Curriculum Vitae

MARCELA PFAFF NASH, M.S.

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Reproductive Biology and Evolution Lab
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RESEARCH FOCI

Human biology; Gut function; Growth and Development; Evolutionary medicine; Energetics and metabolism; Life history theory; Ecological transitions; Market integration; Double burden of malnutrition; Childhood; Water security; Developmental origins of health and disease; Biocultural adaptations; Social determinants of health

PROFESSIONAL APPOINTMENTS

2026 — Postdoctoral Research Associate, University of Notre Dame
Department of Anthropology (Mentor: Kristine Joy Chua)

EDUCATION

2026 — Ph.D., Anthropology, Baylor University
Dissertation: *Childhood intestinal energy absorption: Identifying variation in contexts of poor sanitation using a biocultural evolutionary framework*
Committee: Samuel Urlacher (principal advisor), Mark Flinn, John Shaver, Leigh Greathouse, Eduardo Undurraga

2024 — M.S. Anthropology, Baylor University

2020 — B.A. Physical Anthropology, University of Chile
Thesis: *Artificial cranial modification and dietary patterns in Pica 8 site: intra group differences in Pica Tarapacá Complex during Late Intermediate Period (AD 900-1450), Tarapacá Region, Chile*
Advisors: Francisca Santana-Sagredo and Rodrigo Retamal

GRANTS, FELLOWSHIPS AND AWARDS

2025 – 2026 — NSF Doctoral Dissertation Research Improvement Grant (Co-PI, $34,999). *Doctoral Dissertation Research: A biocultural evolutionary investigation of*

	childhood intestinal energy absorption in the context of poor sanitation. Role: Co-PI. PI: SS. Urlacher
2026	Evolutionary Anthropology Society Award for Best Student Paper of the Annual Meetings.
2026	Recognition for Excellence in Teaching Fall 2025 (Baylor University)
2025	Graduate Women in Science National Fellowship ($6,500). *Childhood energy expenditure and intestinal absorption among the Amazonian Shuar: An evolutionary investigation of children's energy requirements and balance.* Role: PI
2026	Human Biology Association student travel conference award ($750)
2026	Anthropology travel conference award (Baylor University) ($500)
2026	Graduate school travel conference award (Baylor University) ($400)
2024	Anthropology travel conference award (Baylor University) ($500)
2024	Graduate school travel conference award (Baylor University) ($400)
2023	Anthropology travel conference award (Baylor University) ($500)
2023	Graduate school travel conference award (Baylor University) ($400)
2021	NSF Cultural Anthropology Methods Program Fellow.
2021 – 2025	Graduate school fellowship (Baylor University) ($25,000)
2019	Anthropology travel conference award (University of Chile) ($125)

PUBLICATIONS

In Review	**Pfaff-Nash M**, Samsonov A, Chan-Park C, Rajkumar A, Fahed L, Plattner PN, Shoemaker E, Muthyala R, Joo SY, Huynh-Lucero ML, Urlacher SS. Lactulose:mannitol/rhamnose testing with children: A systematic review for understanding global variation in intestinal function. *Nutrition Reviews.*
In Review	Chaney C, Ong J, Kwak L , Grathwohl K, Wang S, Betts K, Beauregard J, Nemeth K, Waimon S, Zhang A, Shing A, Samsonov A, **Pfaff-Nash M**, Ragunanthan B, Urlacher S, Cepon-Robins T, Gildner T, Mallott E. Pathways from inequality to health: Social determinants of health shape the gut microbiome in low-resource U.S. communities. *Nature microbiology.*
In Review	Manthey C, Gildner TE, Urlacher SS, Mallott EK, Chaney C, Zhang A, Waimon S, Nemeth KL, Beauregard JA, Shing A, Samsonov A, **Pfaff-Nash M**, Cepon-Robins TJ. Reproductive outcomes and physiological variation: Immune markers and pregnancy loss across environments. *American Journal of Human Biology.*
2026	**Pfaff-Nash M,** Ramirez AJ, Kim EY, Cantrell HN, Liebert MA, Madimenos FC, Snodgrass JJ, Sugiyama LS, Urlacher SS. Impaired intestinal function among Indigenous Shuar children of Amazonian Ecuador: Evidence from

lactulose:mannitol tests of absorption and permeability. *American Journal of Human Biology.* https://doi.org/10.1002/ajhb.70219

