

RACHEL N. CARMODY

EVOLUTIONARY ENERGETICS OF THE HUMAN-MICROBIOME ECOSYSTEM

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POSITIONS

Thomas D. Cabot Associate Professor	Department of Human Evolutionary Biology Harvard University	2024 – present
	Note: The Faculty of Arts and Sciences at Harvard University grants appointment extensions to tenure-track faculty for parental leave, medical leave, and disruptions to research caused by the COVID-19 pandemic. Accordingly, Harvard delayed my tenure review by 3 years.	
Associate Professor	Department of Human Evolutionary Biology Harvard University	2023 – 2024
Assistant Professor	Department of Human Evolutionary Biology Harvard University	2016 – 2023
Postdoctoral Fellow	G.W. Hooper Research Foundation University of California, San Francisco (UCSF)	2014 – 2016
	FAS Center for Systems Biology Harvard University	2012 – 2014
Project Manager	Oliver Wyman (Management Consulting)	1999 – 2005

EDUCATION

Postdoctoral	UCSF, G.W. Hooper Research Foundation (2014 – 2016) Harvard University, FAS Center for Systems Biology (2012 – 2014) Advisor: Peter J. Turnbaugh
Ph.D. 2012	Harvard University, Department of Human Evolutionary Biology Thesis: Energetic consequences of thermal and non-thermal food processing Advisor: Richard W. Wrangham
A.B. 1999, <i>magna cum laude</i>	Harvard University, Department of Anthropology Highest honors in field of concentration Language Citation (French)

AWARDS

Thomas D. Cabot Associate Professor of Human Evolutionary Biology	2024
Clark Award, Faculty of Arts and Sciences	2023
Roslyn Abramson Award for Excellence and Sensitivity in Undergraduate Teaching	2022
Outstanding Abstract Award, American Society for Microbiology	2019
Best Poster, Boston Bacterial Meeting	2014

AWARDS (CONTINUED)

NIDDK/NIA Scholarship for Keystone Symposia (5R13DK084688-05)	2014
Harvard University Certificate of Teaching Excellence	2011
Harvard University Certificate of Distinction in Undergraduate Teaching	2006, 2007
Thomas Temple Hoopes Prize for Excellence in Scholarly Research	1999
W.W. Howells Prize for Excellence in Anthropological Research	1999

PUBLICATIONS

* denotes service as senior, co-senior, or corresponding author

= denotes equal contributions as first author

+ denotes Carmody lab members

PEER-REVIEWED JOURNAL ARTICLES – IN PREPARATION (SUBSTANTIALLY COMPLETE)

- Schell LD^{++*}, Chadaideh KS⁺⁺, Li W, Yeliseyev V, Bry L, Devlin AS, **Carmody RN***. In prep. The gut microbiome mediates differential metabolic outcomes of saturated and polyunsaturated fats. Expected submission to *Cell Metabolism* (Spring 2026).
- Ibata NGO^{++*}, Sarkar A⁺, Brielle ES, Penumarthi L, Moeller AH, **Carmody RN***. In prep. Persistence of non-industrial gut microbiota differentiates health and disease states in industrial populations. Expected submission to *Science* (Spring 2026).
- Sarkar A^{++*}, Ibata NGO^{++*}, McInroy CJA⁺, Medrano J, Rollo L⁺, Allen-Blevins CR⁺, Desmond A, Akbari A, Barton AR, Brielle ES, Reich D, Warinner C, Henrich J, Metcalf CJE, Haig D, Friston KJ, Hu FB, Kuzawa CW, **Carmody RN***. In prep. Metabolic legacies of colonial famine in India. Expected submission to *Science* (Spring 2026).
- Warinner C^{*}, Burge K, Allen-Blevins CR⁺, **Carmody RN***. In prep. Dietary evolution in the human lineage. Article commissioned and prospectus approved by *Nature Reviews Genetics*. (Spring 2026)
- Venable EM⁺, Bolze AS⁺, McNamara MP, Kistner TM, Christopher L, Yeliseyev V, Chadaideh KS⁺, Boyer E, Richard D, Bry L, Capellini TD, Lieberman DE, Carlson BA, Garland T Jr, **Carmody RN***. In prep. Endurance running increases gut microbiome contributions to host energy budget. Expected submission to *Nature Metabolism* (Summer 2026).
- Schell LD⁺, Nam L, **Carmody RN**, Lieberman DE. In prep. Fiber reduces diet-induced thermogenesis in a crossover study of healthy humans. Expected submission to *Nutrition & Metabolism* (Summer 2026).
- Venable EM⁺, Chiang ME⁺, Chadaideh KS⁺, Petrone BL, David LA, **Carmody RN***. In prep. DNA metabarcoding indexes dietary residues reaching and structuring the gut microbiome. Expected submission to *Current Biology* (Summer 2026).
- Schell LD^{++*}, Diggins CE⁺⁺, Yeliseyev, Bry L, **Carmody RN***. In prep. Disentangling phylogeny, physiology, and environment as determinants of hominid gut microbiomes. Expected submission to *PNAS* (Summer 2026).
- Sarkar A^{++*}, Rollo LA⁺, Ibata NGO⁺, Dworz MF, Curley JP, **Carmody RN***. In prep. Microbial and metabolic signatures of social rank. Expected submission to *Brain, Behavior, and Immunity* (Fall 2026).

PEER-REVIEWED JOURNAL ARTICLES – IN REVISION, IN REVIEW, OR SUBMITTED

- Schell LD^{++*}, Rubin G⁺, Chan E⁺, **Carmody RN***. In revision @ *Nature Communications*. Early-life antibiotic exposure elicits sex-specific fitness trade-offs in adulthood. (*bioRxiv*, doi:10.1101/2025.08.26.670495)
- Liow YJ^{++*}, Eshima S, Talay M, Yeliseyev V, Bry L, **Carmody RN***. In revision @ *Nature Metabolism*. Polyunsaturated fatty acids promote appetite via the microbiome-gut-brain axis. (*bioRxiv*, doi:10.1101/2025.07.29.667447)
- Sarkar A⁺, Chafkin JE, Allen-Blevins CR⁺, Harty S, Gettler LT, **Carmody RN**, Erdman SE, Champagne FA, Feldman R, Josephs RA. In revision @ *Biological Reviews*. Neuromolecular foundations of mammalian parenting.

PEER-REVIEWED JOURNAL ARTICLES – IN REVISION, IN REVIEW, OR SUBMITTED (CONTINUED)

- Schell LD⁺, Liow YJ⁺, **Carmody RN**^{*}. In revision @ *iScience*. Contrasting effects of fasting and re-feeding on the mouse gut microbiota during intermittent fasting. (*bioRxiv*, doi:10.64898/2026.02.25.707984)
- Chadaideh KS⁺, Eappen KE⁺, Moore BE⁺, Chan E⁺, **Carmody RN**^{*}. In review @ *Journal of Nutritional Biochemistry*. Gut microbiota enrichment of *Akkermansia muciniphila* achieved via consumption of common proanthocyanidin-rich foods in mice fed a high-fat-high-sugar diet. (*bioRxiv*, doi:10.1101/2021.11.07.466338)

