

ACADEMIC APPOINTMENTS

2023-	Associate Professor, School of Life Sciences, Arizona State University
2020-	Core Faculty, Center for Evolution and Medicine, Arizona State University
2020-	Adjunct Faculty, School of Human Evolution and Social Change, Arizona State University
2021-	Affiliate Faculty, Neurodegenerative Disease Research Center, Arizona State University
2020-2022	Assistant Professor, School of Life Sciences, Arizona State University
2017-2019	Assistant Professor, Department of Psychology, University of Washington.
2019-2019	Adjunct Assistant Professor, Department of Biology, University of Washington.
2017-2019	Research Affiliate, Center for Studies in Demography & Ecology, University of Washington.
2017-2019	Research Affiliate, Washington National Primate Research Center, University of Washington.
2012-2017	Postdoctoral Fellow and Senior Research Scientist, Department of Evolutionary Anthropology, Duke University Population Research Institute, Duke Center for Aging.

EDUCATION

2012	Ph.D., Psychology, University of Pennsylvania
2008	M.A., Psychology, University of Pennsylvania
2007	B.A., Psychology, University of Pennsylvania

PERSONAL STATEMENT

My interdisciplinary molecular and computational lab combines demographic and behavioral data with high throughput genomics and the requisite bioinformatic and statistical tools to probe the dynamic interaction between the environment and the genome. I tackle questions from two directions: (1) identifying the molecular mechanisms through which the environment, age, socioeconomic status, and lived experiences alter physiology, health, and survival and (2) examining the molecular and physiological adaptations that help organisms thrive in extreme environments. My lab conducts this work using socially complex nonhuman primates and dogs, where we pair molecular, computational, and statistical tools from genomics, behavioral ecology, and neuroscience with theories from sociology, evolutionary biology, and immunology, to investigate the dynamic interaction between our environments and our bodies.

AWARDS, FELLOWSHIPS, & GRANTS

Grants I received while a tenure track Assistant Professor at the University of Washington are noted with an asterisk (*).

Current

- NIH "Impacts of hurricanes and social buffering on biological aging in a free-ranging animal model" (R01AG084706). Role: co-PI. \$3,172,529 in total; \$1,586,331 to Snyder-Mackler. 2023-2028
- NIH "Functionally guided adult whole brain cell atlas in human and NHP" (UM1MH130981). Role: co-I. \$110,000,000 in total; \$699,000 to Snyder-Mackler. 2022-2027
- NIH "Social Modifiers of the Pace of Aging" (R01AG060931). Role: co-PI. \$3,015,064 in total and to Snyder-Mackler. 2019-2024*
- NSF "Collaborative Research: An integrative approach to understanding variation in patterns of aging in primates" (SBE-2235565). Role: PI. \$187,647 total and to Snyder-

Mackler; 2023-2026

- NSF “Functional genomics of high-altitude adaptation in a nonhuman primate model” (SBE-2010309). Role: PI. \$394,010 total and to Snyder-Mackler. 2019-2024*
- NIH “Neurogenomics of Vulnerability and Resilience” (R01MH118203). Role: co-I. \$1,911,394 in total; \$190,015 to Snyder-Mackler. 2019-2024*
- NIH “The Dog Aging Project: Genetic and Environmental Determinants of Healthy Aging in Companion Dogs” (U19AG057377). Role: co-I. \$29,000,000 in total; \$454,189 to Snyder-Mackler, 2018-2024

Submitted & Pending

- NIH “U19: Causes, Consequences, and Modifiers of Heterogeneity in Aging” (U19). Role: PI. \$38,044,235 total and to Snyder-Mackler, 2025-2030
- NIH “Research Network on Animal Models to Understand Social Dimensions of Aging” (R24AG065172). Role: co-PI. \$1,992,549 total; \$287,936 to Snyder-Mackler, 2024-2029.
- NIH “Social Modifiers of Primate Lifespan” (R01AG087902). Role: co-PI. \$3,174,408 total and \$1,858,753 to Snyder-Mackler, 2024-2029.

