict: AIDS and AIDS Related Applications

2019 NIH: *Ad Hoc* review for research on Current Topics in Alzheimer's Disease and Its Related Dementias (PAR-18-596, R01)

2020 NIH: Center of Excellence for Research on Complementary and Integrative Health (P01)

2020 NIH: Member Conflict: Panel in Epidemiology and Statistical Methods

2021 NIH: Special Emphasis Panel: RC2 grant application

2021 NIH: Special Emphasis Panel: Clinical Research and Field Studies of Infectious Diseases

2022 NIH: Member Conflict: Gut Inflammation and Microbiome

2023 NIH-NHLBI: Program Project Grant (PPG) Application Review (P01)

2023 NIH: Special Emphasis Panel: RFA-DK-22-039 " Toward ElucidAting MechanismS of HIV Pathogenesis within the Mission of the NIDDK (Pathogenesis TEAMS)" **Panel Chair**

2024 NIH-NHLBI: Program Project Grant (PPG) Application Review (P01)

2024 NIH- NCCIH: Training and Education Review Panel

2024 NIH: HIV Comorbidities and Clinical Studies (HCCS) Review Panel

2025 NIH: Member Conflict: Infectious Disease Diagnostics, Pathogenesis, and Interactions

2026 NIH: Member Conflict: Topics in HIV Molecular Virology, Cell Biology, and Drug Development

***Regional Review Panels:***

2023-26 *MoWMA (**Mo**untain **W**est **M**icrobiome **A**lliance)* Seed Grant Program

***University of Colorado Review Panels:***

2017 Colorado Clinical and Translational Science Program (CCTSI) Co-Pilot Awards

2016-22 GI and Liver Innate Immune Programs Pilot and Feasibility Awards

2018 K to R Transition Program (CCTSI): Grant Review for Mock Study Section

2022-26 CMIR (Center for Mucosal Immunology and Rheumatic Disease Pathogenesis) Pilot and Microgrant programs

2022-24,26 School of Medicine Translational Research Scholars Program

## Invited Lectures and Presentations:

***International:***

2009 Unilever Microbiome Symposium. Liverpool, England.

2011 Gut Microbiota in Health and Disease Symposium. EPFL. Lausanne, Switzerland.

2012 Round Table: "Microbial Network Ecology: Deciphering Complex Network Interactions in Microbial Communities." ISME 14, Copenhagen, Denmark.

2014 Center for Research in Infectious Diseases (CIENI), at the National Institute of Respiratory Diseases (INER). Meeting on HIV/AIDS prevention and treatment. Oaxaca, Mexico.

2015 The 2nd Korean-American Kavli Frontiers in Science Symposium. Jeju Island South Korea. **Session Chair**.

2016 New Zealand Microbial Ecology Consortium (NZMEC 4.0). Aukland, New Zealand. **Plenary Speaker.**

2018 6th Annual Arab-American Frontiers of Science, Engineering, and Medicine Symposium. Kuwait City, Kuwait. **Plenary Speaker.**

2018 International Society for Microbial Ecology: ISME17/ Leipzig, Germany. **Award Lecture: Young Investigator Award.**

2018 International Human Microbiome Consortium meeting. Session "*Smarter ways for analyzing microbiome and host data.*" Killarney, County Kerry, Ireland.

2018 Conference on antibiotics and delivery mode on the gut microbiome. Oslo, Norway. **Keynote Speaker**.

2021 STI and HIV World Congress. Symposium on genital microbiome and reproductive health. (Virtual).

2023 New Zealand Microbiological Society Conference. Aukland, New Zealand. **Plenary Speaker**

2024 Keystone Symposium - Regulation of Barrier Immunity. Banff, Canada.

2024 CAMDA (International Conference on Critical Assessment of Massive Data Analysis). ISMB. Montreal Canada. **Keynote Speaker**.

2025 The 24th International Conference on Bioinformatics (InCoB). Kolkata, India. **Keynote Speaker.**

***Regional/National:***

2000 Symposium: "Chytrids Active in the Environment" Mycological Society of America, Burlington, VT.

2007 Rocky Mountain Branch of the American Society for Microbiology, Denver, Colorado. **Keynote speaker.**

2007 Session: "From black box to can of worms: advances in molecular analysis of microbial communities." American Geophysicists Union, San Francisco, CA.

2009 Human microbiome in health and disease pre-meeting basic science course. American Society of Tropical Disease and Medicine. Washington D.C.

2011 Next-Generation Sequencing and Genomic Medicine Symposium. Drug Discovery and Diagnostic Development Week. San Francisco, CA.

2013 American Society for Microbiology (ASM) general meeting. "Metagenomic Approaches: Frontiers of Annotation and Assembly, Networking and Discovery". Denver, Colorado.

2013 ISCB Rocky Mountain Bioinformatics Conference. Snowmass, Colorado. **Keynote speaker.**

2013 Rocky Mountain Branch of the American Society for Microbiology. Denver, Colorado. **Keynote speaker.**

2014 NESCent. (National Evolutionary Synthesis Center). Meeting on Evolution and community ecology of host-associated microbiota. Duke University, Durham, NC.

2014 American Thoracic Society, in symposium “The Lung Microbiome in 2014: State of the art and science: Analytical techniques in Lung Microbiome Research." San Diego, CA.

2014 American Association of Health Care journalists meeting. Denver, CO.

2015 1st International workshop on Microbiome in HIV Pathogenesis, Prevention and Treatment. NIH campus, Bethesda, MD.

2015 Session: “Diet, Obesity, Nutrition and Gut Microbiome” at American Society for Biochemistry and Molecular Biology Annual meeting, Boston, MA.

2015 42nd Annual Renal Disease and Electrolyte Disorders course. Dr. Robert F. Stonerock Jr. Sponsored Basic Science Update lecture. Aspen Colorado.

2016 Institute of Electrical and Electronics Engineers (IEEE) Aerospace Conference. Big Sky, Montana. **Plenary Speaker**.

