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EDUCATION:

- 2014 PhD** Integrative Molecular and Biomedical Sciences Graduate Program
Baylor College of Medicine, Houston, TX
Dissertation title: "The Human Microbiome in Health, Disease, and Death."
- 2010 B.S.** Biomedical Sciences; microbiology emphasis
Grand Valley State University, Allendale, MI
- 2010 B.A.** Spanish
Grand Valley State University, Allendale, MI

CONTINUING EDUCATION/CERTIFICATIONS:

- March 2017** **Teaching and Learning at the College Level; certificate received**
From the University of California, San Diego and taught by Dr. Erilynn Heinrichsen
- August 2016** **Coursera Course Certificates: Programming for Everyone (Getting Started with Python); license 53R2E62DCF2E**
From the University of Michigan and taught by Dr. Charles Severance
- June-July 2015** **Stanford's Hopkins Microbiology Course**
Co-instructed by Dr. John Roth, Dr. Alfred Spormann, and Dr. Chris Francis
- October 2014** **Pathway Tools Tutorial**
Organized by SRI International in Menlo Park, CA
Co-instructed by Mario Latendresse, Markus Krummenacker, and Daniel Weaver
- July 2013** **Workshop on Programming in R**
Taught by Patrick D. Schloss, PhD

April 2013 **Advanced Anaerobic Bacteriology**
Taught onsite by Mike Cox, PhD, President of Anaerobe Systems

January 2012 **Online Science/Magazine Writing Course**
Taught by freelance writer Wendee Holtcamp, M.S.

PROFESSIONAL EXPERIENCE:

April 2016-present Assistant Project Scientist, the University of California, San Diego,
San Diego, CA

Jan 2015-Mar 2016 Post-doctoral Scholar, the University of California, San Diego, San
Diego, CA

June 2014-present Independent contract editor, Bioscience Writers, LLC, Houston,
TX

May-Dec 2014 Post-doctoral Research Associate, the University of Colorado
Boulder, Boulder, CO

Aug 2009-May 2010 Structured Learning Assistance Facilitator, Grand Valley State
University, Allendale, MI

HONORS AND AWARDS:

April 2017 Inducted into Wayland Union High School's Alumni Hall of Fame as the
youngest inductee in history

October 2016 Selected as a finalist in San Diego Business Journal's 2016 Women Who
Mean Business Awards

January 2016 Selected as one of *Forbes* 30 Under 30 in the Science and Healthcare
category

August 2013 \$500 IMBS Program C.W. Smith Fellowship Award in recognition of
outstanding research performance

May 2013 \$10,000 Eugene and Millicent Goldschmidt Award (Texas ASM Branch)

CONFERENCES AND INVITED PRESENTATIONS:

Hyde, Embriette R. "The American Gut Project: Utilizing Citizen Science to Advance Our Understanding of the Role of the Gut Microbiome in Health and Disease." Invited session talk: "Gut Health and Circadian Misalignment," SLEEP 2017, Boston, MA, June 6, 2017

Hyde, Embriette R., McCurdy Patrick, and Darnell Alan. "Sharing and managing scientific data." Invited panel discussion, the 2017 Orion THINK Conference, Toronto, Canada, May 24, 2017.

Hyde, Embriette R. Invited guest speaker of honor at Wayland Union High School's 2017 Scholastic Honor's Night, Wayland, MI, April 18, 2017.

Hyde, Embriette R., Finn Kathleen, and Swanz Peter. "Epigenetics, Nutrigenetics and the Microbiome – what you need to know about the hottest words in food." Panel discussion, the International Association of Culinary Professionals Annual Conference, Louisville, KY, March 5, 2017.

Hyde, Embriette R. "The Human Microbiome in Health, Disease, and Death." Invited Keynote presentation, the Northern California Branch of the American Society for Microbiology General Meeting. Pleasanton, CA, March 4, 2017.

Hyde, Embriette R., Dutton Rachel, and Knight Rob. Shared keynote and panel discussion on the human microbiome and the American Gut project, the 2017 San Diego Fermentation Festival, San Diego, CA, February 4, 2017.

Hyde, Embriette R. "The American Gut Project: Crowd-sourcing Citizen Science." Talk, the Center for Microbiome Innovation Research Summit, La Jolla, CA, March 15, 2017.

Hyde, Embriette R. "The American Gut Project: A Citizen Science Platform for Microbiome Research." Talk, the 2017 Human Microbiome Congress, San Diego, CA, January 24, 2017.