Past

- NIH “Effects of a major natural disaster on the pace of aging in a nonhuman primate model” (R56AG071023). Role: co-PI. \$839,120 total; \$340,519 to Snyder-Mackler. 2021-2022
- NIH “Single cell transcriptional and epigenomic atlas of the macaque brain across the lifespan” (U01MH121260). Role: co-PI. \$4,848,347 total; \$964,293 to Snyder-Mackler. 2019-2023
- NIH “Gene regulatory analysis of social integration and resilience during aging” (R00AG051764). Role: PI. \$747,000 total and to Snyder-Mackler; 2017-2022*
- ASU nominee for Blavatnik Award for Young Scientists (2022)
- NSF “Collaborative Research: Physiological signatures of weaning in a wild primate” (SBE-1723228). Role: PI. \$129,444 total and to Snyder-Mackler; 2017-2021*
- UW Royal Research Fund. Role: PI. \$37,916 to Snyder-Mackler; 2018-2019
- UW Student Technology Fee resource grant. Role: PI. \$137,296. 2018
- NIH Pathway to Independence Award (K99AG051764). Role: PI. \$236,450 total, 2016-2017
- NIA Butler-Williams Scholar, 2016
- NIH Postdoctoral Fellowship Duke Center for Study of Aging (T32AG000029); 2015
- NSF Office of Multidisciplinary Studies Postdoctoral Fellowship (SMA-1306134), \$199,449 direct costs; 2013-2015
- NIH NRSA Postdoctoral Fellowship (F32) – 7th percentile – declined for NSF fellowship; 2013
- NIH Postdoctoral Fellowship, Duke University Population Research Institute (T32); 2012-2013
- Animal Behavior Society Allee Competition, best dissertation, Runner-up, 2012
- NSF Graduate Research Fellowship; 2008-2012
- NSF Doctoral Dissertation Improvement Grant in Physical Anthropology, \$19,500 (BCS-0962118); 2010
- L.S.B. Leakey Foundation General Grant, \$11,024; 2010