PEER-REVIEWED JOURNAL ARTICLES – PUBLISHED OR IN PRESS

- Sarkar A⁺, Raulo A⁺, Stohart MR, Ibata NGO⁺, Harty S, Metcalf CJE, Bohannon BJM, Bennett GM, **Carmody RN**. In press. The island biology of the host microbiome. *Trends in Microbiology*, doi:10.1016/j.tim.2026.03.001.
- Liow YJ⁺, Sarkar A⁺, **Carmody RN**^{*}. 2025. Industrialized diets modulate host eating behavior through the microbiome-gut-brain axis. *Trends in Endocrinology & Metabolism* 37: 164-179.
- Schell LD⁺, Chadaideh KS⁺, Allen-Blevins C⁺, Venable EM⁺, **Carmody RN**^{*}. 2025. Dietary preservatives alter the gut microbiota *in vitro* and *in vivo* with sex-specific consequences for host metabolic development in a mouse model. *The American Journal of Clinical Nutrition* 122: 221-234.
- Schell LD⁺, **Carmody RN**^{*}. 2025. An energetic framework for gut microbiome-mediated obesity induced by early-life exposure to antibiotics. *Cell Host & Microbe* 33: 470-483.
- Carmody RN**, Varady KA, Turnbaugh PJ. 2024. Digesting the complex metabolic effects of diet on the host and microbiome. *Cell* 187: 3857-3876.
- Sarkar A⁺, McInroy CJA⁺, Harty S, Raulo A, Ibata NGO⁺, Vallès-Colomer M, Johnson KVA, Brito IL, Henrich J, Archie EA, Barreiro LB, Gazzaniga FS, Finlay B, Koonin EV, **Carmody RN**^{*}, Moeller AH^{*}. 2024. Microbial transmission in the social microbiome and host health and disease. *Cell* 187: 17-43.
- Venable EM⁺, **Carmody RN**^{*}. 2024. Decoupled Nutrient Status: a framework to disentangle host from microbial responses to diets of varying digestibility. *Frontiers in Food Science and Technology* 4: 1469470.
- Amato KR^{*}, **Carmody RN**^{*}. 2023. Gut microbial intersections with human ecology and evolution. *Annual Review of Anthropology* 52: 295-311.
- Lieberman DE⁺, Worthington S⁺, Schell LD⁺, Parkent CM, Devinsky O, **Carmody RN**^{*}. 2023. Variation in hunter-gatherer diets compared to the Paleo Diet. *The American Journal of Clinical Nutrition*, 118: 549-560.
- Wang K, Mehta RS, Ma W, Nguyen LH, Wang DD, Ghazi A, Yan Y, Al-Shaar L, Pernar CH, Wang Y, Hang D, Fu BC, Ogino S, Rimm EB, Hu FB, **Carmody RN**, Garrett WS, Sun Q, Chan AT, Huttenhower C, Song M. 2023. The gut microbiome modifies the associations of short- and long-term physical activity with body weight changes. *Microbiome* 11: 121.
- Carmody RN**^{*}, Bisanz JE^{*}. 2023. Roles of the gut microbiome in weight management. *Nature Reviews Microbiology* 21: 535-550.
- McNamara MP, Venable EM⁺, Cadney MD, Castro AA, Schmill MP, Kazzazi L, **Carmody RN**, Garland T. 2023. Juvenile microbiome composition of a mouse model selectively bred for high voluntary wheel-running behavior. *Journal of Experimental Biology* 226: jeb.245081.
- MacArthur MR, Mitchell SJ, Chadaideh KS⁺, Treviño-Villareal JH, Reynolds J, Jung J, Kalafut K, Trocha K, Tao M, Yeliseyev V, Bry L, Ozaki CK, Lewis CA, **Carmody RN**, Mitchell JR. 2022. Multi-omics assessment of dietary protein titration reveals altered hepatic glucose utilization. *Cell Reports* 40: 111187.
- Sarkar A⁺, Harty S, Moeller AH, Klein SL, Erdman SE, Friston KJ, **Carmody RN**^{*}. 2021. The gut microbiome as a biomarker of differential susceptibility to SARS-CoV-2. *Trends in Molecular Medicine* 27: 1115-1134.
- Chadaideh KS⁺, **Carmody RN**^{*}. 2021. Host-microbial interactions in the metabolism of different dietary fats. *Cell Metabolism* 33: 857-872.
- Carmody RN**^{*}, Sarkar A⁺, Reese AT⁺. 2021. Gut microbiota through an evolutionary lens: why reversing some changes in the industrialized gut microbiota may be risky for health. *Science* 372: 462-463.

PEER-REVIEWED JOURNAL ARTICLES – PUBLISHED OR IN PRESS (CONTINUED)

- Ma S, Ren B, Mallick H, Moon YS, Schwager E, Maharjan S, Tickle TL, Lu Y, **Carmody RN**, Franzosa EA, Janson L, Huttenhower C. 2021. A statistical model for describing and simulating microbial community profiles. *PLoS Computational Biology* 17: e1008913.
- Reese AT⁺, Chadaideh KS⁺, Diggins CE⁺, Schell LD⁺, Beckel M, Callahan P, Ryan R, Emery Thompson M, **Carmody RN**^{*}. 2021. Effects of domestication on the gut microbiota parallel those of human industrialization. *eLife* 2021: 10:e60197.
- Ke S, Mitchell SJ, MacArthur MR, Kane AE, Sinclair DA, Venable EM⁺, Chadaideh KS⁺, **Carmody RN**, Grodstein F, Mitchell JR, Liu YY. 2021. Gut microbiota predicts healthy late-life aging in male mice. *Nutrients* 13: 3290.
- Reese AT⁺, Phillips-Garcia S, Owens LA, Venable EM⁺, Machanda ZP, Langergraber KE, Mitani JC, Watts DP, Muller MN, Wrangham RW, Goldberg TL, Emery Thompson M, **Carmody RN**^{*}. 2021. Age patterning in the wild chimpanzee gut microbiota reveals differences from humans in early life. *Current Biology* 31: 613-620.
- Sarkar A⁺, Harty S, Johnson KVA, Moeller AH, Archie EA, Schell LD⁺, **Carmody RN**, Clutton-Brock TH, Dunbar RIM, Burnet PWJ. 2020. Microbial transmission in animal social networks and the social microbiome. *Nature Ecology & Evolution* 4: 1020-1035.
- Sarkar A⁺, Harty S, Johnson KVA, Moeller AH, **Carmody RN**, Lehto SM, Erdman SE, Dunbar RIM, Burnet PWJ. 2020. The role of the microbiome in the neurobiology of social behaviour. *Biological Reviews* 95: 1131-1166.
- Carmody RN**^{*}, Bisanz JE, Maurice CF, Lyalina S, Bowen BJ, Chadaideh KS⁺, Maini Rekdal V, Bess EN, Spanogiannopoulos P, Bauer KC, Balon TW, Pollard KS, Northen TR, Turnbaugh PJ^{*}. 2019. Cooking shapes the structure and function of the gut microbiome. *Nature Microbiology* 4: 2052-2063.
- Wallace IJ, Bendele AM, Riew G, Hung HH, Frank EH, Holowka NB, Bolze AS⁺, Venable EM⁺, Yegian A, Dingwall HL, **Carmody RN**, Grodzinsky AJ, Lieberman DE. 2019. Physical inactivity and knee osteoarthritis in guinea pigs. *Osteoarthritis and Cartilage* 27: 1721-1728.
- Kip P, Trocha KM, Tao M, O'Leary JJ, Ruske J, Giulietti JM, Trevino-Villareal JH, MacArthur MR, Bolze A⁺, Burak MF, Patterson S, Ho KJ, **Carmody RN**, Guzman RJ, Mitchell JR, Ozaki CK. 2019. Insights from a short-term protein-caloric restriction exploratory trial in elective carotid endarterectomy patients. *Vascular and Endovascular Surgery* 53: 470-476.
- Reese AT⁺, **Carmody RN**^{*}. 2018. Thinking outside the cereal box: non-carbohydrate routes for dietary manipulation of the gut microbiota. *Applied and Environmental Microbiology* 85: e02246-18.
- Zhang L, **Carmody RN**, Kalariya H, Duran RM, Moskal K, Poulev A, Kuhn P, Turnbaugh PJ, Raskin I, Roopchand DE. 2018. Grape proanthocyanidin-induced intestinal bloom of *Akkermansia muciniphila* is dependent on its baseline abundance and precedes activation of host genes related to metabolic health. *Journal of Nutritional Biochemistry* 56: 142-151.
- Carmody RN**⁻, Dannemann M⁻, Briggs AW, Nickel B, Groopman EE, Wrangham RW, Kelso J. 2016. Genetic evidence of human adaptation to a cooked diet. *Genome Biology and Evolution* 8: 1091-1103.
- Spanogiannopoulos P, Bess EN, **Carmody RN**, Turnbaugh PJ. 2016. The microbial pharmacists within us: a metagenomic view of xenobiotic metabolism. *Nature Reviews Microbiology* 14: 273-287.
- Roopchand DE, **Carmody RN**, Kuhn P, Moskal K, Rojas-Silva P, Turnbaugh PJ, Raskin I. 2015. Dietary polyphenols promote growth of the gut bacterium *Akkermansia muciniphila* and attenuate high fat diet-induced metabolic syndrome. *Diabetes* 64: 2847-2858.
- Smith A, **Carmody RN**, Dutton RJ, Wrangham RW. 2015. The significance of cooking for early hominin scavenging. *Journal of Human Evolution* 84: 62-70.
- Carmody RN**⁻, Gerber G⁻, Luevano JM, Gatti DM, Somes L, Svenson KL, Turnbaugh PJ. 2015. Diet dominates host genotype in shaping the murine gut microbiota. *Cell Host & Microbe* 17: 72-84. [COVER ARTICLE]
- Groopman EE, **Carmody RN**, Wrangham RW. 2015. Cooking increases net energy gain from a lipid-rich food. *American Journal of Physical Anthropology* 156: 11-18. [COVER ARTICLE]