2017 Society for Industrial Microbiology and Biotechnology General Meeting. Session “Computational Techniques for Studying the Microbiome.” Denver, Colorado

2017 Aspen Allergy Conference, AAAAI. Session “Microbiome and Allergic Inflammatory Diseases”. Aspen, Colorado **“State of the Art Speaker”.**

2017 American Society for Microbiology (ASM) Microbe (General Meeting). **Plenary Speaker and Chair** of Session “Extracting new biological insights from large scale data.” New Orleans, LA.

2017 North American Microbiome Congress. San Diego, CA.

2018 Nature Research Round Table on Challenges in Translating the Microbiome. Springer Nature headquarters, New York, New York.

2019 Western Society of Allergy, Asthma and Immunology Meeting, Maui, Hawaii.

2020 5th International Workshop on Microbiome in HIV Pathogenesis, Prevention and Treatment, Rockville, MD.

2020 Center for Microbiome Innovation (CIM) International Microbiome Meeting. San Diego, CA.

2021 7th International Workshop on Microbiome in HIV Pathogenesis, Prevention and Treatment (Speaker and Session Chair). *** ***Voted best oral presentation*** (Virtual) https://www.youtube.com/watch?v=Z7NxRmxTzyA

2021 ATS-NIAID Workshop: Microbiome, Metabolism, Immunoregulation of Asthma. (Virtual).

2021 8th Annual Louisiana Biomedical Research Network (LBRN) Conference on Computational Biology and Bioinformatics. **Keynote Speaker.** (Virtual).

2022 Intelligent Systems for Molecular Biology (ISMB). **Keynote Speaker.** Madison, WI.

2024 Mountain West Microbiome Consortium 2nd Annual Meeting. Snowbird, UT

2025 Center for Microbiome Innovation (CIMM) International Microbiome Meeting. San Diego, CA.

2026 Mountain West Microbiome Consortium 4th Annual Meeting. Snowbird, UT

2026 Beneficial Microbes. Madison, WI.

***University/Institute Invited Seminars/Symposia:***

2009 *Colorado State University*, Statistics Department Seminar Series

2009 *Colorado School of Mines*, Environmental Engineering Department Seminar Series

2012 *University of Colorado Boulder*: Applied Math Department Seminar Series

2013 *Colorado State University*, Department of Chemical Biological Engineering

2015 *Tulane University* Presidential Symposium, *Translational Research in Infectious Diseases: From Microbes to Man*. New Orleans, LA.

2016 *University of California Davis*, Department of Medical Microbiology and Immunology

2016 *Arizona State University*, Microbiology Department. Graduate student invited speaker

2017 *Stanford University.* 2nd Annual Stanford Microbiome Bioinformatics Conference.

2018 *Johns Hopkins*. Division of Allergy and Clinical Immunology. David G Marsh Fellowship Lecture

2018 *University of Wisconsin Madison*. Wisconsin National Primate Research Center

2018 *Colorado State University* Microbiome Network. Panelist in Discussion "The Ins and Outs of High Quality Microbiome Data"

2018 *Duke University*. Mini-symposium on Pediatric Obesity Microbiome and Metabolism.

2018 *Colorado State University.* Metabolism of Infectious Disease Symposium. **Keynote Speaker**.

2019 *NIH Vaccine Research Center (VRC).* Bethesda, MD

2020 *NIH* Seminar Series on Diet, Microbiome and Host Interrelationships (Virtual)

2020 *Colorado State University*. Fort Collins Colorado. Graduate student invited speaker (Virtual)

2022 *Institute for Systems Biology (ISB)* Virtual Microbiome Series (Virtual)

2022 *University of Colorado, Boulder.* Boulder Colorado. Center for Microbial Exploration Seminar Series.

2023 NICHD DIR TTI Symposium: Disentangling host-microbe interactions through the analysis of high dimensional multi-omics data (Virtual)

2025 *Rutgers University- Robert Wodd Johnson Medical School.* Department of Pharmacology

***Intramural Lectures and Presentations:***

**** Regular speaker in the Mucosal Inflammation Program (MIP) RIP series

**** Regular speaker in the Microbiome RIP series

**** Regular speaker in the Division of Personalized Medicine Seminar series

2013 Computational Biosciences Seminar Series

2014 Department of Immunology and Microbiology; Departmental retreat in Breckenridge, CO

2015 CSPEN Nutrition Support Symposium

2015 2nd Annual Mini-symposium. The Power of Informatics to Advance Health

2015 Department of Nutrition Seminar Series

2016 Department of Pharmaceutical Sciences Seminar Series

2016,12 Department of Medicine. Research and Innovation Series
2017 Colorado Clinical and Translational Sciences Institute (CCTSI) Summit
2018 Molecular Biology Program Symposium: Old Questions New Technology
2019 Department of Integrative Biology Seminar Series– University of Colorado, Denver
2019 Department of Medicine Grand Rounds
2019 LEADS (The Lifecourse Epidemiology of Adiposity and Diabetes) Seminar
2021 Department of Medicine Research Day: Outgoing Early Career Scholar award presentation
2022,16 Department of Immunology and Microbiology Seminar Series
2023 Department of Biomedical Informatics Faculty Research Series
2023,24 Center for Mucosal Immunology and Rheumatic Disease Pathogenesis (CMIR) Symposium
2025 Microbiome in Health and Disease Workshop – Nutrition Obesity Research Center

### ***Community Outreach:***

2012-16 Mitchell Elementary School: Presenter at "Family Math and Science Night"
2014 Research & Treatment Now and in the Future: An Inflammatory Bowel Disease Update. Addressed an audience of people affected by IBD, and others who work in the field.
2015-16 Mitchell Elementary School: Science Fair: Organized judging by graduated students.
2018 Bell Middle School. Girls in STEM code sprint mentor.
2015,18,20,23 Community Advisory Board (CAB). Spoke in monthly meeting to discuss HIV research, care, education and treatment with people living with HIV, people interested in HIV, and others who work in the field.
2024 Tattered Cover Science talk on "The Role of the Intestinal Microbiome in Health"
2015,25 Golden Beer Talks: Delivered a talk on human microbiome research at a community science series in Golden Colorado.