PUBLICATIONS

Key: **Snyder-Mackler lab members in bold**

*equal contribution

**corresponding

^PSnyder-Mackler lab postdocs

^GSnyder-Mackler lab graduate students

^USnyder-Mackler lab undergraduate students

^CStudents for whom I was a committee member

91. Cooper EB, Brent LJN, **Snyder-Mackler N**, Higham JP (2024). "Demography and climate influence sex-specific survival costs of reproduction over 60 years in a free ranging primate population." *Oikos* doi: 10.1111/oik.10624
90. **Watowich MM**^G, Costa CE^C, **Chiou KL**^P, Petersen RM; Patterson SK, Martinez MI, Sterner KN Horvath JE, Montague MJ, Platt ML, Brent LJN, Higham JP, Lea AJ**, **Snyder-Mackler N**** (2024). "Immune gene regulation is associated with age and environmental adversity in a nonhuman primate." *Molecular Ecology*. in press.
89. Costa CE^C, **Watowich MM**^G, Goldman EA, Sterner KN, Negrón-Del Valle JE, Phillips D; Cayo Biobank Research Unit, Platt ML, Montague MJ, Brent LJN, Higham JP, **Snyder-Mackler N****, Lea AL** (2024). "Genetic architecture of immune cell DNA methylation in the rhesus macaque." *Molecular Ecology*, accepted.
88. DeCasien AR*^C, **Chiou KL***^P, Testard C, **Mercer A**^U, Negrón-Del Valle JE, Bauman Surratt SE, González O, Stock MK, Ruiz-Lambides AV, Martínez MI, Cayo Biobank Research Unit, Antón SC, Walker CS, Sallet J, Wilson MA, Brent LJN, Montague MJ, Sherwood CC, Platt ML, Higham JP**, **Snyder-Mackler N****. "Evolutionary and biomedical implications of sex differences in the primate brain transcriptome" *Cell Genomics* doi: 10.1016/j.xgen.2024.100589
87. Testard C, Shergold C, Acevedo-Ithier A, Hart J, Bernau A, Negrón-Del Valle JE, Phillips D, **Watowich MM**^G, Sanguinette-Scheck JI, Montague MJ, **Snyder-Mackler N**, Higham JP, Platt ML, Brent LJN (2024). "Rapid environmental change alters the adaptive benefits of sociality in a primate." *Science*, doi: 10.1126/science.adk0606.
86. Frye BM*, Negrey JD*, **Johnson CSC**^G, Kim J, Barcus RA, Lockhart SN, Whitlow CT, **Chiou KL**^P, **Snyder-Mackler N**, Montine TJ, Craft S, Shively CA, Register TC (2024). "Mediterranean diet protects against a neuroinflammatory cortical transcriptome: Associations with brain volumetrics, peripheral inflammation, social isolation, and anxiety in nonhuman primates (*Macaca fascicularis*)." *Brain, Behavior, and Immunity*. doi: [10.1016/j.bbi.2024.04.016](https://doi.org/10.1016/j.bbi.2024.04.016)
85. Pavez-Fox MA, Escabi-Ruiz CM, Hard JDA, Negrón-Del Valle JE, Phillips D, Ruiz-Lambides A, Bauman SE, Martinez MI, Montague MJ, Platt ML, Higham JP, **Snyder-Mackler N**, Brent LJN (2024). "Trade-offs between sociality and gastrointestinal parasite infection in the context of a natural disaster" *Animal Behaviour*. doi: 10.1016/j.anbehav.2024.03.002.
84. Turcotte CM, Choi AM, Spear JK, Hernandez-Janer EM, Dickinson E, Taboada HG, Stock MK, Villamil CI, Bauman SI, Cayo Biobank Research Unit, Martinez MI, Brent LJN, **Snyder-Mackler N**, Montague MJ, Platt ML, Williams SA, Antón SC, Higham JP (2024). "Mechanical and morphometric approaches to body mass estimation in rhesus macaques: A test of skeletal variables." *American Journal of Biological Anthropology*, e24901. doi: 10.1002/ajpa.24901
83. Turcotte CM, Choi AM, Spear JK, Hernandez-Janer EM, Taboada HG, Stock MK, Villamil CI, Bauman SI, Cayo Biobank Research Unit, Martinez MI, Brent LJN, **Snyder-Mackler N**, Montague MJ, Platt ML, Williams SA, Higham JP, Antón SC (2024). "Quantifying the relationship between bone and soft tissue measures within the rhesus macaques of Cayo Santiago." *American Journal of Biological Anthropology*, e24920. doi: 10.1002/ajpa.24920
82. Painter MC, Gustiston ML, **Snyder-Mackler N**, Tinsley Johnson E^C, Le Roux A, Bergman TJ (2024). "Acoustic variation and group level convergence of gelada, *Theropithecus gelada*, contact calls." *Animal Behaviour*, 207. doi: 10.1016/j.anbehav.2023.10.002
81. Jin K^C, **McCoy BM**^G, Goldman EA, Usova V, Tkachev V, Chitsazan AD, Kakebeen A, Jeffery U, Creevy KE, Wills A, **Snyder-Mackler N****, Promislow DEL** (2024). "DNA methylation and chromatin accessibility predict age in the domestic dog." *Aging Cell*, e14079. doi: 10.1111/accel.14079