PEER-REVIEWED JOURNAL ARTICLES – PUBLISHED OR IN PRESS (CONTINUED)

- Carmody RN**, Turnbaugh PJ. 2014. Host-microbial interactions in the metabolism of therapeutic and diet-derived xenobiotics. *Journal of Clinical Investigation* 124: 4173-4181.
- David LA, Maurice CF, **Carmody RN**, Gootenberg DB, Button JE, Wolfe BE, Ling AV, Devlin AS, Varma Y, Fischbach MA, Biddinger SB, Dutton RJ, Turnbaugh PJ. 2014. Diet rapidly and reproducibly alters the human gut microbiome. *Nature* 505: 559-563.
- Carmody RN***, Weintraub GS, Wrangham RW. 2011. Energetic consequences of thermal and nonthermal food processing. *PNAS* 108: 19199-19203.
- Wrangham R*, **Carmody R***. 2010. Human adaptation to the control of fire. *Evolutionary Anthropology* 19: 187-199.
- Carmody RN**, Wrangham RW. 2009. Cooking and the human commitment to a high-quality diet. *Cold Spring Harbor Symposia on Quantitative Biology* 74: 427-434.
- Carmody RN**, Wrangham RW. 2009. The energetic significance of cooking. *Journal of Human Evolution* 57: 379-391.
- Boback SM, Cox CL, Ott BD, **Carmody R**, Wrangham RW, Secor SM. 2007. Cooking and grinding reduces the cost of meat digestion. *Comparative Biochemistry and Physiology A* 148: 651-656.

COMMENTARIES AND PERSPECTIVES

- Lieberman DE, Worthington S, Schell LD⁺, Parkent CM, Devinsky O, **Carmody RN**. 2023. Reply to RJ Klement. *The American Journal of Clinical Nutrition* 118: 1241-1242.
- Carmody RN***, Baggish AL. 2019. Working out the bugs: microbial modulation of athletic performance. *Nature Metabolism* 1: 658-659.
- Carmody RN**, Turnbaugh PJ. 2012. Gut microbes make for fattier fish. *Cell Host & Microbe* 12: 259-261.
- Carmody RN***, Weintraub GS, Wrangham RW. 2012. Reply to Wollstonecroft et al.: Cooking increases the bioavailability of starch from diverse plant sources. *PNAS* 109: E992.

BOOK CHAPTERS / EDITED VOLUMES

- Carmody RN***. 2017. Evolution of the human dietary niche – quest for high-quality. In Muller MN, Wrangham RW and Pilbeam DR (eds.), *Chimpanzees & Human Evolution* (pp. 311-338). Cambridge: Harvard University Press.
- Wrangham RW*, **Carmody RN***. 2016. Influences of the control of fire on the energy value and composition of the human diet. In Lee-Thorp J and Katzenberg MA (eds.), *The Oxford Handbook of the Archaeology of Diet*. Oxford: Oxford University Press.
- Carmody RN***. 2015. Digestion and human evolution. In Beaudry MC and Metheny K (eds.), *Archaeology of Food: An Encyclopedia* (pp. 136-138). Lanham, MD: Rowman & Littlefield.

GRANTS & FELLOWSHIPS

CURRENT

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|--|-------------|
| NIGMS 1R35GM160067-01 Maximizing Investigators' Research Award (PI; \$2,106,250)
Deciphering and predicting ecologically sensitive gut microbiome contributions to human metabolic health | 2025 – 2030 |
| William F. Milton Fund, Generative AI Track (PI; \$95,870)
Generative AI-driven discovery linking the gut microbiome with human health | 2024 – 2026 |
| Harvard Dean's Competitive Fund for Promising Scholarship
The maternal-fetal-microbiome triad: insights into gestational energy metabolism (PI; \$73,559) | 2024 – 2027 |
| Is the urbanization of the gut microbiome contributing to atherosclerosis? (PI; \$74,980) | 2024 – 2027 |
| DNA metabarcoding a dietary index and predictor of diet-microbiome interactions (PI; \$49,283) | 2023 – 2026 |

GRANTS & FELLOWSHIPS (CONTINUED)

COMPLETED

NSF DBI-2150058, Division of Biological Infrastructure (Faculty Mentor; \$47,968 subaward) REU Site: Genes, Ecosystems, Organisms	2022 – 2025
NSF BCS-2142073, BCS – Biological Anthropology (PI; Co-PI: Schell; \$33,753) DDRIG: Physiological tradeoffs arising from early-life disruption of the gut microbiome	2022 – 2024
NSF BCS-1919892, BCS – Biological Anthropology (PI; Co-PI: Chadaideh; \$33,800) DDRIG: Impacts of dietary fat type on energy gain in the human holobiont	2019 – 2021
NIH R01AG049395, NIA/ORWH (Co-I; PI: Emery Thompson; \$48,938 subaward) Biodemography of aging in wild chimpanzees	2015 – 2021
William F. Milton Fund (PI; \$49,724) Dietary manipulation of the gut microbiome	2018 – 2020
Harvard T.H. Chan School of Public Health, Acceleration Award (Co-PI; PI: Mitchell; \$50,000) Limiting dietary protein improves markers of healthspan	2018 – 2020
Harvard Dean's Competitive Fund for Promising Scholarship Assessing functional uniqueness in the human microbiome (PI; \$48,874)	2019 – 2026
Human milk modulates gut microbial contributions to infant energy acquisition (PI; \$42,768)	2018 – 2023
Gut microbial plasticity in animal domestication (PI; \$43,888)	2017 – 2023
The caloric potential of non-caloric dietary additives (PI; \$38,496)	2016 – 2023
NIH F32DK101154, Ruth L. Kirschstein National Research Service Award (PI; \$155,346) Gut microbial promotion of energy gain from processed diets	2013 – 2016
Eliot Dissertation Completion Fellowship	2011 – 2012
NSF BCS-0962038, BCS – Biological Anthropology (Co-PI; PI: Wrangham; \$16,840) DDRIG: Impacts of food processing on diet-induced thermogenesis	2010
Leakey Foundation Research Grant (PI; \$13,491) Effects of a cooked diet on gene expression: evolutionary implications	2010
Merit Research Fellowship	2010
NSF Graduate Research Fellowship	2007 – 2010
Harvard Graduate Society Research Fellowship	2006
Harvard University Graduate Prize Fellowship	2005 – 2010