2026 Santana-Sagredo F, Czermak A, Ditchfield P, Uribe M, Le Roux P, Barberena R, Harrod C, Retamal R, Pacheco A, Herrera-Soto MJ, Urrutia F, Agüero C, **Pfaff M**, Lee Thorp J, Schulting RJ, Haynes P, Alexander MM. Tracking the life and last journey of an Altiplano woman from the Atacama Desert. *Royal Society Open Science.* https://doi.org/10.1098/rsos.260254

2026 Samsonov A, Snodgrass JJ, Lieber MA, Madimenos FC, Kim EY, **Pfaff-Nash M**, Sugiyama LS, Urlacher SS. Oxidative stress and its relationship with market integration and pathogen exposure among Indigenous Shuar children of Amazonian Ecuador https://doi.org/10.1002/ajhb.70206

2025 Roba KJ, Jacobson H, McGrosky A, Sadhir S, Ford LB, **Pfaff M**, Kim EY, Nzunza R, Douglass M, Braun DR, Ndiema E, Urlacher SS, Pontzer H, Rosinger AY. Chronic stress and severe water insecurity during the historic 2022 drought are associated with inflammation among Daasanach semi-nomadic pastoralists in northern Kenya. *American Journal of Human Biology.* 37(1):e70009. DOI: 10.1002/ajhb.70009

2024 Gettler LT, Jankovic-Rankovic J, Gengo R, Eick GN, **Pfaff-Nash M**, Arumah E, Borun AM, Siad A, Urlacher SS, Meyer JS, Snodgrass, JJ, Oka RC Refugee health and physiological profiles in transitional settlements in Serbia and Kenya: Comparative evidence for effects of gender and social support. Psychoneuroendocrinology. DOI: 10.1016/j.psyneuen.2024.107024.

2024 Gildner TE, Urlacher SS, Nemeth KL, Beauregard JA, **Pfaff Nash M**, Zhang A, Waimon S, Cepon-Robins TJ. Dual burden of infectious and chronic disease in low-resource U.S. communities: Examining relationships between infection, adiposity, and inflammation. *Annals of Human Biology* 51(1):2368851. DOI: 10.1080/03014460.2024.2368851.

Book Chapters

2019 Fernández, C. I., **Pfaff, M.,** Candia, P. & Aguilar, R. Tradición y transformación de las huertas en los oasis del Desierto de Atacama, En Ibarra, J.T., A. Barreau, J. Caviedes & N. Pessa (Eds.) Huertas familiares y comunitarias: cultivando soberanía alimentaria. Ediciones Universidad Católica de Chile, Santiago, Chile. https://amunozsaezcom.wordpress.com/wp-content/uploads/2020/04/capitulo-3-huertas-familiares-y-comunitarias.pdf

CONFERENCE PRESENTATIONS

*Podium presentation

2026 *__Marcela Pfaff-Nash__, Leonardo Soto-Neira, Elizabeth Y. Kim, Melissa A. Liebert, Felicia C. Madimenos, J. Josh Snodgrass, Lawrence S. Sugiyama, and Samuel S. Urlacher. Intestinal energy loss among Indigenous Shuar children of Amazonian Ecuador: Insights into human energetics, life history, and health. Human Biology Association annual meetings, Denver, CO. **Winner of the Evolutionary Anthropology Society Best Student Paper Award**

2026 *__Marcela Pfaff-Nash,__ Alejandro J. Ramirez, Elizabeth Y. Kim, Hannah N. Cantrell, Melissa A. Liebert, Felicia C. Madimenos, J. Josh Snodgrass, Lawrence S. Sugiyama, and Samuel S. Urlacher. Lactulose:mannitol tests of intestinal function among Indigenous Shuar children of Amazonian Ecuador: Life history and public health implications. American Association of Biological Anthropologists annual meetings, Denver, CO. American Association of Biological Anthropologists annual meetings, Denver, CO.

2026 Anna Samsonov, J. Josh Snodgrass, Melissa A. Liebert, Felicia C. Madimenos, Elizabeth Y. Kim, **Marcela Pfaff Nash,** Lawrence S. Sugiyama, and Samuel S. Urlacher· Effects of market integration on oxidative stress among Indigenous Shuar children of Amazonian Ecuador. American Association of Biological Anthropologists annual meetings, Denver, CO.

