

Biosketch

Univ.-Prof. David Berry, PhD

Position in CoE: Key Researcher

Personal Details

Place of birth	Santa Monica, CA, USA
Nationality	USA
Children	1 (2012)
Affiliation:	University of Vienna
E-Mail	david.berry@univie.ac.at
Profile	ResearcherID: C-8455-2011
List of publications	ORCID: 0000-0002-8997-608X
Academic age	13 years since PhD



Academic Career and Positions Held

I earned a **Master's degree** in environmental engineering in **2005** from the **University of Michigan**, Ann Arbor, MI, USA and received my **PhD** from the same institution in 2009. During my PhD, I was a US EPA STAR fellow and **Graham Sustainability Institute** fellow, and received the CH2M Hill/AEESP Outstanding Doctoral Dissertation Award. Subsequently, I worked as a postdoctoral researcher with Michael Wagner and Alexander Loy at the **University of Vienna**, Austria from 2009 to 2012. In **2012**, I accepted a tenure track professorship position at the Division of Microbial Ecology, University of Vienna. I was promoted to associate professor in 2016 and received my habilitation (*venia docendi*) in Microbiology in 2017. In 2018, I was promoted to **full professor**, and in the same year I became the **founding operational director of the Joint Microbiome Facility** of the Medical University of Vienna and the University of Vienna, a position which I have since held. I am currently a member of the **Centre for Microbiology and Environmental Systems Science at the University of Vienna**.

Scientific Achievements and Scientific Contribution to the CoE

Scientific Achievements. I have authored **96 publications** (h-index: 42; Google Scholar, September 2022) and have given **71 invited presentations** at international scientific conferences and academic institutions. I have been awarded 8 research grants as PI or co-PI (totaling ~3.7 million €), including an **ERC Starting Grant**. My key research achievements include the development of a **prophylactic treatment for *C. difficile* infections based on gut microbiome modulation**, benchmarking of widely-used **network analysis methods to infer interactions in microbial communities**, and identification of gut ***Klebsiella* as a biomarker of brain injury in extremely premature infants**. My work has been recognized by the City of Vienna Support Prize for Natural Sciences (2017) and the Austrian Microbiology Prize from the Austrian Society for Hygiene, Microbiology and Preventative Medicine (2014). My research focuses on the function of the **intestinal microbiota in health and disease**, including nutrition, inflammation, bacterial-mucosal interactions, cancer, and neurodevelopment. In addition, a major focus is to develop **numerical approaches** to study microbial **communities** as well as to develop molecular and **isotope-labeling methods** for studying uncultivated microorganisms in their natural environment.

Scientific Contribution to the CoE. In the context of the CoE, I bring expertise in environmental engineering, mathematical modeling, stable isotope probing, experimental evolution, and anaerobic microbiology. I also bring expertise in the use of in vitro and in vivo model systems for the study of complex and defined gut microbial communities.