INVITED TALKS

- UC San Diego / Salk Institute Center for Academic Research and Training in Anthropogeny (CARTA), “We Are What We Ate: The Diets That Fueled Human Evolution” Symposium: “The evolutionary importance of cooked food.” October 30-31, 2026 (upcoming). La Jolla, CA.
- Joslin Diabetes Center: “The gut microbiome mediates differential metabolic outcomes of saturated and polyunsaturated fats.” May 21, 2026 (upcoming). Boston, MA.
- U.S. National Academy of Sciences, Chinese Academy of Sciences, and The Royal Society of London, Bridging Horizons Symposium for Planetary Healthspan: “Gut microbiome plasticity and human adaptability in changing environments.” May 13, 2026 (upcoming). London, UK.
- Microbial Sciences Initiative Chalk Talk Series: “Impact of early-life gut microbiome disruption by antibiotics on adult energy metabolism and fitness.” April 9, 2026. Cambridge, MA.
- Frontiers in Microbiota Interactions Symposium, Brigham & Women's Hospital: “Nutritional implications of diet-microbiome-metabolism interactions.” January 16, 2026. Boston, MA.

INVITED TALKS (CONTINUED)

- Max Planck Institute for Evolutionary Anthropology, What Makes Us Human? – An International Symposium Celebrating 25 Years of Progress. “Only part human: Microbiome contributions to human adaptability and evolution.” October 9, 2025. Leipzig, Germany.
- Precision Nutrition Forum and PREDIMED Omics Symposium: “Gut microbiota and energy metabolism – implications for precision nutrition.” June 9, 2025. Boston, MA.
- Harvard University Generative AI Symposium: “Generative AI-driven discovery linking the gut microbiome with human health.” May 13, 2025. Boston, MA
- Boston University, Department of Anthropology Colloquium Series: “Gut microbiome plasticity and human adaptability in changing environments.” February 26, 2025. Boston, MA.
- New York University, Center for the Study of Human Origins (CSHO) Colloquium Series: “Gut microbiome plasticity and human adaptability in changing environments.” December 5, 2024. New York, NY.
- Northwestern University, Department of Anthropology: “Gut microbiome plasticity and human adaptability in changing environments.” September 30, 2024. Evanston, IL.
- Applied Hologenomics Conference: “Gut microbiome plasticity and human adaptability under ecological change.” July 1, 2024. Copenhagen, Denmark.
- International Symposium on Fire and Human Evolution: “Fired up: cooking as a catalyst for human evolution.” June 11, 2024. Leiden, Netherlands.
- Rutgers University, Rutgers University Microbiome Program (RUMP) Retreat, Keynote Address: “Gut microbiome plasticity and host adaptability in changing environments.” April 25, 2023. Piscataway, NJ.
- The Pennsylvania State University, joint seminar of the Department of Anthropology and Penn State Microbiome Center: “Benefits and costs of host-microbial plasticity in changing environments.” April 5, 2023. State College, PA.
- UMass Amherst, joint seminar of the Department of Food Science, Department of Nutrition, and Department of Microbiology: “Ecological influences on host-microbial interactions in energy metabolism.” March 31, 2023. Amherst, MA.
- Tufts Friedman School of Nutrition Science & Policy, Invited Seminar: “Dietary influences on host-microbial interactions in health.” March 27, 2023. Boston, MA.
- Cold Spring Harbor Laboratory, Microbiome: “Gut microbiome differentiates the *in vivo* caloric value of ‘isocaloric’ diets.” October 29, 2022. Cold Spring Harbor, NY. (Session Chair: Human Studies)
- American Society for Microbiology (ASM) Microbe, In-Depth Lecture: “Rationale and risks of rewilding: ecological plasticity of the gut microbiome as a double-edged sword.” June 12, 2022. Washington, DC.
- American Gastroenterological Association, Digestive Diseases Week, Charles M. Mansbach II, MD, Memorial Lecture: “Microbiome connections with host metabolism and habitual diet.” May 24, 2022. San Diego, CA.
- Harvard T.H. Chan School of Public Health, Department of Immunology & Infectious Diseases: “Interactions of the gut microbiome with nutrition and their impacts on energy metabolism.” April 28, 2022. Boston, MA.
- Gut Microbiome for Health World Summit, Plenary Lecture: “Effect of cooking on the gut microbiome.” March 12, 2022. Washington, DC.
- UMass Amherst, Organismic & Evolutionary Biology Seminar Series: “Ecological plasticity of the gut microbiome: a double-edged sword.” February 11, 2022. [VIRTUAL]
- U.S. Congressional Briefing on NIH Funding for Microbiome Research: “Energetic buffering by the gut microbiome.” July 28, 2021. [VIRTUAL]
- Harvard T.H. Chan School of Public Health, Department of Immunology & Infectious Diseases, IID 209: “Dietary impacts of the gut microbiome.” April 28, 2021. [VIRTUAL]

INVITED TALKS (CONTINUED)

- Tufts University, Biology Seminar Series: “Alternative energy: gut microbial buffering of energy balance.” March 31, 2021. [VIRTUAL]
- Canadian Institute for Advanced Research (CIFAR) Annual Symposium, Humans and the Microbiome: “Ecological plasticity of the gut microbiome: a double-edged sword.” March 26, 2021. [VIRTUAL]
- National Academies of Science, Distinctive Voices Lecture Series: “Challenging cooked calorie counts considering chemistry, co-inhabitants, and consequences for public health.” March 10, 2021. [VIRTUAL]
- University of California Santa Barbara, Broom Demography Center: “Ecological sensitivity of the gut microbiome.” February 22, 2021. [VIRTUAL]
- International Life Sciences Institute (ILSI) North America 2020, Advances in Gut Microbiome Research: “Cooking shapes the structure and function of the gut microbiome.” July 22, 2020. [VIRTUAL]
- Harvard T.H. Chan Center for the Microbiome in Public Health, Symposium on Human Microbiome Bioactives: “Energetic buffering by the gut microbiome,” May 8, 2020. [VIRTUAL]
- American Museum of Natural History, SciCafe: “The raw truth about cooking.” March 6, 2019. New York, NY.
- American Museum of Natural History, Teen SciCafe: “The raw truth about cooking.” March 7, 2019. New York, NY.
- Tufts Friedman School of Nutrition Science & Policy, Invited Seminar: “Counting calories considering our co-residents: toward a holobiont view of energy acquisition.” November 19, 2018. Boston, MA.
- DSM Microbia, Nutritional Products Engineering, Invited Seminar: “Dietary manipulation of the gut microbiome.” June 28, 2018. Lexington, MA.
- Johns Hopkins School of Medicine, Symposium on Microbiome, Obesity, and IBD: “Dietary manipulation of the gut microbiome.” June 25, 2018. Baltimore, MD.
- Collège de France, Paris Symposium on Energetics of Hominins: “Partners in chyme: hominin-microbial interactions in energy acquisition.” June 12, 2018. Paris, France.
- American Society for Nutrition, Annual Meeting: “Counting calories considering our co-residents: toward a holobiont view of energy acquisition.” June 9, 2018. Boston, MA.
- Brigham Research Institute, 7th Annual Obesity Incubator Symposium, Plenary Lecture: “Dietary sensitivity of the gut microbiome: considerations for metabolic disease.” March 26, 2018. Boston, MA.
- Purdue University, Ingestive Behavior Research Center Biennial Conference, Plenary Lecture: “Evolution of the human dietary niche.” October 2, 2017. Lafayette, IN.
- Harvard Microbial Sciences Initiative (MSI) Symposium: “Partners in chyme: dietary manipulation of the gut microbiome.” April 15, 2017. Cambridge, MA.
- McGill University, Department of Microbiology and Immunology: “Food and its form: diet-based manipulation of the gut microbiome.” April 6, 2017. Montreal, Quebec, Canada.
- MIT-Harvard Microbiome Symposium, Keynote Lecture: “Dietary manipulation of the gut microbiome.” March 22, 2017. Cambridge, MA.
- New York Academy of Sciences, Microbial Influences in Cardio-Metabolic Diseases, Plenary Lecture: “Cooking shapes the structure and function of the gut microbiome.” November 3, 2016. New York, NY.
- Duke University, Department of Evolutionary Anthropology Colloquium Lecture: “Partners in chyme: human-microbial interactions shape energy gain from processed diets.” April 1, 2016. Durham, NC.
- California Academy of Sciences, Leakey Foundation Lecture: “Cooking for calories: food processing and the shape of human energy gain.” December 8, 2015. San Francisco, CA.
- Harvard T.H. Chan School of Public Health, Nutrition Seminar Series: “Diet rapidly and reproducibly reshapes the gut microbiome.” April 20, 2015. Cambridge, MA.