## Teaching:

### ***Course Director:***

2017-20 **Director: Colorado Biomedical Informatics Summer Training Fellowship for underrepresented populations.** This 8 week summer program has the goal of introducing computer science students from diverse, disadvantaged and traditionally underrepresented groups to PhD level research career opportunities in Biomedical Informatics.
2020-22 **Director: CPBS 7711 "Methods and Tools in Biomedical Informatics"** This is a required course in the Fall semester for all first year students in the Computational Biosciences Program.
2021-26 **Director: CPBS 7712 "Research Methods in Biomedical Informatics"** This is a required course in the Spring semester for all first-year students in the Computational Biosciences Program.

***Graduate/Undergraduate level course lectures:***

1998-99 Guest lectures in Aquatic microbiology and Microbial Diversity courses. Colorado State University.

2003-04 Graduate Teaching assistant for Molecular and Cell Biology courses. CU Boulder.

2008 Guest lecture in Genome Databases: Mining and Management course. CU Boulder.

2009 Guest Lecture in International Geobiology Course, Colorado School of Mines.

2014 Guest Lecture in Molecular Methods in Microbial Ecology (EBIO 5460). CU Boulder.

2016 Guest Lecture to Dietetic Interns in Colorado Clinical and Translational Sciences Institute (CCTSI): CU Anschutz

2014-17 Co-Instructor "Advanced Genome Analysis" Course (MICB7620): CU Anschutz.

2022 Lecture for Colorado Biomedical Informatics Undergraduate Training Program: CU Anschutz

2022 Co-Instructor "Introduction to Bioinformatics" (IMMU 6110): CU Anschutz.

2013-24 Co-Instructor "Methods and Tools in Biomedical Informatics" (CPBS 7711): CU Anschutz.

2018-26 Co-Instructor "The Microbiome in Health and Disease" (IDPT 7810/BMSC 7810): CU Anschutz

2013-26 Co-Instructor "Research Methods in Biomedical Informatics" (CPBS 7712): CU Anschutz.

2023-26 Co-Instructor "Immunology" (IMMU 7662): CU Anschutz

***Other courses/workshops:***

2000-01 Informax Inc: Generated sequence and microarray data analysis training program and delivered 1-4 day training sessions at academic, public, and private institutions.

2009 Latin American Workshop in Molecular Evolution, Cuernavaca Mexico.

2009 UniLever Inc.: Training session for Research personnel in microbiome analysis techniques.

2012 Introductory Course on Metagenomics in Human Health and Nutrition. ICDDR,B research institute and hospital for diarrheal diseases, Dhaka Bangladesh.

2015 Coursera: "Gut Check: Exploring your Microbiome."

## Mentoring:

***Primary mentor/ co-mentor***

**Post-doctoral/M.D. Fellows:**

2013-15 Matthew Rhodes Ph.D.: Computational Biosciences Training Program T15 LM009451
*Current position*: Assistant Professor of Microbial Genetics at College of Charleston

2015-19 Sam Li Ph.D. Co-mentor with B. Palmer. Colorado HIV-1 Training Program (CHRTP) T32
*Current position*: Medical Writer Cory/Paeth (medical communication agency).

2016-19 Elmar Pruesse Ph.D.

*Current position*: Postdoctoral Researcher at National Jewish, Denver CO

2016-20 Keith Hazleton M.D., Ph.D. Pediatric Transplant Hepatology Fellowship Program T32
*Current position*: Assistant Professor of Clinical Pediatrics, Keck School of Medicine of USC

2018-21 John Darcy Ph.D. Computational Biosciences Training Program T15 LM009451
*Current position*: Bioinformatic Scientist, Somalogic, Boulder CO.

2023-2025 Oren Gordon M.D. Pediatric Oncology Fellowship
*Current position*: Associate Medical Director in the Physician Development Program at AbbVie Pharmaceuticals

2024-2026 Laurie Lyon Ph.D. Computational Biosciences Training Program T15 LM009451
*Current position:* Postdoctoral Fellow – University of Colorado Anschutz

2024-present Jacob Flynn Ph.D. Antiretroviral Discovery Evaluation and Application Research (ADEAR) T32 AI150547 Training Program

2025-present Kelsey Ryan, M.D. Pediatric Gastroenterology Fellowship

**PhD Students:**

2014-18 Mike Shaffer, Ph.D., Computational Biosciences Training Program T15 LM009451
*Current position:* Bioinformatics Scientist – Bill and Melinda Gates Medical Research Institute

2014-18 Maggie Stanislawski, Ph.D. Epidemiology (Co-mentored with Dana Dabelea)
*Current position*: Assistant Professor; Department of Biomedical Informatics. University of Colorado Anschutz Medical Campus

2015-20 Abigail Armstrong, Ph.D., Microbiology; Molecular Pathogenesis of Infectious Diseases (MPID) T325AI052066 Training Program
*Current position*: Research Scientist in Research and Clinical Investigation at Amway

2015-20 Kathleen (Katie) Arnolds, Ph.D., Microbiology; Training Program in Immunology T32AI007405
*Current position:* Scientist at National Renewal Energy Lab, Golden, CO.

2017-21 Janet Siebert Ph.D. Computational Biosciences (Co-mentored with Carsten Georg)
*Current position:* Founder of bioinformatics consulting company CytoAnalytics.

2017-22 Casey Martin, Ph.D., Microbiology

2019-24 Jennifer Fouquier, Computational Biosciences Ph.D. Training Program T15 LM009451
*Current position:* Postdoctoral Fellow CU Anschutz/Enterotracker; Bioinformatics consultation

2022-25 John Sterrett, Ph.D. Interdisciplinary Quantitative Biology/ Integrative Physiology, CU Boulder.
*Current position:* Bioinformatics Applications Specialist, Integrated DNA Technologies, Inc.