2026 Judd, Mia; Cepon-Robins, Tara; Chaney, Carlye; Grathwohl, Kiersten; Wang, Shan; Ong, Jennifer; Kwak, Leena; Kim, Doyoon; Cannon, Regan; Betts, Kayla; Beauregard, Jade B.; Nemeth, Katherine L.; Waimon, Sophie; Zhang, Angela; Shing, Alexander B.; Kim, Elizabeth Y.; **Pfaff-Nash, Marcela;** Samsonov, Anna; Ainsley, Juliet; Mukundan, Dev; Hotter, Simone; Veluri, Reethika; Urlacher, Sam; Mallott, Elizabeth K.; Gildner, Theresa. Demographic correlates of cardiovascular disease and inflammation among adults from southwest Illinois and the Mississippi Delta. Human Biology Association annual meetings, Denver, CO.

2026 Lucero, My Linh; Y. Kim, Elizabeth; **Pfaff-Nash, Marcela;** Soto-Neira, Leo; N. Cantrell, Hannah; A. Liebert, Melissa; C. Madimenos, Felicia; J. Snodgrass, Josh; S. Sugiyama, Larry; Urlacher, Samuel. Global variation in children's appetite regulation: Exploring the relationship between circulating leptin and adiposity among the Indigenous Shuar of Ecuador. Human Biology Association annual meetings, Denver, CO.

2025 Chaney, CB, Gildner TE, Cepon-Robins TJ, Grathwohl K, Wang S, Ong J, Kwak L, Betts K, Beauregard J, Nemeth KL, Waimon S, Zhang A, Shing AB, Kim EY, **Pfaff-Nash M**, Samsonov A, Urlacher SS, Mallott E. Elucidating the causal

pathway linking social determinants of health to changes in the gut microbiome through inflammatory pathways in two low-resource U.S. communities. Human Biology Association annual meetings, Baltimore, MD.

2025 Manthey C, Gildner TE, Urlacher SS, Mallott E, Chaney CB, Zhang A, Waimon S, Nemeth KL, Thomas JB, Shing A, Samsonov A, **Pfaff-Nash M,** Cepon-Robins TJ. The Rural Embodiment and Community Health Project: Link between lifelong immune dysregulation and pregnancy loss. American Association of Biological Anthropologists annual meetings, Baltimore, MD.

2025 Orozco LS, Kim EY, **Pfaff Nash M**, Mackey AP, Urlacher SS. A global comparison of childhood energetics and evolution through urinary c-peptide. Baylor University, URSA Scholars annual conference, Waco, TX.

2025 Pogue KL, **Pfaff-Nash M**, Liebert MA, Madimenos FC, Snodgrass JJ, Gildner TG, Cepon-Robins TJ, Blackwell AD, Bribiescas RG, Sugiyama LS, Urlacher SS. Application of machine learning models to evaluate the relationship between household diet patterns and child growth among the Indigenous Shuar of Ecuador. Human Biology Association annual meetings, Baltimore, MD.

2025 Pogue KL, **Pfaff-Nash M**, Liebert MA, Madimenos FC, Snodgrass JJ, Gildner TG, Cepon-Robins TJ, Blackwell AD, Bribiescas RG, Sugiyama LS, Urlacher SS. Examining childhood diet transitions in an Indigenous Amazonian population experiencing market integration. Bears Building Bridges Conference, Waco, TX., Waco, TX.

2025 Pogue KL, **Pfaff-Nash M**, Liebert MA, Madimenos FC, Snodgrass JJ, Gildner TG, Cepon- Robins TJ, Blackwell AD, Bribiescas RG, Sugiyama LS, Urlacher SS. Determining nutritional patterns underpinning growth faltering and obesity among Indigenous Amazonian children using machine learning classification. Baylor University, Global Health Week annual conference, Waco, TX., Waco, TX.

2024 **Pfaff Nash M** and Urlacher SS. Childhood intestinal energy absorption: Identifying variation in contexts of poor sanitation using a biocultural evolutionary framework. Baylor University, Bears Building Bridges Conference, Waco, TX

2024 **Pfaff-Nash M**, Pogue K, Liebert MA, Sugiyama LS, Madimenos FC, Cepon-Robins TJ, Gildner TE, Blackwell AD, Snodgrass JJ, Urlacher SS. Household dietary diversity trends over time and market integration among the Indigenous Shuar of Amazonian Ecuador. Human Biology Association annual meetings, Los Angeles, CA.