INVITED TALKS (CONTINUED)

- American Gastroenterological Association, Digestive Diseases Week: “Gut microbial promotion of energy gain from processed diets.” May 5, 2014. Chicago, IL.
- Harvard University, Department of Human Evolutionary Biology Colloquium Lecture: “Partners in chyme: promotion of human energy gain by the dynamic gut microbiota.” March 12, 2014. Cambridge, MA.
- Emmanuel College, Microbiology Seminar Series: “Diet causes rapid and reproducible shifts in the human gut microbiome.” February 10, 2014. Boston, MA.
- University of Massachusetts, Boston, Department of Anthropology: “Digestion and indigestion: the contributions of food processing to human energy gain and their depictions in the popular press.” September 30, 2013. Boston, MA.
- Max Planck Institute for Evolutionary Anthropology: “Contributions of food processing to past and present human energy budgets.” December 14, 2012. Leipzig, Germany.
- Rutgers, The State University of New Jersey, Anthropology Lecture Series: “Energetic consequences of cooking: implications for human nutrition in the past and present.” March 1, 2012. New Brunswick, NJ.
- Albert Einstein College of Medicine, Department of Epidemiology & Population Health Seminar Series: “Underestimating the caloric consequences of cooking.” September 15, 2011. New York, NY.

CONFERENCE PROCEEDINGS

- Kahumbu J, Atkins T, Henry L, Kinyua P, Lea A, Martins D, Miano C, Muhoya B, **Carmody R**, Ayroles J. March 20, 2026. Urbanization does not always mean loss: microbiome diversity patterns in the Turkana of Kenya [Podium]. Human Biology Association, Denver, CO.
- Liow YJ, Eshima S, Talay M, Yeliseyev V, Bry L, **Carmody RN**. November 17, 2025. Polyunsaturated fatty acids promote appetite via the microbiome–gut–brain axis [Poster]. Microbial Sciences Initiative Symposium, Cambridge, MA.
- Schell LD, Chadaideh KS, Li W, Yeliseyev V, Bry L, Devlin AS, **Carmody RN**. June 10, 2025. The gut microbiome mediates the differential metabolic impacts of saturated and polyunsaturated fats [Poster]. Precision Nutrition Forum and PREDIMED Omics Symposium 2025, Boston, MA.
- Venable EM, Chadaideh KS, **Carmody RN**. June 9, 2025. DNA metabarcoding as tool to index dietary digestibility and hidden components of diet [Poster]. Precision Nutrition Forum and PREDIMED Omics Symposium 2025, Boston, MA.
- Venable EM, Chadaideh KS, and **Carmody RN**. May 19, 2025. DNA metabarcoding to index dietary digestibility and quantify which dietary components reach and structure the gut microbiome [Podium]. Harvard Chan Microbiome in Public Health Center (HCMPH) Symposium: The Microbiome in Food Systems.
- Rubin G, Zeldin D, Venable EM, **Carmody RN**. Placental lactogen and the gut microbiome interact to regulate gestational energy metabolism [Poster]. March 13, 2025. American Association of Biological Anthropologists (AABA). Baltimore, MD.
- Carmody RN**. November 17, 2023. Ecological plasticity of the gut microbiome as a double-edged sword [Podium]. First Annual Symposium of the Human Evolutionary Biology Initiative. Cambridge, MA.
- Chiang ME, Venable EM, Machanda ZP, **Carmody RN**. Novel DNA metabarcoding pipeline to define diet and investigate its relationship with gut microbiome composition in wild chimpanzees [Poster]. April 7, 2023. MIT Microbiome Symposium. Cambridge, MA.
- Carmody RN**, Reese AT. March 30, 2022. Gut microbial plasticity in animal domestication and human industrialization [Podium]. AABA Virtual Conference.
- Schell LD, Diggins CE, **Carmody RN**. March 30, 2022. Disentangling phylogenetic, physiological, and ecological influences on the human gut microbiome using primatized gnotobiotic mice [Podium]. AABA Virtual Conference.
- Venable EM, Putnam EE, Bryant KL, Wolfe BE, Hecht EE, **Carmody RN**. March 24, 2022. Fermentation does not replicate the energetic benefits of cooking in a starch-rich tuber [Podium]. AABA, Denver, CO.

CONFERENCE PROCEEDINGS (CONTINUED)