2021-25 Brook Santangelo Computational Biosciences Ph.D. program. (Co-mentor with L. Hunter) Computational Biosciences Training Program T15 LM009451
*Current position:* Bioinformatics/ Knowledge Graphs Researcher; Sandbox AQ

2022-present Elena Wall, Microbiology Ph.D. program. *NSF Graduate Research Fellowship Recipient*

2022-present Angela Sofia Burkhart Colorado, Computational Biosciences Ph.D. Training Program T15 LM009451, NIH F31 Recipient

2023-present Jack O'Connor: Microbiology Ph.D. Program

**Master's/Medical Students:**

2015-16 Cuining Liu, M.S. Biostatistics

2019-20 Kumar Thurimella, Research Track M.D. program

2021-22 Eric Lambert, M.S. Microbiology and Immunology Bioinformatics Master's Degree program

2023-24 Madison Apgar, Masters of Biosciences and Biotechnology program

**Undergraduate:**

2014-15 Rachel Jones: CU Denver: Experiential Learning Program.

**Rotating Graduate Students:** These students performed an ~3 month research rotation in my laboratory.

2013 Joseph Westrich, Microbiology Ph.D. program

2014 Cody Glickman, Computational Biosciences Ph.D. program

2014 Kristen Sterns, Interdisciplinary Quantitative Biology Ph.D. program, CU Boulder

2016 Rachel Neve, Microbiology Ph.D. program

2016 Francis Santoriello, Microbiology Ph.D. program

2018 Danielle Sansone-Poe, Biomedical Sciences Ph.D. pPogram

2020 Laurie Lyon, Microbiology Ph.D. program

2022 Jill Billodeaux, Microbiology Ph.D. program

## ***Student/Faculty Mentorship Committees:***

**Post-doctoral/Faculty:**

***Current:***

- Maggie Stanislawski (Assistant Professor, Department of Biomedical Informatics): K01 mentorship team
- Richard Tobin (Research Assistant Professor, Department of Surgery)
- Charles Preston Neff (Assistant Professor, Department of Medicine): K01 mentorship team
- Melike Sirlanci (Assistant Professor, Department of Biomedical Informatics)
- Janani Ravi (Assistant Professor, Department of Biomedical Informatics)
- Audrey Hendricks (Assistant Professor, Department of Biomedical Informatics)
- Marika Orlov (Instructor, Department of Medicine-Pulmonary Sciences and Clinical Care)
- Stephanie Gilley (Assistant Professor, Pediatrics-Nutrition): K08 mentorship team
- Evan Brenner (Postdoctoral Fellow, Department of Biomedical Informatics)

***Past:***

- Michael Kriss, M.D. (Assistant Professor, Gastroenterology & Hepatology, Department of Medicine)

- Adam Berlinberg, M.D. (Fellow, Rheumatology, Department of Medicine)
- Kristine Kuhn (Assistant Professor, Rheumatology, Department of Medicine)

**Ph.D. Students:**

Thesis committees

***Current:***

- Anna-Sophia Leon (Microbiology)
- Ana Fairbanks-Mahnke (Microbiology)
- Sam Fulte (Microbiology) ***Committee Chair***

***Past:***

- Meg Pirrung (Computational Biosciences; Graduated 2015 Ph.D.)
- Jon Leff (Ecology and Evolutional Biology, University of Colorado Boulder; Graduated 2016 Ph.D.)
- Leon Zheng (Molecular Biology; Graduated 2017 with M.D./Ph.D.)
- Adrienne Narrowe (Integrative Biology, University of Colorado Denver; Graduated 2018 Ph.D.)
- Rachel Neve (Microbiology; Graduated 2021 Ph.D.)
- Stephanie M. García (Human Medical Genetics & Genomics Program; Graduated 2021 Ph.D.); F31 Mentorship team
- Cody Glickman (Computational Biosciences; Graduated 2021 Ph.D.)
- Katherine Ziegler (Epidemiology; left program 2021)
- Brent Carrillo (Pharmaceutical Sciences; Graduated 2022 Master's degree)
- Josephina Hendrix (Computational Biosciences; Graduated 2023 Ph.D.)
- Lucia Guatney (Computational Biosciences; Graduated 2023 Master's degree)
- Evan Gorman (Applied Mathematics, University of Colorado Boulder; Graduated 2023 Ph.D.)
- Laurie Lyon (Microbiology; Graduated 2024 Ph.D.) ***Committee Chair***
- Michael Hoffert (Ecology and Evolutionary Biology, CU Boulder; Graduated 2026 Ph.D.)

Comprehensive exam committees

- Joshua Kirsch (Microbiology; 2021)
- Alyx Job (Microbiology; 2023)
- Joanna Chau (Microbiology; 2024)
- Charmie Vang (Microbiology; 2025)
- Kat Terwelp (Computational Biosciences; 2026)
- Sean Svihla (Applied Mathematics, University of Colorado Boulder)

## External mentorship Activities:

2023 Mentor for MNIGMS/ NIH (R25GM143298) grant **The Career MODE program: Careers through Mentoring and training in Omics and Data for Early-stage investigators.** PI Fernando Luque; Columbia University.

## Grant Support:

### ***Federal Funding:***

**Current**

2021-27 NIH-NIAID **U01** AI150589
Dietary and synbiotic strategies to protect against *Clostridioides difficile* infection
Role: **Principal Investigator**

2021-27 NIH-NIAMS **P30** AR079369
CU Center for the Study of Mucosal Immunobiology in Rheumatic Disease Pathogenesis
Role: **Core Director.** PI- Holers

2021-26 NIH-NIDDK **R01** DK128842
Kidney Stone Disease In ADPKD
Role: **Co-Investigator.** PIs Chonchol/Gitomer

2022-27 NIH **R01** DK131581
Gut microbiome effects on intestinal barrier function and metabolic syndrome in HIV positive men who have sex with men
Role: **Principal Investigator**. Co-PIs Palmer, Colgan

2023-28 NIH **R01** AI172958
Airway Prevotella prime innate immune-mediated protection against lung infection
Role: **Co-Investigator**. PI- Clark

2023-28 NIH **R01** CA279604-01A1
Microbiome:MAIT cell crosstalk in tumor immunity
Role: **Co-Investigator**. PI Tobin

**Completed**

2004-06 NIH T32
NIH Institutional Training Grant for Signal Transduction and Cell Cycle Regulation: University of Colorado, Boulder
Role: **Graduate Student**.