Hyde, Embriette R. "The American Gut Project." Flash talk, Changing Microbiomes for Health Symposium, La Jolla, CA, December 16, 2016.

Hyde, Embriette R. "Redefining Human: Living and Eating in a Microbiome World." Invited Keynote presentation, Cerimon House's Gut Instinct consumer conference, Portland, OR, October 14, 2016.

Hyde, Embriette R. "So Happy Together: Understanding the Human Microbiome's Role in Health and Disease." Invited Keynote presentation, the 2016 Oregon Fermentation Festival, Portland, OR, September 10, 2016

Hyde, Embriette R. "The American Gut Project: Crowd-sourcing Citizen Science to Identify Translatable Microbial Associations with Health and Disease." Invited talk, the 2016 Personalized Nutrition Congress, Boston, MA, May 18, 2016

Hyde, Embriette R. and Hryckowian Andrew. "Microbiome: Sorting the Hype from the Hope." Invited panel discussion, the Molecular Med TRI-CON 2016 conference, San Francisco, CA, March 6, 2016

Hyde, Embriette R. "Next Generation Sequencing for Microbiome Studies." Guest lecture, National University (San Diego, CA), October 15, 2015

Hyde, Embriette R. and Jose Antonio Navas-Molina. "The Captive Komodo dragon microbiome: novel taxa, inter-zoo variation, comparison to other reptiles, and host-environment

microbiome sharing.” Talk; the 2015 Interdisciplinary World Conference on Monitor Lizards in Bangkok, Thailand, July 27-29, 2015.

Hyde, Embriette R. “The human microbiome and redefining what it means to be human.” Invited speaker, the Denver Museum of Natural Science’s Science Lounge event: Petri Dish, September 18, 2014.

Hyde, Embriette R. “Metagenomic analysis of nitrate reducing bacteria in the oral cavity: implications for nitric oxide homeostasis.” Eugene and Millicent Goldschmidt Award recipient talk, the 2013 Texas and South-Central ASM Branches joint meeting, New Orleans, LA, November 1-2, 2013.

Alicki, Embriette R. “Metagenomic and biochemical analysis of human oral bacterial biofilms reveals bacterial communities that contribute nitric oxide to the host.” Invited short talk, the 4th ASM Conference on Beneficial Microbes in San Antonio, TX, October 23, 2012.

Alicki, Embriette R. “The impact of IgA on the intestinal microbiome.” Invited short talk; the joint Keystone Symposia “The Microbiome” and “Innate Immunity: Sensing the Microbes and Damage Signals” in Keystone, Colorado, March 6, 2012.

TEACHING AND MENTORING EXPERIENCE:

**Rotation/Undergraduate Student Mentor
Laboratory of Dr. Rob Knight
The University of California, San Diego, La Jolla, CA
September 2015-present**

I have mentored five undergraduate and graduate students, teaching them the basics of microbiome data analysis and oral presentation. Two students have joined collaborating laboratories, with one of the two having a joint mentorship with the Knight lab.

**Rotation/Undergraduate Student Mentor
Laboratory of Dr. Joseph Petrosino
Alkek Center for Metagenomics and Microbiome Research
Baylor College of Medicine, Houston, TX
January 2012-May 2014**

I mentored three rotation students and one undergraduate student, teaching the concepts and techniques of microbiome research and data analysis and oral presentations. Two students subsequently joined the Petrosino lab and a third joined a collaborating lab.

**Graduate Student Tutor
Integrative Molecular and Biomedical Sciences Graduate Program
Baylor College of Medicine
Houston, TX
August 2011-May 2014**

I was available as a tutor in Immunology and Gene Regulation for first year graduate students in the Integrative Molecular and Biomedical Sciences graduate program.

**Structured Learning Assistance Facilitator
Grand Valley State University
Allendale, MI
August 2009-May 2010**

As an SLA facilitator, I conducted lectures/review sessions in a classroom setting 1-2 times per week, reviewing difficult concepts and creating homework sets and practice exams. The courses I facilitated were Introductory Chemistry and Biochemistry.