- Carmody RN**, Reese AT. March 24, 2022. Gut microbial plasticity in animal domestication and human industrialization [Podium]. AABA, Denver, CO.
- Chadaideh KS, **Carmody RN**. April 21, 2021. Fats are differentially fattening: Host-microbial interactions in energy harvest from dietary lipids [Podium]. American Association of Physical Anthropologists (AAPA), Baltimore, MD. [VIRTUAL]
- Venable EM, Bolze AS, Carlson BA, **Carmody RN**. April 21, 2021. High energy expenditure causes shifts in the gut microbiota that buffer host energy balance [Podium]. AAPA, Baltimore, MD. [VIRTUAL]
- Carmody RN**, Reese AT, Phillips SR, Owens LA, Venable EM, Langergraber KE, Machanda ZP, Mitani JC, Muller MN, Watts DP, Wrangham RW, Goldberg TL, Emery Thompson M. April 12, 2021. Humans and chimpanzees exhibit divergent patterns of gut microbial diversity in early life [Podium]. AAPA, Baltimore, MD. [VIRTUAL]
- Carmody RN**. April 16, 2020. Alternative energy: evidence for gut microbiome-mediated buffering of human energy balance [Podium]. AAPA, Los Angeles, CA. [VIRTUAL]
- Chadaideh KS, **Carmody RN**. April 16, 2020. Fats are differentially fattening: Host-microbial interactions in energy harvest from dietary lipids. AAPA, Los Angeles, CA. [VIRTUAL]
- Reese AT, **Carmody RN**. August 15, 2019. Domestication effects on the mammalian gut microbiota are mediated by dietary shifts [Podium]. Ecological Society of America (ESA), Louisville, KY.
- Chadaideh KS, **Carmody RN**. June 22, 2019. Dietary fat type shapes the gut microbiota and host energy balance [Poster]. ASM Microbe, San Francisco, CA.
- Schell LD, **Carmody RN**. June 21, 2019. Dietary preservatives alter the gut microbiota *in vitro* and *in vivo* [Poster and Flash Talk]. ASM Microbe, San Francisco, CA. (Outstanding Abstract Award)
- Venable EM, Bolze AS, Louis M, Christopher L, Carlson B, Garland T, **Carmody RN**. June 21, 2019. Endurance running alters the gut microbiota. ASM Microbe, San Francisco, CA.
- Kip P, Trocha KM, Tao M, O'Leary JJ, Giulietti JM, Trevino-Villareal JH, MacArthur MR, Bolze A, Burak MF, Patterson S, Ho KJ, **Carmody RN**, Guzman RJ, Mitchell J, Ozaki CK. Insights from a short-term protein-calorie restriction exploratory trial in elective carotid endarterectomy patients.
Presented May 16, 2019: Atherosclerosis, Thrombosis, and Vascular Biology Conference, Boston, MA.
Presented May 13, 2019: Vascular Research Initiatives Conference, Boston, MA.
- Chadaideh KS, **Carmody RN**. March 30, 2019. Differential energy gain from saturated and polyunsaturated fats. AAPA, Cleveland, OH.
- Carmody RN**, Venable EM, Bolze AS, Christopher L, Carlson BA, Louis MP, Garland T. March 29, 2019. Endurance running alters the gut microbiota [Podium]. AAPA, Cleveland, OH.
- MacArthur MR, Trevino-Villarreal JHT, Reynolds J, Trocha K, Mitchell SJ, Chadaideh KS, Grondin Y, **Carmody RN**, Mitchell JR. June 11, 2018. Total dietary protein, not plant versus animal amino acid composition, determines health benefits. American Society for Nutrition, Boston, MA.
- Carmody RN** and Schell LD. April 14, 2018. Traditional and industrial food preservation agents shape the gut microbiota [Podium]. AAPA, Austin, TX.
- Carmody RN** and Turnbaugh PJ. April 22, 2017. Food and its form: cooking shapes the gut microbiome [Podium]. AAPA, New Orleans, LA. (Wiley Symposium)
- Carmody RN**, Maurice CF, Bauer K, and Turnbaugh PJ. Food-derived antimicrobial compounds shape the gut microbiota.
Presented June 12, 2014: Boston Bacterial Meeting, Cambridge, MA. (Best Poster)
Presented May 19, 2014: ASM Microbe, Boston, MA.
Presented April 2, 2014: Keystone Symposium: Exploiting and Understanding Chemical Biotransformations in the Human Microbiome, Big Sky, MT. (NIH NIDDK/NIA Scholarship)

CONFERENCE PROCEEDINGS (CONTINUED)

- Carmody RN** and Turnbaugh PJ. June 15, 2013. Cooking alters gut microbial ecology. Boston Bacterial Meeting, Cambridge, MA.
- Carmody RN**, Secor SM and Wrangham RW. April 12, 2013. Food processing reduces thermogenesis following meat or tuber meals in a model omnivorous mammal [Podium]. AAPA, Knoxville, TN.
- Carmody RN**. February 18, 2013. Contributions of food processing to dietary energy harvest [Podium]. American Association for the Advancement of Science (AAAS), Boston, MA. Session Chair.
- Carmody RN**. April 15, 2012. Alternative energy: modeling the effects of processed diets on human energy metabolism [Podium]. AAPA, Portland, OR.
- Carmody RN**, Weintraub GS and Wrangham RW. April 15, 2011. More valuable meat: energetic effects of cooking on a key hominin resource [Podium]. AAPA, Minneapolis, MN.
- Wrangham R and **Carmody R**. September 11, 2010. The influence of the control of fire on human life history and social behavior [Podium]. Fourth Symposium of Biodiversity & Evolution, Kyoto, Japan.
- Carmody RN**, Weintraub GS and Wrangham RW. April 15, 2010. Energetic significance of food processing: a case study in tubers [Podium]. AAPA, Albuquerque, NM.
- Carmody RN**, Weintraub GS, Secor SM and Wrangham RW. January 6, 2010. Energetic significance of food processing: a test of the cooking hypothesis. Society for Integrative and Comparative Biology (SICB), Seattle, WA.
- Roach NT, **Carmody R**, Reiches M, McRae E and Georgiev A. April 4, 2009. Interpreting hominin variability: a test of the template method. AAPA, Chicago, IL.
- Wrangham RW and **Carmody RN**. February 28, 2009. The impact of cooking in human evolution. New York Consortium for Evolutionary Primatology (NYCEP) Conference on Darwin's Legacy, New York, NY.
- Wrangham RW and **Carmody RN**. February 12, 2009. A primatological perspective on the evolution of human diets. AAAS, Chicago, IL.
- Carmody RN**, Cone EB, Wrangham RW and Secor SM. January 7, 2009. Cooking and the net energy value of meat: implications for human evolution. SICB, Boston, MA.
- Boback SM, Cox CL, Ott BD, **Carmody R**, Wrangham RW and Secor SM. January 5, 2007. Testing the selective advantage of cooking in human evolution. SICB, Phoenix, AZ.
- Carmody RN** and Wrangham RW. April 8, 2006. Travel cost of group size: evidence of compensation in the grey-cheeked mangabey [Podium]. New England Biological Anthropology Symposium, Cambridge, MA.

TEACHING

Recipient of 2022 Roslyn Abramson Award for Excellence and Sensitivity in Undergraduate Teaching

COURSES TAUGHT

Life Sciences 2: Anatomy and Physiology (plus weekly 3-hour lab)

Offered 1 time as Course Co-Head: Fall 2025

Human Evolutionary Biology [HEB] 1410/114: Gut Microbiome and Human Health (plus weekly 3-hour lab) *

Offered 6 times as Course Head: Fall 2023, Fall 2021, Spring 2021, Fall 2018, Fall 2017, Spring 2017

HEB 3200: Graduate Seminar in Human Evolutionary Biology

Offered 8 times as Course Head: Spring 2026, Spring 2025, Spring 2024, Spring 2023, Spring 2022, Fall 2020, Fall 2019, Spring 2019

HEB 1417/2100: Diet and Exercise

Offered 2 times as Course Co-Head: Spring 2018, Spring 2017

HEB 97: Sophomore Tutorial in Human Evolutionary Biology **

Taught 1 time as Graduate Teaching Fellow: Spring 2011

HEB 1414: Evolution of the Human Diet **

Taught 1 time as Graduate Teaching Fellow: Spring 2007

HEB 1415: Primate Evolutionary Ecology **

Taught 2 times as Graduate Teaching Fellow: Fall 2007, Fall 2006

* Course featured in Fall 2019 issue of the Harvard Initiative for Learning and Teaching's *Into Practice*

** Recipient of graduate teaching award for this course

GUEST LECTURES IN OTHER COURSES

Harvard University, HEB 58: Evolutionary Medicine (Prof. Christopher Kuzawa): "The Microbiome." October 27, 2025.

Harvard University, Life Sciences 1B: An Integrated Introduction to the Life Sciences – Genetics, Genomics, and Evolution (Profs. Terence Capellini and Andrew Berry). "An Introduction to the Microbiome." March 18, 2024.

Tufts Friedman School of Nutrition Science and Policy, Nutrition 0248: Precision Nutrition (Prof. Jiantao Ma). "Dietary influences on host-microbial interactions in health." March 27, 2023.

Harvard T.H. Chan School of Public Health, IID 209: Microbial Communities and the Human Microbiome (Prof. Curtis Huttenhower). "Dietary influences on host-microbial interactions in energy metabolism." April 25, 2022.

Harvard T.H. Chan School of Public Health, IID 209: Microbial Communities and the Human Microbiome (Profs. Wendy Garrett and Curtis Huttenhower). "Dietary influences on host-microbial interactions in energy metabolism." April 28, 2021.