2009-10 NIH-NLM T15 LM009451
Institutional Training Grant for Computational Biosciences: University of Colorado
Role: **Postdoctoral Fellow.** PI Hunter

2011-15 NIH-NIDDK **K01** DK090285
The role of syntrophic bacteria in methanogenic metabolism in the human gut
Role: **Principal Investigator**

2013-16 NIH-NIEHS **R21** ES023384
Fungal Exposure and the Respiratory Tract Microbiome
Role: **Co-Investigator.** PI Evans

2014-20 NIH-NIDDK **R01** DK104047
Factors mediating gut microbiota dysbiosis and metabolic disease in HIV patients
Role: **Principal Investigator**. Co-PI Palmer

2014-20 Metabolomics supplement to NIH-NIDDK **R01** DK104047
Factors mediating gut microbiota dysbiosis and metabolic disease in HIV patients
Role: **Principal Investigator**. Co-PIs Palmer/Reisdorph

2015-21 NIH-NIDDK **R01** DK108366
Diet/gut Microbiome Interaction Influence Inflammatory Disease in HIV Patients
Role: **Principal Investigator**. Co-PIs Palmer/Campbell

2017-22 NIH-NHLBI **R01** HL138639
HIV-associated gut microbiome affects lung immunity and pneumococcal immune response
Role**: Principal Investigator**. Co-PIs Palmer/Campbell

2017-21 NIH-NHLBI **R01** HL133545
The contributory role of microbial metabolite in the pathogenesis of CKD-dependent vascular calcification
Role: **Co-Investigator.** PI Miyazaki

2020-22 NIH-NCI **R21** CA253220
Improving immunotherapies to melanoma through modulation of MAIT cell activation by the microbiome
Role: **Principal Investigator**. Co-PIs McCarter/Medina/Gapin

2021-24 DOD Melanoma Research Program.
The role of the tumor microbiome in mucosal melanoma development and anti-tumor immunity
Role: **Co-Investigator.** PI- Couts

2023-24 NIH SBIR Sub-Contract
A novel small molecule therapeutic for acute graft versus host disease
Role: **Principal Investigator** of subcontract. Main PI Mason: Crestone Inc. Boulder CO

2020-25 NIH-NHLBI **R01** HL155691
Characterizing Innate Immune Dysregulation in Tonsils of Individuals with Down Syndrome
Role: **Co-Investigator.** PI- Verneris

2024-25 NIH R37 CA218118-06
Effect of Immune-Enhancing Nutrition on Radical Cystectomy Outcomes- MERIT extension
Role: **Principal Investigator** of subcontract. Main PI Hamilton-Reeves: University of Kansas Medical Center

2024-26 NIH R21 DK138855-01A1
Effect of ILC3 loss on epithelial barrier integrity during ART Treated HIV
Role: **Co-Investigator**. PI Neff

2024-26 NIH-NIAID
Evaluation of Safety and Efficacy of CRS3123 to Treat Clostridioides difficile infections, Subtask 3.2 Microbiome Analysis
Role: **Principal Investigator** of subcontract. Main PI Ochner: Crestone Inc. Boulder CO

## ***Charitable Funding/ Foundation Funding:***

**Completed**

2013-15 Golfer's Against Cancer Pilot grant program.
Role of the Gut Microbiome in Graft Versus Host Disease following hematopoietic stem cell transplantation.
Role: **Principal Investigator.** Co-PI Nguyen

2014-16 Peter Emch Foundation grant.
Gut microbiome of Children with Autism Spectrum Disorders
Role: **Principal Investigator.** Co-PI Krajmalnik-Brown

2021-24 The Institute for Cannabis Research.
Microbiome mediated effects of Cannabis and CBD on neurotransmitter-related molecular networks and anxiety.
Role: **Co-Investigator.** PI Reisdorph

***Intramural:***

**Completed**

2011-13 Colorado Clinical and Translational Science Institute Child and Maternal Health Pilot Grant
The effects of diet alteration strategies on the gut microbiota of children with autism.
Role: **Principal Investigator**

2016-21 Department of Medicine CU Anschutz
Outstanding Early Career Scholar Award
Role: **Principal Investigator**

2016-21 Dean's Transformational Research Funding Program. CU Anschutz
GI & Liver Innate Immune Program (GALIIP).
Role: **Core Director.** PI Colgan

2017-18 Department of Medicine Team Science Award. CU Anschutz
Can intestinal bacteria with putative IL-10 inducing zwitterionic capsular polysaccharide operons provide protection from colitis?"
Role**: Principal Investigator.** Co-PI Collins

2018-19 Immunology and Microbiology Department Pilot Award CU Anschutz
Effect of gut microbiome on immune development in human immune system (HIS) mice
Role: **Co-Investigator.** PI Pelanda

2019-21 ALSAM Therapeutics Innovation Grant program. School of Pharmacy CU Anschutz
Effects of green tea-derived microbial and host metabolites on molecular networks and depression
Role: **Co-Investigator.** PI Reisdorph

2019-20 Associate Dean of Research (ADR) SEED grant. School of Pharmacy CU Anschutz
The Gut Microbiome in Epilepsy in Children/Rats on Ketogenic Diet Treatment
Role: **Co-Investigator.** PI Patel

2020-21 University of Colorado GI & Liver Innate Immune Program (GALIIP) Pilot Grant.
Investigating the role of the gut and tumor microbiomes in anorectal mucosal melanomas
Role: **Co-Investigator.** PI Couts

## Publications:

***Peer-reviewed Publications:***

**High impact papers noted: $^{+++}$ >1000 citations, $^{++}$ >500 citations, $^{+}$ >100 citations**
***These papers have been collectively cited >176,000 times:* h-index=73**
**Co-authorship by my trainees highlighted in blue text.**

**Published prior to enrolling in PhD program**

(1) [+] **Lozupone, C.A.**, R. Knight, and L. Landweber. The molecular basis of nuclear genetic code change in ciliates. (2001) **Current Biol**. 11(2):65-74.