LEADERSHIP EXPERIENCE:

August 2015-present: Project Manager, American Gut Project. As the project manager of the American Gut Project, I am in charge of ensuring the project runs smoothly at all stages from sample receipt to delivery of results to participants. I work closely with the wet lab, development, and data analysis teams, facilitating communications between the groups when necessary. I organize twice-monthly meetings, work with vendors and collaborators (both current and potential), manage project personnel, create timelines and prioritize issues, and work with other lab members to achieve project goals in a timely fashion. Key achievements include establishing American Gut as an inaugural member of the White House's National Microbiome Initiative, establishing an aggregation site in Singapore and working toward the establishment of additional aggregation sites in China and Norway.

January 2014-present: Knight lab hiring committee. As a member of the Knight lab hiring committee, I work with other select lab members to screen interested Knight lab applicants.

October 2014-December 2015: Management/organization of the Knight lab-Jeff Gordon lab genome collaboration. I worked closely with both Knight lab and Gordon lab personnel to ensure project progress was continuing at an acceptable rate. Additionally, I scheduled and ran videoconferences and prepared the agenda and meeting notes.

January-March 2013: Integrative Molecular and Biomedical Sciences Graduate Program Steering Committee Student Representative. As the IMBS Program Steering Committee student representative, I organized and planned all non-academic events for student recruits to the IMBS Program. I also participated in Steering Committee meetings with IMBS faculty to decide which students should receive an offer of admission.

January-December 2012: Baylor College of Medicine Graduate Student Council (GSC). I served as the GSC Secretary and served on the Admissions Committee and GSC Homepage Subcommittee. As secretary, I prepared meeting agendas and meeting minutes. On the Admissions Committee, I attended weekly Graduate School Admissions meetings with tenured faculty to review prospective student files and make recommendations regarding admission. I also maintained and updated the GSC Facebook page, aided in the organization and execution of the Annual BCM Art Show benefitting the Arts in Medicine Program at Texas Children's hospital, and aided in the organization and execution of the annual BCM Graduate Student Symposium.

PROFESSIONAL ASSOCIATIONS:

2009-present: **American Society for Microbiology**; Texas Branch member 2011-2014

2012-2014: **National Association for Science Writers**

2012-2014: **American Heart Association**

SELECT PEER-REVIEWED PUBLICATIONS:

Navas-Molina JA, **Hyde, Embriette R**, Sanders J, Knight R. 2017. The microbiome and big data. *Curr Op Sys Bio* doi: <https://doi.org/10.1016/j.coisb.2017.07.003>

Melnik AV, da Silva RR, **Hyde, Embriette R**, Aksenov AA, Vargas F, Bouslimani A, Protsyuk I, Jarmusch AK, Tripathi A, Alexandrov T, Knight R, Dorrestein PC. 2017. Coupling Targeted and Untargeted Mass Spectrometry for Metabolome-Microbiome-Wide Association Studies of Human Fecal Samples. *Anal Chem* 89:7549-7559.

Knight R, Callewaert C, Marotz C, **Hyde, Embriette R**, Debelius JW, McDonald D, Sogin ML. 2017. The Microbiome and Human Biology. *Annu Rev Genomics Hum Genet* doi: 10.1146/annurev-genom-083115-022438

Gonzalez Antonio, **Hyde Embriette R**, Sangwan Naseer, Gilbert Jack A, Viirre Erik, Knight Rob. 2016. Migraines are correlated with higher levels of nitrate-, nitrite-, and nitric-oxide reducing oral microbes in the American Gut Project cohort. 2016. *mSystems* doi: 10.1128/mSystems.00105-16

Vázquez-Baéza Yoshiki, **Hyde Embriette R**, Suchodulski Jan, Knight Rob. 2016. Dog and human inflammatory bowel disease rely on overlapping yet distinct dysbiosis networks. *Nat Microbiol* 1:16177. doi: 10.1038/nmicrobiol.2016.177

Hyde, Embriette R, J.A. Navas-Molina, S.J. Song, G. Ackermann, G. Humphrey, D. Boyer, T. Weaver, J.R. Mendelson III & R. Knight. 2016. The Captive Komodo Dragon (*Varanus komodoensis* Ouwens, 1912) Microbiome: Novel Taxa, Inter-zoo Variation, and Comparison to Other Reptiles. In: Proceedings of the 2015 Interdisciplinary World Conference on Monitor Lizards (ed. M. Cota), pp. 199-219. Institute for Research and Development, Suan Sunandha Rajabhat University, Bangkok, Thailand.