2024 **Pfaff-Nash M** and Urlacher SS. Global variation in childhood intestinal absorptive capacity: An overlooked factor influencing energetics, phenotype,

and health. American Association of Biological Anthropologists annual meetings, Los Angeles, CA.

2024 Pogue K, **Pfaff Nash M**, Urlacher SS. Early Childhood Diet Transitions in an Indigenous Amazonian Population. Baylor University, Bears Building Bridges Conference, Waco, TX.

2024 Pogue K, **Pfaff Nash M,** Urlacher SS. Examining Early Childhood Diet Transitions Using a Food Frequency Questionnaire in an Indigenous Amazonian Population Experiencing Market Integration. Baylor Undergraduate Student Research Association Conference, Waco, TX.

2024 Pogue K, **Pfaff Nash M**, Liebert MA, Madimenos FC, Sugiyama LS Snodgrass JJ, Urlacher SS. Characterizing Maternal Diet Transitions Using a Food Frequency Questionnaire in an Indigenous Amazonian Population Experiencing Market Integration. National Collegiate Research Conference, Harvard University, Cambridge, MA.

2024 Pogue K, **Pfaff Nash M**, Liebert MA, Madimenos FC, Sugiyama LS Snodgrass JJ, Urlacher SS. Estimating nutritional intake and the impact of market integration on child nutritional adequacy among the Indigenous Shuar of Ecuador. American Public Health Association annual meeting, Washington, D.C.

2024 Samsonov A, Gildner TE, Nemeth KL, Thomas JB, Waimon S, Shing AB, Chaney C, Mallott EK, Kim EY, **Pfaff Nash M**, Urlacher SS, Cepon-Robins TJ. Rural Embodiment and Community Health (REACH) Study: Social determinants of intestinal health among low-resource communities in the United States. Human Biology Association annual meetings, Los Angeles, CA.

2024 Thomas JB, Cepon-Robins TJ, Urlacher SS, Waimon S, Zhang A, Mallott EK, Nemeth KL, Shing AB, Chaney C, Samsonov A, Grathwohl K, Kim EY, **Pfaff-Nash M**, Ong J, Wang S, Gildner TE. Rural Embodiment and Community Health (REACH) study: Associations between sex and Immunoglobulin E levels among two low-resource communities within the United States. Human Biology Association annual meetings, Los Angeles, CA.

2024 Jacobson HC, McGrosky A, Sadhir S, Ford L, **Pfaff-Nash M**, Kim EK, Nzunza R, Douglass M, Braun DR, Ndiema E, Urlacher SS, Pontzer H, Rosinger AY. Stress, inflammation, and immune activation: Insights from Dassanach semi-nomadic pastoralists of Northern Kenya. Human Biology Association annual meetings, Los Angeles, CA.

2024 Nemeth KL, Cepon-Robins TJ, Urlacher SS, Mallott EK, Thomas JB, Waimon S, Recca I, Zhang A, **Pfaff-Nash M**, Kim EY, Gildner TE.. Rural Embodiment and Community Health Study (REACH): Trade-offs between Immunoglobulin E levels and growth in a preliminary sample of children in a low-resource rural

Mississippi community. Human Biology Association annual meetings, Los Angeles, CA.

2024 Gettler LT, Jankovic-Rankovic J, Gengo RG, Eick GN, **Pfaff-Nash M**, Arumah EN, Boru AM, Said AM, Urlacher SS, Meyer JS, Snodgrass JJ, Oka RC. Refugee health and physiological profiles in transitional settlements in Serbia and Kenya: Comparative evidence for effects of gender and social support. Human Biology Association annual meetings, Los Angeles, CA.

2023 **Pfaff-Nash M**, Snodgrass JJ, Liebert MA, Madimenos FC, Sugiyama LS, Urlacher SS. The impact of market integration and household dietary diversity on child outcomes: Findings from the Indigenous Shuar of Amazonian Ecuador. Human Biology Association Annual meetings, Reno, NV.