ADVISING AND MENTORSHIP

POSTDOCTORAL LEVEL

Postdoctoral advisor for:

Dr. Neil Ibata (current, Ph.D. 2022 in Physics, University of Cambridge)

Dr. Laura Schell (current, Ph.D. 2024 in Human Evolutionary Biology, Harvard University)

Dr. Aspen Reese (former, Ph.D. 2017 in Ecology, Duke University; Junior Fellow, Harvard Society of Fellows)

Next position: Assistant Professor (tenure-track), University of California San Diego, Biological Sciences

Current position: Biodiversity Manager, University of Cambridge

GRADUATE LEVEL

Ph.D. advisor for:

Katia Chadaideh (Ph.D. 2022, Harvard University, Human Evolutionary Biology [HEB])

Thesis: “The gut microbiome mediates energy gain from different dietary fats”

Next position: Postdoctoral Fellow, Dong Wang Lab, Harvard T.H. Chan School of Public Health

Current position: Assistant Director of Student Services, Harvard Griffin Graduate School of Arts & Sciences

Cary Allen-Blevins (Ph.D. 2022, Harvard University, HEB, NSF Graduate Research Fellow)

Thesis: “To *se* or not to *se*: secretor phenotype effects on milk-microbial interactions”

Next position: Lecturer, Harvard University (current)

Laura Schell (Ph.D. 2024, Harvard University, HEB, NSF Graduate Research Fellow)

Thesis: “Developmental and evolutionary trade-offs with early-life disruption of the gut microbiota”

Next position: Postdoctoral Fellow, Carmody Lab, Harvard University (current)

Yi Jia Liow (Ph.D. 2026, University of Tokyo, Human Ecology, Japan Society for the Promotion of Science Fellow)

Thesis: “Diet shapes host eating behavior via the microbiome–gut–brain axis”

Next position: Postdoctoral Fellow, Diego Bohórquez Lab, Duke University (current)

Emily Venable (Ph.D. 2026, Harvard University, HEB, NSF Graduate Research Fellow)

Thesis: “High-quality diets and endurance running as ecological drivers that shape the human gut microbiome”

Next position: Life Sciences Specialist, L.E.K. Consulting (current)

Amar Sarkar (current, Ph.D. expected Spring 2027, Harvard, HEB; Harvard Presidential Fellow)

Grace Rubin (current [Year 4], Harvard, HEB)

John Kahumbu (current [Year 2], Harvard, HEB)

Committee member for:

Catherine Girard (Ph.D. 2017, University of Montreal, Microbial Evolutionary Genomics)

Anesta Iwan (M.D.E. 2019, Harvard Graduate School of Design; awarded Outstanding Design Project)

Andrew Cunningham (Ph.D. 2020, Harvard, HEB)

Vayu Maini Rekdal (Qualifying Exam Committee, Ph.D. 2020, Harvard, Molecules, Cells, and Organisms)

Tim Kistner (Ph.D. 2023, Harvard, HEB)

Zoe Albert (Ph.D. candidate, Boston University, Anthropology)

Alexandra Harris (Ph.D. candidate, Harvard, HEB)

Annabel Perry (Ph.D. candidate, Harvard, HEB)

Joel Enrique Ramírez (Ph.D. candidate, Harvard, HEB)

Secondary advisor for:

Andrew Cunningham (Ph.D. 2020, Harvard, HEB)

Tim Kistner (Ph.D. 2023, Harvard, HEB)

Cameron Curtin (Ph.D. 2024, Harvard, HEB)

Ellie Rose (M.A. 2024, Harvard, HEB)

Sophie Barton (current, Harvard, HEB)

Alexandra Harris (current, Harvard, HEB)

Annabel Perry (current, Harvard, HEB)

Joel Enrique Ramírez (current, Harvard, HEB)

Nina St. Hillaire (current, Harvard, HEB)

UNDERGRADUATE LEVEL

Honors thesis advisor or co-advisor for:

Ludovico Rollo (A.B. 2025, Harvard, HEB; Hoopes Prize)

Thesis: “The influence of social dominance on the gut microbiome”

Next position: Private Equity, Alpine Investors (current)

Mira-Rose Kingsbury Lee (A.B. 2024, Harvard, HEB; Herchel Smith Fellow, 2024 Rhodes Scholar)

Thesis: “Rewilding the gut microbiome in a mouse model”

Next position: Rhodes Scholar, Ph.D. Program in Interdisciplinary Bioscience, Oxford University (current)

Molly Chiang (A.B. 2023, Harvard, HEB; Hoopes Prize)

Thesis: “Novel DNA metabarcoding pipeline to define diet and investigate its relationship with gut microbiome composition in wild chimpanzees (*Pan troglodytes*)”

Next position: Data Scientist, Garner Health

Current position: M.D. candidate, Harvard Medical School

Andrew Li (A.B. 2022, Harvard/New England Conservatory, 2022 Van Cliburn Piano Competition Quarterfinalist)

Thesis: “Trust the (food) process: the effects of cooking and fermentative food processing on host energy balance and the gut microbiome”

Next position: M.A. candidate in Piano Performance, New England Conservatory

Current position: M.D. candidate, UMass Chan Medical School

Vivian Lee (A.B. 2021, Harvard, HEB; PRISE Fellow)

Thesis: “Beyond gut feelings: discriminating the effects of fat versus sugar on the murine gut microbiota”

Next position: Medical Assistant, Total Care

Current position: M.D. candidate, University of California Davis School of Medicine

Benjamin Ho (A.B. 2021, Harvard, HEB, HCRP Fellow)

Thesis: “Sex, bugs, and dimorphism's role: detecting signals of biological sex in the primate gut microbiome”

Next position: Princeton in Asia Fellowship, Chiang Rai, Thailand

Current position: M.D. candidate, Zucker School of Medicine at Hofstra University

Jessica Diaz (A.B. 2020, Harvard, Integrative Biology; Herchel Smith Fellow)

Thesis: “Milk and microbes: effects of secretor status on infant energy gain through the gut microbiome”

Next position: Staff Research Associate, Aspen Reese Lab, University of California San Diego

Current position: Ph.D. candidate in Biological Sciences, Kevin Kohl Lab, University of Pittsburgh

Caroline Diggins (A.B. 2020, Harvard, HEB; HCRP Fellowship, Hoopes Prize)

Thesis: “Primatized mouse model as a platform for assessing human, chimpanzee, and gorilla gut microbiomes”

Next position: Clinical Research Coordinator, Massachusetts General Hospital

Current position: M.D. candidate, Harvard Medical School

Kevin Eappen (A.B. 2020, Harvard, Integrative Biology; HCRP Fellow)

Thesis: “The therapeutic potential of natural polyphenols for attenuating metabolic disorders via the gut microbiota”

Next position: English Teacher, Senzoku Gakuen Junior and Senior High School, Kawasaki, Japan

Current position: M.D. candidate, Warren Alpert Medical School at Brown University

Andrew Bolze (A.B. 2019, Harvard, HEB; American Heart Association Research Fellow)

Thesis: “Running on microbes: the effects of endurance running on the gut microbiota”

Next position: Research Associate, Ramnik Xavier Lab, Broad Institute of MIT and Harvard

Current position: M.D. (Resident in Plastic and Reconstructive Surgery), Beth Israel Lahey Health

Brandi Moore (A.B. 2019, Harvard, HEB; HCRP Fellow)

Thesis: “Exploring an alternative explanation for polyphenol avoidance (and attraction) through the gut microbiota”

Next position: M.P.H. candidate in Epidemiology of Microbial Diseases, Yale University School of Public Health

Current position: Ph.D. candidate in Epidemiology, SPOTLIGHT Lab, New York University

Honors thesis advisor or co-advisor for: (CONTINUED)

Laura Schell (A.B. 2018, Harvard, HEB; HCRP Fellow)

Thesis: “Effect of traditional and industrial food preservation agents on the gut microbiota”

Next position: Ph.D. candidate in Human Evolutionary Biology, Carmody Lab, Harvard University