Hyde, Embriette R, Navas-Molina Jose A, Song Se Jin, Kueneman Jordan G, Ackermann Gail, Cardona Cesar, Humphrey Gregory, Boyer Don, Weaver Tom, Mendelson III Joseph R., McKenzie Valerie J, Gilbert Jack A., Knight Rob. 2016. The oral and skin microbiomes of captive Komodo dragons are significantly shared with their habitat. *mSystems*. doi: 10.1128/mSystems.00046-16

Quinn Robert A., Navas-Molina Jose A., **Hyde Embriette R.**, Song Se Jin, Vázquez-Baeza Yoshiki, Humphrey Greg, Gaffney James, Minich Jeremiah, Melnik Alexey V., Herschend Jacob, DeReus Jeff, Durant Austin, Dutton Rachel, Khosroheidari Mahdieh, Green Clifford, Silva Ricardo, Dorrestein Pieter, Knight Rob. 2016. From Sample to Multi-Omics Conclusions in Under 48 Hours. *mSystems* 1(1):e00038-16. doi: 10.1128/mSystems.00038-16

***co first author with Robert A. Quinn and Jose A. Navas-Molina**

Walters William, **Hyde Embriette R**, Berg-Lyons Donna, Ackermann Gail, Humphrey Greg, Parada Alma, Gilbert Jack, Jansson Janet, Caporaso Gregory, Fuhrman Jed, Apprill Amy,

Knight Rob. 2015. Improved Bacteria 16S rRNA Gene (V4 and V4-5) and Fungal Internal Transcribed Spacer Marker Gene Primers for Microbial Community Surveys. *mSystems* 1(1):e00009-15. doi: 10.1128/mSystems.00009-15.

***co-first author with William Walters**

Gunawardana Manjula, **Hyde Embriette R**, Lameyer Sean, Dorsey Brian, La Val Taylor P, Yoo Jennifer, Knight Rob, Baum Marc. (2015). Euphorbia plant latex is inhabited by diverse microbial communities. *American Journal of Botany*. 102(12):1966-77. doi: 10.3732/ajb.1500223. Epub 2015 Dec 11.

Metcalf Jessica, Xu Zhenjian Zech, Weiss Sophie, Lax Simon, Van Treuren Will, **Hyde Embriette R**, Song Se Jin, Amir Amnon, Larsen Peter, Sangwan Naseer, Haarmann Daniel, Humphrey Greg C., Ackermann Gail, Thompson Luke R, Lauber Christian, Bibat Alexander, Nicholas Catherine, Gebert Matthew J., Petrosino Joseph F, Reed Sasha C, Gilbert Jack A, Lynne Aaron M, Bucheli Sibyl R, Carter David O, Knight Rob. (2015). Microbial community assembly and metabolic function during mammalian corpse decomposition. *Science* 351(6269):158-62. doi: 10.1126/science.aad2646. Epub 2015 Dec 10.

Hyde Embriette R, Haarmann, Daniel, Petrosino Joseph F, Lynne Aaron M, Bucheli Sibyl R. 2014. Initial insights into bacterial succession during human decomposition. *Int J Legal Med*. 129(3):661-71. doi: 10.1007/s00414-014-1128-4. Epub 2014 Nov 28.

Hyde Embriette R, Luk Berkley, Cron Stanley, Kusic Lenka, McCue Tyler, Bauch Tonya, Kaplan Heidi, Tribble Gena, Petrosino Joseph F, Bryan Nathan S. 2014. Characterization of the rat oral microbiome and the effects of dietary nitrate. *Free Radic Biol Med*. 77:249-57. doi: 10.1016/j.freeradbiomed.2014.09.017. Epub 2014 Oct 12.

Hyde Embriette R, Andrade Fernando, Parthasarathy Kavitha, Jiang Hong, Parthasarathy Deepa K, Torregrossa Ashley C, Tribble Gena, Kaplan Heidi B, Petrosino Joseph F, Bryan Nathan S. 2014. Metagenomic analysis of bacteria from human tongue scrapings reveals novel bacterial communities that contribute nitrite and nitric oxide to the host. *PLoS ONE* 9(3): e88645. doi:10.1371/journal.pone.0088645

Hyde Embriette R, Petrosino Joseph F, Piedra Pedro P, Camargo Jr Carlos A, Espinola Janice M, Mansbach Jonathan M. 2014. Nasopharyngeal Proteobacteria are associated with viral etiology and acute wheezing in children with severe bronchiolitis. *J Allergy Clin Immunol* 133(4):1220-2. doi: 10.1016/j.jaci.2013.10.049. Epub 2013 Dec 22

Hsiao Elaine Y., McBride Sara W., Hsien Sophia, Sharon Gil, **Hyde Embriette R.**, McCue Tyler, Codelli Julian, Chow Janet, Reisman Sarah E., Petrosino Joseph, Patterson Paul H., Mazmanian Sarkis K. 2013. Microbiota modulate behavioral and physiological abnormalities associated with neurodevelopmental disorders. *Cell* 155(7):1451-63. doi: 10.1016/j.cell.2013.11.024. Epub 2013 Dec 5.