80. **Chiou KL^{*P}**, Huang X^{*}, Bohlen MO, Tremblay S, DeCasien AR^C, O'Day DR, Spurrell CH, Gogate AA, **Zintel TM^P**, Cayo Biobank Research Unit, Andrews MG, Martínez MI, Starita LM, Montague MJ, Platt ML^{**}, Shendure J^{**}, **Snyder-Mackler N^{**}** (2023). "A single-cell multi-omic atlas spanning the adult rhesus macaque brain" *Science Advances*. preprint: 10.1101/2022.09.30.510346v1 doi: 10.1126/sciadv.adh1914
79. **Sanchez Rosado MR^G**, Marzan-Rivera N, **Watowich MM^G**, Negron-Del Valle AD, Pantoja P, Pavez-Foz MA, Siracusa ER, Cooper EB, Negron-Del Valle JE, Phillips D, Ruiz-Lambides A, Cayo Biobank Research Unit, Martinez MI, Montague MJ, Platt ML, Higham JP, Brent LJJ, Sariol CA, **Snyder-Mackler N^{*}** (2023). "Immune cell composition varies by age, sex and exposure to social adversity in free-ranging Rhesus Macaques." *GeroScience* preprint: 10.1101/2021.12.06.471383 doi: 10.1007/s11357-023-00962-8
78. Newman LE^{*C}, Testard C^{*}, DeCasien AR^C, **Chiou KL^P**, **Watowich MM^G**, Janiak MC, Pavez-Fox MA, **Sanchez Rosado MR^G**, Cooper EB, Costa CE^C, Petersen RM, Montague MM, Platt ML^{**}, Brent LJJ^{**}, **Snyder-Mackler N^{**}**, Higham JP^{**} (2023). "The biology of aging in a social world: insights from free-ranging rhesus macaques" *Neuroscience & Biobehavioral reviews*. preprint: 10.1101/2023.01.28.525893v1, doi: 10.1016/j.neubiorev.2023.105424
77. Jarvey JC, Low BS, Haile AA, **Chiou KL^P**, **Snyder-Mackler N**, Lu A, Bergman TJ, Beehner JC, Schneider-Crease IS (2023). "Aggression rates increase around seasonally exploited resources in a primarily grass-eating primate." *Behavioral Ecology*, arad079, doi: 10.1093/beheco/arad079
76. **Watowich MM^G**, **Chiou KL^P**, Graves B, Montague MJ, Brent LJJ, Higham JP, Horvath JE, Lu A, Martinez MI, Platt ML, Schneider-Crease I, Lea AJ, **Snyder-Mackler N^{**}** (2023). "Best practices for genotype imputation from low-coverage sequencing data in natural populations." *Molecular Ecology Resources*. doi: 10.1111/1755-0998.13854
75. Petersen SM, **Watowich MM^G**, Renner LM, Martin S, **Offenberg E^U**, Lea AJ, Montague MJ, Higham JP, **Snyder-Mackler N**, Neuringer M, Ferguson B (2023). "Genetic variants in melanogenesis proteins TYRP1 and TYR are associated with the golden rhesus macaque phenotype." *G3*. doi: 10.1093/g3journal/jkad168
74. Patterson SK^{*}, Petersen RM, Brent LJJ, **Snyder-Mackler N**, Lea AJ, Higham JP (2023). "Natural animal populations as models for understanding early life adversity effects on aging." *Integrative and Comparative Biology*, 63:3, doi: 10.1093/icb/icad058.
73. Shively CA, Frye BM, Negrey JD, **Johnson CSC^G**, Sutphen CL, Molina AJA, Yadav H, **Snyder-Mackler N**, Register TC (2023). "The Interactive Effects of Psychosocial Stress and Diet Composition on Health in Primates." *Neuroscience & Biobehavioral Reviews* doi: 10.1016/j.neubiorev.2023.105320
72. Fernandes AG, Alexopoulos P, Burgos-Rodriguez A, Martinez MI, Cayo Biobank Research Unit, Ghassibi M, Leskov I, Brent LJJ, **Snyder-Mackler N**, Danias J, Wollstein G, Higham JP, Melin AD (2023). "Age-related differences in ocular features of a naturalistic free-ranging population of rhesus macaques." *Investigative Ophthalmology and Visual Science*, 64:7 doi: 10.1167/iovs.64.7.3
71. Prater KE, Green KJ, Mamde S, Sun W, Cochois A, Smith CL, **Chiou KL^P**, Heath L, Rose SE, Wiley J, Keene CD, Kwon RY, **Snyder-Mackler N**, Blue E, Logsdon B, Young JE, Shojaie A, Garden GA, Jayadev S (2023). "Human microglia show unique transcriptional changes in Alzheimer's disease." *Nature Aging*. doi: 10.1038/s43587-023-00424-y
70. **McCoy BM^G**, **Brassington L^G**, Jin K^C, Dobby GA, Shrager S, Collins D, Dunbar M, Dog Aging Project Consortium, **Snyder-Mackler N^{**}** (2023). "Social determinants of health and disease in companion dogs: A cohort study from the Dog Aging Project" *Evolution, Medicine, and Public Health*. preprint: 10.1101/2022.04.08.487645 doi: 10.1093/emph/eoad011
69. DeLacey PM^C, Sen S^C, Schneider-Crease I, **Chiou KL^P**, Lemma A, Ayele F, Haile A, Lu A, Bergman TJ, Beehner JC, **Snyder-Mackler N^{**}** (2023). "Vascularization underlies differences in sexually selected skin coloration in a wild primate." *Molecular Ecology*. preprint: 10.22541/au.167359516.63326414/v1, doi: 10.1111/mec.17026