Current position: Postdoctoral Fellow, Carmody Lab, Harvard University

Patrick Schiller (A.B. 2015, Harvard, HEB)

Thesis: “The five second rule: a novel method for collecting wild chimpanzee saliva samples – a renewed method for understanding the human oral microbiome”

Next position: M.D. candidate, University of Chicago Pritzker School of Medicine

Current position: M.D. (Nephrologist), Nephrology Associates of Northern Illinois

Emily Groopman (A.B. 2014, Harvard, HEB; Herchel Smith Fellow, Hoopes Prize)

Thesis: “The fats of life: the energetic significance of processing peanuts”

Next position: M.D./Ph.D. candidate in Cell Biology, Columbia University College of Physicians and Surgeons

Current position: M.D. (Resident in Pediatrics and Medical Genetics), Children's National Hospital

Gil Weintraub (A.B. 2010, Harvard, HEB; HCRP Fellow)

Thesis: “Of mice and men: the energetic significance of thermally and non-thermally processing starch-rich foods”

Next position: Clinical Research Assistant, Children’s Hospital Boston

Current position: M.D. (Dermatologist), Cherry Hills Dermatology

Eugene Cone (A.B. 2009, Harvard, Biological Anthropology)

Thesis: “Cooking meat and its energetic implications for human evolution”

Next position: M.D. candidate, Warren Alpert Medical School at Brown University

Current position: M.D. (Urologist), Urology of Indiana

Independent research advisor or co-advisor for:

Nora Koutoupes Guessous (A.B. expected 2028, Harvard, Neuroscience and Philosophy)

Sydney Hawkins (B.S. expected 2026, SUNY Fredonia, Biology and Chemistry, NSF GEO REU Fellow)

Christopher Rúaño (A.B. expected 2026, Harvard, Economics and Computer Science)

Jinhui Liu (B.S. 2025, University of Hong Kong, Biochemistry and Computer Science)

Dina Zeldin (A.B. 2025, Harvard, Applied Math and HEB)

Eric Chan (A.B. 2025, Harvard, HEB)

Yabsira Abejie (A.B. 2025, Harvard, Human Developmental and Regenerative Biology)

Alex Cooper-Hohn (B.S. 2024, Brown University, Economics and Premedical Studies)

Fechi Inyama (A.B. 2024, Harvard, Integrative Biology)

Cameron McInroy (A.B. 2023, Harvard, Computer Science)

Elizabeth Boyer (A.B. 2023, Harvard, HEB)

Michelle Stegawski (A.B. 2023, Harvard, Molecular and Cellular Biology)

Served as research advisor and mentor for >70 additional undergraduate students through HEB 1410/114

OTHER MENTORSHIP RELATIONSHIPS

Dr. Christine Baugh, Assistant Professor, University of Colorado Anschutz, Department of Medicine

Dr. Corinne Maurice, Assistant Professor, McGill University, Department of Microbiology & Immunology

Dr. Gil Weintraub, former Assistant Professor, University of Colorado School of Medicine, now in clinical practice

Dr. Yves Falanga, Director of Strategy and Corporate Development, NOETIK (AI-native biotech company)

Dr. Sri Lakshmi Sravani Devarakonda, Research Scientist, Pennington Biomedical Research Center (Heymsfield Lab)

SYNERGISTIC ACTIVITIES

MEMBERSHIPS

Broad Institute of MIT and Harvard, Associate Member

Harvard Digestive Diseases Center, Associate Member

Harvard Chan Microbiome in Public Health Center, Associate Member

Harvard T.H. Chan School of Public Health, Microbiome Epidemiology Working Group, Member

American Association of Biological Anthropologists (AABA), Member

American Society for Nutrition (ASN), Member

American Society for Microbiology (ASM), Member

COMMITTEE SERVICE

University Hearing Committee, FAS Representative (one of two at tenure-track level) (2023 – present)

Harvard T.H. Chan Microbiome in Public Health Center, Planning Committee (2020 – present)

Thomas Temple Hoopes Prize, Selection Committee (2022 – 2025)

Dudley Herschbach Teacher/Scientist Lecture, Selection Committee (2022 – 2025)

William F. Milton Fund, Selection Committee (2021)

HEB Faculty Search Committee (2016, 2017 [x2], 2018, 2019, 2021, 2023)

HEB Tuesday@Noon Seminar Coordinator (2022 – present)

HEB Graduate Admissions Committee (2016 – present)

HEB Graduate Curriculum Committee (2016 – present)

HEB Qualifying Exam Committee (2016 – present)

HEB Undergraduate Curriculum Committee (2016 – present)

HEB Undergraduate Honors Committee (2016 – present)

HEB Teaching Laboratory Committee (2018 – 2019)

MCO Dissertation Advisory Committee (2018 – 2019)

GSD-SEAS / IDEP Advisory Committee (2018 – 2019)

HEB Colloquium Series, Coordinator (2016 – 2018)

EDITORIAL SERVICE

Advisory Board: Cell Press Blue

Ad hoc editor for: PNAS, mBio

PEER REVIEWS

Ad hoc reviewer for: Cell, Science, Nature Microbiology, Nature Metabolism, Nature Ecology & Evolution, Nature Reviews Microbiology, Nature Reviews Gastroenterology & Hepatology, Cell Host & Microbe, Science Translational Medicine, PNAS, PLoS Biology, Genome Biology, Microbiome, American Journal of Physical Anthropology, Evolutionary Anthropology, Yearbook of Physical Anthropology, ISME Communications, International Journal of Endocrinology, American Journal of Primatology (~80 reviews performed to date)

Grant reviews: National Science Foundation, Leakey Foundation, William F. Milton Fund

PRESS COVERAGE

Work has been featured in Science, Nature Reviews Microbiology, PNAS, Best of Cell Press, Scientific American, National Geographic, Natural History, NPR (live broadcast and podcast), PBS NOVA, The Conversation, American Museum of Natural History (public lecture, podcast, YouTube, magazine), Science Update (podcast), Leakey Origin Stories (podcast), The New York Times, Washington Post, Philadelphia Inquirer, The Sunday Times, The Guardian, Harvard Magazine, Harvard Gazette, Harvard Crimson, Curiosity Channel, BBC TV and Radio (UK), CBC and Radio Canada (Canada), EBS (Korea), and SVT (Sweden).

SELECTED RECENT PRESS COVERAGE

Harvard Magazine:

<https://www.harvardmagazine.com/2024/09/harvard-study-social-networks-gut-microbiome>

Harvard Gazette:

<https://news.harvard.edu/gazette/story/2024/02/were-social-beings-so-are-microbes/>

Harvard Magazine:

<https://www.harvardmagazine.com/2023/11/features-rachel-carmody-human-microbiome>

New York Times:

<https://www.nytimes.com/2021/07/19/health/human-microbiome-hadza-rewilding.html>

American Museum of Natural History, SciCafe:

<https://www.youtube.com/watch?v=SaOHTp07Vgw>

Harvard Gazette:

<https://news.harvard.edu/gazette/story/2021/03/new-study-shows-that-diet-has-major-impact-on-gut-biomes/>

BBC:

<https://www.bbc.com/news/science-environment-56544239>

PBS Nova:

<https://www.pbs.org/wgbh/nova/article/cooking-gut-microbiome/>

New York Times:

<https://www.nytimes.com/2019/10/23/health/microbiome-raw-food.html>

Harvard Gazette:

<https://news.harvard.edu/gazette/story/2019/10/study-finds-gut-microbes-adapt-quickly-to-changes-in-food-preparation/>

NPR Science Friday:

<https://www.sciencefriday.com/segments/cooking-food-microbiome/>

National Academy of Sciences, Distinctive Voices:

<https://www.youtube.com/watch?v=SZAFk5933lw&t=3s>

(Updated 05/05/26)