10 Most Important Publications (*relevant for the CoE)

1. *Sekı, D.; Mayer, M.; Hausmann, B.; Pjevac, P.; Giordano, V.; Goeral, K.; Unterasinger, L.; Klebermaß-Schrehof, K.; De Paepe, K.; Van de Wiele, T.; Spittler, A.; Kasprian, G.; Warth, B.; Berger, A.; **Berry, D.**; Wisgrill, L. Aberrant Gut-Microbiota-Immune-Brain Axis Development in Premature Neonates with Brain Damage. *Cell Host & Microbe* **2021**, *29* (10), 1558–1572.e6. <https://doi.org/10.1016/j.chom.2021.08.004>.
2. *Baumgartner, M.; Lang, M.; (19 authors); **Berry, D.**; Makristathis, A.; Muttenthaler, M.; Gasche, C. Mucosal Biofilms Are an Endoscopic Feature of Irritable Bowel Syndrome and Ulcerative Colitis. *Gastroenterology* **2021**, *161* (4), 1245–1256.e20. <https://doi.org/10.1053/j.gastro.2021.06.024>.
3. *Pereira, F. C.; Wasmund, K.; Cobankovic, I.; Jehmlich, N.; Herbold, C. W.; Lee, K. S.; Sziranyi, B.; Vesely, C.; Decker, T.; Stocker, R.; Warth, B.; von Bergen, M.; Wagner, M.; **Berry, D.** Rational Design of a Microbial Consortium of Mucosal Sugar Utilizers Reduces Clostridiodes Difficile Colonization. *Nat Commun* **2020**, *11* (1), 5104. <https://doi.org/10.1038/s41467-020-18928-1>.
4. *Riva, A.; Kuzyk, O.; Forsberg, E.; Siuzdak, G.; Pfann, C.; Herbold, C.; Daims, H.; Loy, A.; Warth, B.; **Berry, D.** A Fiber-Deprived Diet Disturbs the Fine-Scale Spatial Architecture of the Murine Colon Microbiome. *Nat Commun* **2019**, *10* (1), 4366. <https://doi.org/10.1038/s41467-019-12413-0>.
5. *Herp, S.; Brugiroux, S.; (18 authors); **Berry, D.**; Stecher, B. Mucispirillum Schaedleri Antagonizes Salmonella Virulence to Protect Mice against Colitis. *Cell Host & Microbe* **2019**, *25* (5), 681–694.e8. <https://doi.org/10.1016/j.chom.2019.03.004>.
6. *Reese, A. T.; Pereira, F. C.; Schintlmeister, A.; **Berry, D.**; Wagner, M.; Hale, L. P.; Wu, A.; Jiang, S.; Durand, H. K.; Zhou, X.; Premont, R. T.; Diehl, A. M.; O’Connell, T. M.; Alberts, S. C.; Kartzinel, T. R.; Pringle, R. M.; Dunn, R. R.; Wright, J. P.; David, L. A. Microbial Nitrogen Limitation in the Mammalian Large Intestine. *Nat Microbiol* **2018**, *3* (12), 1441–1450. <https://doi.org/10.1038/s41564-018-0267-7>.
7. *Brugiroux, S.; Beutler, M.; (17 authors); **Berry, D.**; Stecher, B. Genome-Guided Design of a Defined Mouse Microbiota That Confers Colonization Resistance against Salmonella Enterica Serovar Typhimurium. *Nat Microbiol* **2017**, *2* (2), 16215. <https://doi.org/10.1038/nmicrobiol.2016.215>.
8. ***Berry, D.**; Mader, E.; Lee, T. K.; Woebken, D.; Wang, Y.; Zhu, D.; Palatinszky, M.; Schintlmeister, A.; Schmid, M. C.; Hanson, B. T.; Shterzer, N.; Mizrahi, I.; Rauch, I.; Decker, T.; Bocklitz, T.; Popp, J.; Gibson, C. M.; Fowler, P. W.; Huang, W. E.; Wagner, M. Tracking Heavy Water (D 2 O) Incorporation for Identifying and Sorting Active Microbial Cells. *Proc. Natl. Acad. Sci. U.S.A.* **2015**, *112* (2). <https://doi.org/10.1073/pnas.1420406112>.
9. ***Berry, D.**; Widder, S. Deciphering Microbial Interactions and Detecting Keystone Species with Co-Occurrence Networks. *Front. Microbiol.* **2014**, *5*. <https://doi.org/10.3389/fmicb.2014.00219>.
10. *Angelberger, S.; Reinisch, W.; Makristathis, A.; Lichtenberger, C.; Dejaco, C.; Papay, P.; Novacek, G.; Trauner, M.; Loy, A.; **Berry, D.** Temporal Bacterial Community Dynamics Vary Among Ulcerative Colitis Patients After Fecal Microbiota Transplantation: *American Journal of Gastroenterology* **2013**, *108* (10), 1620–1630. <https://doi.org/10.1038/ajg.2013.257>.