68. Siracusa ER, Pereira AS, Bohr Brask J, Negron-Del Valle JE, Phillips D, Cayo Biobank Research Unit, Platt ML, Higham JP, **Snyder-Mackler N**, Brent LJN (2023). "Ageing in a collective: The impact of ageing individuals on social network structure." *Philosophical Transactions of the Royal Society B*, 78:20220061. preprint: 10.1101/2022.08.10.503309; doi: 10.1098/rstb.2022.0061
67. **Chiou KL^P**, DeCasien AR^C, Rees KP, Testard C, Spurrell CH, Gogate AA, Pliner HA, Tremblay S, **Mercer A^U**, Whalen CJ, Negron-Del Valle JE, Janiak MC, Bauman Surratt S, González O, Compo NR, Stock MK, Ruiz-Lambides AV, Martínez MI, Cayo Biobank Research Unit, Wilson MA, Melin AD, Antón SC, Walker CS, Sallet J, Newbern JM, Starita LM, Shendure J, Higham JP, Brent LJN, Montague MJ, Platt ML, **Snyder-Mackler N^{**}** (2022). "Multiregion transcriptomic profiling of the primate brain reveals signatures of aging and the social environment." *Nature Neuroscience*. doi: 10.1038/s41593-022-01197-0
66. **Schneider-Crease I^P**, Feder JA, **Baniel A^P**, McCann C, Haile AA, Abebe B, Fitzgerald L, Gomery MA, Simberloff RA, Petrie ZL, Gabriel P, Dorny P, Fashing PJ, Nguyen N, Bergman TJ, Beehner JC, **Snyder-Mackler N**, Lu A (2022). "Urinary neopterin reflects immunological variation associated with age, helminth parasitism, and the microbiome in a wild primate." *Scientific Reports*. doi: 10.1038/s41598-022-25298-9
65. Pavez-Fox MA, Kimock CM, Rivera-Barreto N, Negron-Del Valle JE, Phillips D, Ruiz-Lambides A, **Snyder-Mackler N**, Higham JP, Siracusa ER, Brent LJN (2022). "Reduced injury risk links sociality to survival in a group-living primate" *iScience*. doi: 10.1016/j.isci.2022.105454.
64. Siracusa ER, Negron-Del Valle JE, Phillips D, Platt ML, Higham JP, **Snyder-Mackler N**, Brent LJN (2022). "Within-individual changes reveal increasing social selectivity with age in rhesus macaques." *Proceedings of the National Academy of Sciences*. preprint: 10.1101/2022.05.31.494118; doi: 10.1073/pnas.2209180119
63. Cooper EC, **Watowich MM^G**, Beeby N, Whalen C, Montague MJ, Brent LJN, **Snyder-Mackler N**, Higham J (2022). "Concentrations of urinary neopterin, but not suPAR, positively correlate with age in rhesus macaques." *Frontiers in Ecology and Evolution*, doi: 10.3389/fevo.2022.1007052.
62. **Baniel A^P**, Petruzzo L, **Mercer A^U**, Reitsema L, **Sams S**, Beehner JC, Bergman TJ, **Snyder-Mackler N^{*}**, Lu A^{*} (2022). "Maternal effects on early-life gut microbiome maturation in a wild nonhuman primate." *Current Biology*, in press. preprint doi: [10.1101/2021.11.06.467515v1](https://doi.org/10.1101/2021.11.06.467515v1)
61. **Johnson CSC^G**, Frye BM, Register TC, **Snyder-Mackler N**, Shively CA (2022). "Mediterranean Diet Reduces Social Isolation and Anxiety in Adult Female Nonhuman Primates." *Nutrients*, 14(14), 2852; doi: 10.3390/nu14142852.
60. Morrill K, Hekman J, Li X, McClure J, Logan B, Goodman L, Gao M, Dong Y, Alonso M, Carmichael E, **Snyder-Mackler N**, Alonso J, Noh HJ, Johnson J, Koltoukian M, Lieu C, Megquier K, Swofford R, Turner-Maier J, White ME, Weng Z, Colubri A, Genereux DP, Lord KA, Karlsson EK (2022). "Ancestry-inclusive dog genomics challenges popular breed stereotypes." *Science*. doi: 10.1126/science.abk0639
59. Feder J, Beehner JC, **Baniel A^P**, Bergman TJ, **Snyder-Mackler N**, Lu A (2022) "Social drivers of maturation age in female geladas." *Behavioral Ecology*, doi: 10.1093/beheco/arac028.
58. Testard C, Brent LJN, Andersson J, **Chiou KL^P**, Negron-Del Valle JE, DeCasien AR, Acevedo-Ithier A, Stock MK, Antón SC, Gonzalez O, Walker CS, Foxlet S, Compo NR, Bauman S, Ruiz-Lambides AV, Martinez MI, Skene JHP, Horvath JE, Cayo Biobank Research Unit, Higham JP, Miller K, **Snyder-Mackler N**, Montague MJ, Platt ML, Sallet J (2022). "Social connections predict brain structure in a multidimensional free-ranging primate society." *Science Advances*. doi: 10.1126/science.abl5794
57. **Chiou KL^P**, Janiak MC, **Schneider-Crease I^P**, Sen S^C, Ayele Ferehiwot, Chuma IS, Knauf S, Lemma A, Signore AV, D'Ippolito AM, Abebe B, Haile AA, Kebede F, Fashing PJ, Nguyen N, McCann C, Houck ML, Wall JD, Burrell AS, Bergey CM, Rogers J, Phillips-Conroy JE, Jolly CJ, Melin AD, Storz JF, Lu A, Beehner JC, Bergman TJ, **Snyder-Mackler N^{**}** (2022). "Genomic signatures of high-altitude adaptation and chromosomal polymorphism in geladas." *Nature Ecology and Evolution*. doi: 10.1038/s41559-022-01703-4.