(2) **Lozupone, C.A.**, and D.A. Klein. Molecular and cultural assessment of chytrid and *Spizellomyces* populations in grassland soils. (2002) **Mycologia**. 94:411-420.

(3) [+] **Lozupone C.*,** S. Changayil*, I. Majerfeld I, and M. Yarus. Selection of the simplest RNA that binds isoleucine. (2003) **RNA**. 11:1315-1322. ***authors contributed equally**

(4) Ardell, D, **C. Lozupone**, and L. Landweber. Polymorphism, recombination and alternative unscrambling in the DNA polymerase alpha gene of the ciliate *Stylonychia lemnae* (Alveolata; class Spirotrichea). (2003). **Genetics.** 165(4):1761-77.

(5) [+] Legiewicz, M., **C. Lozupone**, R. Knight, and M. Yarus. Size, constant sequences, and optimal selection. (2005) **RNA.** 11:1701-9.

**PhD work**

(6) [+++] **Lozupone, C.A.** and R.D. Knight. UniFrac: A new phylogenetic method for comparing microbial communities. (2005). **Appl Environ Microbiol**. 71:8228-35.

(7) [+++] Ley, R.E., F. Backhed, P. Turnbaugh, **C.A. Lozupone**, R.D. Knight, and J.I. Gordon. Obesity alters gut microbial ecology. (2005) **Proc Natl Acad Sci.** 102:11070-11075.

(8) [+++] **Lozupone, C.***, M. Hamady*, and R. Knight. UniFrac—an online tool for comparing microbial community diversity in a phylogenetic context. (2006) **BMC Bioinformatics**. 7:371-384.

(9) [++] Liu, Z., **C. Lozupone**, M. Hamady, F.D. Bushman, and R. Knight. Short pyrosequencing reads suffice for accurate microbial community analysis. (2007) **Nucleic Acids Res**. 35:e120.

(10) [+++] **Lozupone, C.A.** and R. Knight. Global patterns of bacterial diversity. (2007) **Proc Natl Acad Sci.** 104(27):11436-40.

(11) [+] Knight, R., P. Maxwell, A. Birmingham, J. Carnes, J.G. Caporaso, B.C. Easton, M. Hamady, Z. Liu, **C. Lozupone**, R. Sammut, S. Smit, M. Wakefield, J. Widmann, S. Wikman, S. Wilson, and G.A. Huttley. PyCogent: a toolkit for making sense from sequence. (2007) **Genome Biol**. 8(8):R171.

(12) [++] Fierer, N., M. Breitbart, J. Nulton, P. Salamon, **C. Lozupone**, R. Jones, M. Robeson, R. Edwards, B. Felts, S. Rayhawk, R. Knight, F. Rohwer, and R.B. Jackson. Metagenomic and small-subunit rRNA analyses of the genetic diversity of bacteria, archaea, fungi, and viruses in soil. (2007) **Appl Environ Microbiol**. 73:7059-66.

(13) [+] D'Souza, M., A.P. Fontenot, D.G. Mack, **C. Lozupone**, S. Dillon, A. Meditz, C.C. Wilson, E. Connick, and B.E. Palmer. Programmed death 1 expression on HIV-specific CD4+ T Cells is driven by viral replication and associated with T cell dysfunction. (2007) **J Immunology**. 179:1979-87.

(14) [++] Xu, J., M.A. Mahowald, R.E. Ley, **C. A. Lozupone**, M. Hamady, E.C. Martens, B. Henrissat, P.M. Coutinho, P. Minx, P. Latreille, H. Cordum, A. Van Brunt, K. Kim, R. Fulton, S.W. Clifton, R.K. Wilson, R.D. Knight, and J.I. Gordon. Evolution of symbiotic bacteria in the distal human intestine. (2007) **PLoS Biol.** 5(7)e156.

(15) [+++] **Lozupone C.A.**, M. Hamady, S. Kelley, and R. Knight. Quantitative and qualitative $\beta$ diversity

measures lead to different insights into factors that structure microbial communities. (2007) **Appl Environ Microbiol.** 73:1576-1585.

**Postdoctoral work**

(16) **+++** Ley R.E.*, **C.A. Lozupone***, M. Hamady, R. Knight, and J.I. Gordon. Worlds within worlds: evolution of the vertebrate gut microbiota. (2008) **Nat Rev Microbiol**. 6(10):776-88. * authors contributed equally

(17) **+ Lozupone C.A**., M. Hamady, B.L. Cantarel, P.M. Coutinho, B. Henrissat, J.I. Gordon, and R. Knight. The convergence of carbohydrate active gene repertoires in human gut microbes. (2008) **Proc Natl Acad Sci.** 105(39):15076-81.

(18) **+++** Ley R.E., M. Hamady, **C. Lozupone**, P.J. Turnbaugh, R.R. Ramey, J.S. Bircher, M.L. Schlegel, T.A. Tucker, M.D. Schrenzel, R. Knight, and J.I. Gordon. Evolution of mammals and their gut microbes. (2008) **Science**. 320(5883):1647-51.

(19) **++ Lozupone, C.A.** and R. Knight. Species divergence and the measurement of microbial diversity. (2008) **FEMS Microbiol Reviews**. 32(4):557-78.

(20) **+** Zaneveld J, P.J. Turnbaugh, **C. Lozupone**, R.E. Ley, M. Hamady, J.I. Gordon, and R. Knight. Host-bacterial coevolution and the search for new drug targets. (2008) **Curr Opin Chem Biol.** 12(1):109-14.