Hyde Embriette R, Haarman Daniel P, Lynne Aaron M, Bucheli Sibyl R, Petrosino Joseph F. 2013. The living dead: bacterial community structure of a corpse at the onset and end of the bloat state of decomposition. *PLoS ONE* 8(10): e77733. doi:10.1371/journal.pone.0077733

MEDIA APPEARANCES:

July 2017: Appearance on CNN's VitalSigns with Dr. Sanjay Gupta to discuss the American Gut project; original air date: July 24, 2017.

October 2016: Live appearance on 610 CKTB (Bell Media news radio station serving the Niagara region of Ontario, Canada) to discuss work on nitrate reducing oral bacteria and their potential association with migraines; October 21, 2016.

September 2016: Appeared on Portland's radio show LiveWire! on September 29, 2016. The show, entitled Gut Instinct, was performed live on September 29, 2016 and broadcast on October 8, 2016. Co-guests were Nicole Byers, David Bazan, and Terry Porter. The show is hosted by Luke Burbank.

March 2016: Appeared in the University of California San Diego's "N Equals One" podcast. This inaugural episode was used as a pitch episode to obtain approval for the podcast's continuation. <https://health.ucsd.edu/news/Pages/podcasts.aspx>

January 2015: Appeared in a two-part Internet Talk Radio blog: The Roots of Health, led by Meredith Rhodes. Title: "The Roots of Health: Microbiome Research and Applications with Dr. Embriette Hyde, parts 1 and 2."

Part 1: <http://webtalkradio.net/internet-talk-radio/2015/02/02/the-roots-of-health-microbiome-research-applications-with-dr-embriette-hyde-part-1/>

Part 2: <http://webtalkradio.net/internet-talk-radio/2015/02/09/the-roots-of-health-microbiome-research-applications-with-dr-embriette-hyde-part-2/>

SELECTED MEDIA COVERAGE OF WORK:

October 2016: UC San Diego Health news piece on microbiome research on the oral microbiome and migraines: <https://health.ucsd.edu/news/releases/pages/2016-10-18-migraine-sufferers-have-more-nitrate-reducing-mouth-microbes.aspx>

October 2016: UC San Diego Health news piece on microbiome research on IBD in dogs: <https://health.ucsd.edu/news/releases/Pages/2016-10-03-dog-poop-microbiome-predicts-canine-IBD.aspx>

September 2016: Smithsonian article on microbiome research on the captive Komodo dragon and host-environment microbiome sharing:

<http://www.smithsonianmag.com/science-nature/komodo-dragon-colonizes-its-environment-its-bacteria-just-us-1-180960315/?no-ist>

May 2016: The unveiling of the National Microbiome Initiative and the role of the Center for Microbiome Innovation and the American Gut Project:

https://www.google.com/url?hl=en&q=http://health.ucsd.edu/news/releases/Pages/2015-05-13-uc-san-diego-participates-in-white-house-national-microbiome-initiative.aspx&source=gmail&ust=1471982297857000&usg=AFQjCNFcloDHJvOnWbszB_ZFNsnzoAidA

January 2016: *Forbes* magazine selects the 2016 class of 30 Under 30:

[http://www.forbes.com/30-under-30-](http://www.forbes.com/30-under-30-2016/?utm_campaign=Forbes&utm_source=TWITTER&utm_medium=social&utm_channel=List)

[2016/?utm_campaign=Forbes&utm_source=TWITTER&utm_medium=social&utm_channel=List&linkId=20072502#965eca164fe8](http://www.forbes.com/30-under-30-2016/?utm_campaign=Forbes&utm_source=TWITTER&utm_medium=social&utm_channel=List&linkId=20072502#965eca164fe8)

November 2015: American Gut Project contributions reach \$1 million on Fundrazr:
http://ucsdnews.ucsd.edu/feature/american_gut_project_crowdfunds_1_million_to_study_the_human_microbiome

REFERENCES: AVAILABLE UPON REQUEST