2023 **Pfaff-Nash M**, Kramer KL, Konečná M, Urlacher SS. Objectively measured childhood physical activity among small-scale populations. Texas Association of Biological Anthropologists annual meetings, Fort Worth, TX.

2023 Urlacher SS, Adjetey B, **Pfaff-Nash M**, Dugas LR, Snodgrass JJ, Liebert MA, Madimenos FC, Sugiyama LS, Terán E, Pontzer H. The energetics of environmental enteric dysfunction – a leading cause of childhood growth faltering globally: Initial findings among the Shuar of Amazonian Ecuador. Human Biology Association annual meetings, Reno, NV.

2023 Cepon-Robins TJ, Urlacher SS, Zhang A, Waimon S, **Pfaff-Nash M**, Nemeth KL, Thomas JB, Shing A, Gildner TE. Rural Embodiment and Community Health (REACH) study: Helicobacter pylori infection prevalence and associated immune responses in adult participants from Mississippi and Southwestern Illinois. Human Biology Association annual meetings, Reno, NV.

2023 Gildner TE, Mallott EK, Urlacher SS, Zhang A, Waimon S, **Pfaff-Nash M**, Nemeth KL, Thomas JB, Shing A, Cepon-Robins TJ. Rural Embodiment and Community Health (REACH) study: Associations between sociodemographic factors, health conditions, and Immunoglobulin E levels among low-resource communities within the United States. Human Biology Association annual meetings, Reno, NV

2022 **Pfaff-Nash M** and Cliburn C. Barriers to SNAP enrollment and opportunities from the perception of non-profit service providers. Together at the Table: Hunger and Poverty Summit. Waco, TX.

2019 **Pfaff M**., Santana-Sagredo F., Retamal R. Artificial Cranial Modifications: new perspective on the study of divergent diets in Pica 8. Workshop on Archaeology and Isotopes in Southern South America. Pica, Tarapacá Region, Chile.

Research Experience

2020-2026 Graduate Research Assistant, Human Evolutionary Biology and Health Lab Baylor University, Waco, TX. Projects:

- Shuar Health and Life History Project – Ecuador
- The Hidden Costs of COVID-19 on Child Development and Health-Philadelphia
- Child Development and Health with the Transition from Informal Settlements to Subsidized Housing – Chile

2022 Intern, Baylor Collaborative on Hunger and Poverty

2018 – 2020 Research Assistant, Natural Science Institute Alexander Von Humboldt, Antofagasta, Chile. "Agro-Pastoral Practices in the Atacama Desert: Change, Intensification and their Impact on Human Diet." Postdoc FONDECYT 3180317. Researcher: Francisca Santana-Sagredo, PhD

2018 Field Research Assistant, Atacama Region, Chile. "The Evolutionary Role of Dietary Adaptations and their Health Outcomes among Indigenous People of Chile" (NSF BCS-1752114; Wenner-Gren Foundation for Anthropological Research). Researcher: Catalina Fernández, PhD

2017 – 2018 Intern, Faculty of Medicine, Biological Anthropology Division, University of Freiburg

Teaching Experience

2025/2026 Baylor University, Anthropology 1404, 'Introduction to Human Evolution' (TA)
2025 Baylor University, Anthropology 1407, 'Introduction to Archaeology' (TA)
2018 University of Chile, 'Growth and Development' (TA)
2018 University of Chile, 'Research workshop' (TA)
2018 University of Chile, 'Evolution' (TA)
2017 University of Chile, 'Population Genetics' (TA)
2015 University of Chile, 'Philosophy of the Social Sciences' (TA)

Invited Classroom Presentations

2025 Baylor University, Department of Anthropology, 'Lab Methods in Anthropological Research'

Professional Membership and Affiliations

Graduate Women in Science
American Association of Biological Anthropologists
Human Biology Association
Chilean Society of Biological Anthropology

Skills and Qualifications

Languages	Spanish (fluent, native), German and English (fluent), French (basic)
Computing	R Programming Language (advanced)
	Nutritionist Pro Software
Laboratory	Doubly labeled water
	Wearable technology use & data management
	ELISA
	Bomb calorimetry
	Mass spectrometry (lactulose:mannitol test)
Field	Survey design and implementation
	Biological sample collection
	Anthropometric assessment
	Water testing