(21) **++** McKenna P., C. Hoffmann, N. Minkah, P.P. Aye, A. Lackner, Z. Liu, **C.A. Lozupone**, M. Hamady, R. Knight, and F.D. Bushman. The macaque gut microbiome in health, lentiviral infection, and chronic enterocolitis. (2008) **PLoS Pathog.** 4(2):e20.

(22) **+** Faith, D.P., **C.A. Lozupone**, D. Nipperess, and R. Knight. The cladistic basis for the PD (Phylogenetic Diversity) measure links evolutionary features to environmental gradients and supports broad applications of microbial ecology's 'phylogenetic beta diversity' framework. (2009) **Int. J. Mol. Sci**. 10(11):4723-4741.

(23) **++** Goodman, A.L., N.P McNulty, Y. Zhao, D. Leip, R. Mitra, **C.A. Lozupone,** R. Knight, and J.I. Gordon. Identifying genetic determinants needed to establish a human gut symbiont in its habitat. (2009) **Cell Host Microbe**. 6(3):279-89.

(24) **+** King, A.J., K.R. Freeman, K.F. McCormick, R.C. Lynch, **C. Lozupone**, R. Knight, and S. Schmidt. Biogeography and habitat modeling of high-alpine bacteria. (2010) **Nature Commun**. 1(5):1-6.

(25) **+++ Lozupone, C.**, M.E. Lladser, D. Knights, J. Stombaugh, and R. Knight. UniFrac: an effective distance metric for microbial community comparison. (2010) **ISME J.** 5(2):169-72.

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(27) **++** Nemergut, D.R, E.K. Costello, M. Hamady, **C. Lozupone**, et al. Global patterns in the biogeography of bacterial taxa (2010) **Environ. Microbiol**. 13(1):135-44.

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(29) [+++] Rousk, J., E. Baath, P.C. Brookes, C.L. Lauber, **C. Lozupone**, C. Lozupone, J.G. Caporaso, R. Knight, and N. Fierer. Soil bacterial and fungal communities across a pH gradient in arable soil. (2010) **ISME J.** 4:1340-51.

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(32) [+++] Hamady, M.*, **C. Lozupone***, R. Knight. Fast UniFrac: Facilitating high-throughput phylogenetic analyses of microbial communities including analysis of pyrosequencing and phylochip data. (2010) **ISME J**. 4(1):17-27. * authors contributed equally

(33) [++] McNulty, N.P., T. Yatsunenko, A. Hsiao, J.J. Faith, B.D. Muegge, A.L. Goodman, B. Henrissat, R. Oozeer, S. Cools-Portier, G. Gobert, C. Chervaux, D. Knights, **C.A. Lozupone**, R. Knight, A.E. Duncan, J.R. Bain, M.J. Muehlbauer, C.B. Newgard, A.C. Heath, and J.I. Gordon. The impact of a consortium of fermented milk strains on the gut microbiome of gnotobiotic mice and monozygotic twins. (2011) **Sci Transl Med**. 3(106):106ra106.

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(38) [++] Yilmaz, P., Kottmann R., *et al*. Minimum information about a marker gene sequence (MIMARKS) and minimum information about any (x) sequence (MIxS) specifications. (2011) **Nature Biotech**. 29(5):415-420.

(39) [+++] Caporaso J.G., C.L. Lauber, W.A. Walters, D. Berg-Lyons, **C.A. Lozupone**, P.J. Turnbaugh, N. Fierer, and R. Knight. Global patterns of 16S rRNA diversity at a depth of millions of sequences per sample. (2011) **Proc Natl Acad Sci.** 108:4516-22.

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J. G. Caporaso, **C.A. Lozupone**, C. Lauber, J.C. Clemente, D. Knights, R. Knight and J.I. Gordon. Human gut microbiome viewed across age and geography (2012). **Nature.** 486(7402):222-7.

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(46) [+++] Sullam, K.E., S.D. Essinger, **C.A. Lozupone**, M.P. O'Connor, G.L. Rosen, R. Knight, S.S. Kilham, and J.A. Russell. Environmental and ecological factors that shape the gut bacterial communities of fish: a meta-analysis. (2012) **Mol Ecol.** 21(13):3363-78.

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(48) [++] **Lozupone, C.*,** J. Stombaugh*, A. Gonzalez*, G. Ackermann, D. Wendel, Y. Vázquez-Baeza, J.K. Jansson, J.I. Gordon, and R. Knight. Meta-analyses of studies of the human microbiota. (2013) **Genome Res.** 23(10):1704-14. *authors contributed equally

(49) [+++] Song, S., C. Lauber, E.K. Costello, **C.A. Lozupone**, G. Humphrey, D. Berg-Lyons, J.G. Caporaso, D. Knights, J.C. Clemente, S. Nakielny, J.I. Gordon, N. Fierer, R. Knight. Cohabiting family members share microbiota with one another and with their dogs. (2013). **eLife**. 2:e00458.

**Assistant Professor**

(50) [++] **Lozupone, C.**, M. Li, T.B. Campbell, S.C. Flores, D. Linderman, M.J. Gebert, R. Knight, A.P. Fontenot, and B.E. Palmer. Alterations in the Gut Microbiota Associated with HIV-1 Infection. (2013). **Cell Host and Microbe.** 14(3):329-339.

(51) [+] **Lozupone, C.**, A. Cota-Gomez, B.E. Palmer, D.J. Linderman, E.S. Charlson, E. Sodergren, M. Mitreva, S. Abubucker, J. Martin, G. Yao, T.B. Campbell, S.C. Flores, G. Ackerman, J. Stombaugh, L. Ursell, J.M. Beck, J.L. Curtis, V.B. Young, S.V. Lynch, L. Huang, G.M. Weinstock, K.S. Knox, H. Twigg, A. Morris, E. Ghedin, F.D. Bushman, R.G. Collman, R. Knight, and A.P. Fontenot; for the Lung HIV Microbiome Project. Widespread Colonization of the Lung by *Tropheryma* in HIV Infection. (2013). **Am J Respir Crit Care Med**. 187(10)1110-7.

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(54) + Krajmalnik-Brown, R., **C. Lozupone**, D.W. Kang, and J.B. Adams. Gut bacteria in children with autism spectrum disorders: challenges and promise of studying how a complex community influences a complex disease. (2015) **Microb Ecol Health Dis.** 26:26914.

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(56) **Lozupone, C.** and R. Knight. The Unifrac Significance Test is Sensitive to Tree Topology. (2015) **BMC Bioinformatics.** 16:211.

(57) + Neff, C.P.*, **M.E. Rhodes*, K.L. Arnolds**, C.B. Collins, **J. Donnelly, N. Nusbacher**, P. Jedlicka, J.M. Schneider, M.D. McCarter, **M. Shaffer**, S.K. Mazmanian, B.E. Palmer*, and **C.A. Lozupone***. Diverse intestinal bacteria with putative zwitterionic capsular polysaccharide operons can induce IL-10 and T regulatory cells. (2016). **Cell Host and Microbe.** 20:535-547. * authors contributed equally

(58) **Arnolds, K.L.**, and **C.A. Lozupone**. Striking a balance with help from our little friends – how the gut microbiota contributes to immune homeostasis. (2016). **Yale Journal of Biology and Medicine**. 89:389-395.

(59) + **Li, S.X., A.J.S Armstrong**, C.P. Neff, **M. Shaffer**, **C.A. Lozupone***, and B.E. Palmer*. Complexities of gut microbiome dysbiosis in the context of HIV infection and antiretroviral therapy. (2016) **Clinical Pharmacology and Therapeutics.** 99:600-611. * joint last authors

(60) Mikkelson, K.M., **C.A. Lozupone**, J.O. Sharp. Altered edaphic parameters couple to shifts in terrestrial bacterial community structure associated with insect-induced tree mortality. (2016). **Soil Biology and Biochemistry.** 95:19-29.

(61) ++ Weiss, S., W. Van Treuren, **C. Lozupone**, K. Faust, J. Friedman, Y. Deng, L.C. Xia, Z.Z. Xu, L. Ursell, E.J. Alm, A Birmingham, J.A. Cram, J.A. Fuhrman, J. Raes, F. Sun, J. Zhou, and R. Knight. Correlation detection strategies in microbial data sets vary widely in sensitivity and precision. (2016) **ISME J**. 10(7):1669-81.

(62) + Reddivari, L., W.A. Walters, **C. Lozupone**, J. Palmer, E. Karunathilake, A. Amir, R. Bhatnagar, D.N.R. Veeramachaneni, R. Knight, and J.K.P. Vanamala. Perinatal bisphenol A-induced inflammation alters microbiome and metabolome in rabbits. (2017) **mSystems.** 2(5).

(63) + **Stanislawski, M.A.**, D. Dabelea, B.D. Wagner, M.K. Sontag, **C.A. Lozupone***, and M. Eggesbø*. Pre-pregnancy weight, gestational weight gain, and the gut microbiota of mothers and their infants. (2017) **Microbiome**. 4;5(1):113. * joint last authors

(64) + Dahl, C., H. Stigum, N. Iszatt, **M.A. Stanislawski**, S. Mandal, **C.A. Lozupone**, J.C. Clemente, R. Knight, and M. Eggesbø. Gut microbiome of mothers delivering prematurely shows reduced diversity and lower relative abundance of *Bifidobacterium* and *Streptococcus*. (2017) **PLOS ONE**. *12(10):e0184336.*

(65) **Liu, C.**, D.N. Frank, M. Horch, S. Chau, D. Ir, E.A. Horsch, K. Tretina, K. van Besien, **C.A. Lozupone***, and V.H. Nguyen*. Acute gastrointestinal GvHD prognosis and the pre-transplant gut microbiota of allogeneic hematopoietic stem cell transplant recipients and donors. (2017) **Bone Marrow Transplantation**. *52(12):1643-1650.* * joint last authors

(66) + **Shaffer, M., A. Armstrong**, V. Phelan, N. Reisdorph, and **C. Lozupone**. Integration of the Microbiome and Metabolome Allows for Insights Into Health and Disease. (2017) **Translational Research**. 17:30232-3.

(67) + Yang, I.V., **C.A. Lozupone,** and D. Schwartz. The environment, epigenome, and asthma. (2017) **Journal of Allergy and Clinical Immunology**. 140:14-23.

(68) + Pinto Cardoso, S., **C. Lozupone**, O. Briceño, S. Alva-Hernández, N. Téllez, A. Aguilar, A. Murakami-Ogasawara, and G. Reyes-Terán. Fecal Bacterial Communities in treated HIV infected individuals on two antiretroviral regimens. (2017) **Scientific Reports**. 7:43741.

(69) +++ Weiss, S. Z. Xu, S. Peddada, A. Amir, K. Bittinger, A. Gonzalez, **C. Lozupone**, J. Zaneveld, Y. Vazquez-Baeza, A. Birmingham, E.R. Hyde, R. Knight. Normalization and microbial differential abundance strategies depend upon data characteristics. (2017) **Microbiome**. 5:27.

**Associate Professor**

(70) + **Armstrong, A.J., M. Shaffer, N.M. Nusbacher**, C. Griesmer, S. Fiorillo, J.M. Schneider, C.P. Neff, **S.X. Li**, A.P. Fontenot, T. Campbell, B.E. Palmer*, **C.A. Lozupone***. An exploration of Prevotella-rich microbiomes in HIV and men who have sex with men. (2018) **Microbiome**. 5;6(1):198. *Joint last authors.

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## ***Book Chapters, commentary and invited articles (non-peer reviewed)***

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## ***Pre-prints***

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## ***Additional (selected) abstracts presented at scientific meetings (Posters)***

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**PhD work**

(4) **Lozupone, C.** and R. Knight. "A new phylogenetic method for comparing environments clarifies the roles of biogeography and habitat in structuring marine microbial communities." 2005 Evolution meeting. Fairbanks, AK.

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