56. Sloan E, Beehner JC, Bergman TJ, Lu A, **Snyder-Mackler N**, Jacquemyn H (2022) "Effects of climate variability on the demography of wild geladas." *Ecology and Evolution*. doi: 10.1002/ece3.8759.
55. DeLacey PM^C, Perlman RF, Sen S^C, **Schneider-Crease I^P**, **Chiou KL^P**, Lemma A, Ayele F, Higham JP, Lu A, **Snyder-Mackler N**, Beehner JC, Bergman TJ (2022). "Assessing male gelada chest patches: color measurement and physiological mechanisms." *Mammalian Biology*, doi: 10.1007/s42991-021-00211-5.
54. Siracusa E, Higham JP, **Snyder-Mackler N**, Brent L J N (2022). "Social ageing: Exploring the drivers of late-life changes in social behaviour in mammals." *Biology Letters*. doi: 10.1098/rsbl.2021.0643.
53. Petruccio L^C, **Baniel A^P**, Jorgensen MJ, **Sams S**, **Snyder-Mackler N**, Lu A (2022). "The early life microbiota mediates maternal effects on offspring growth in a nonhuman primate." *iScience*, doi: 10.1016/j.isci.2022.103948.
52. **Watowich MM^G**, **Chiou KL^P**, Montague MJ, Cayo Biobank Research Unit, Simons ND, Horvath JE, Ruiz-Lambides A, Martinez MI, Higham JP, Brent L J N, Platt ML, **Snyder-Mackler N^{**}** (2022). "Natural disaster and immunological aging in a nonhuman primate." *Proceedings of the National Academy of Sciences*. doi: 10.1073/pnas.2121663119.
51. **Snyder-Mackler N^{**}**, Snyder-Mackler L (2021). "Holistic Rehabilitation: Biological Embedding of Social Adversity and its Health Implications." *Physical Therapy Journal*, p245, doi: 10.1093/ptj/p245
50. Ruple A, MacLean E, **Snyder-Mackler N**, Creevy KE, Promislow D (2021). "Dog Models of Aging" *Annual Reviews of Animal Biosciences*, 2022:10, doi: 10.1146/annurev-animal-051021-080937
49. **Schneider-Crease I^P**, Blackwell AD, Kraft TS, Thompson ME, Suarez IM, Cummings DK, Stieglitz J, **Snyder-Mackler N**, Gurven M, Kaplan H, Trumble BC (2021). "Helminth infection is associated with dampened cytokine responses to viral and bacterial stimulations in Tsimane hunter-horticulturalists" *Evolutionary Medicine and Public Health* doi: 10.1093/emph/eoab035
48. Pavez-Fox MA, Negron-Del Valle JE, Thompson IJ, Walker CS, Bauman SE, Gonzalez O, Compo N, Ruiz-Lambides A, Martinez MI, Platt ML, Montague MJ, Higham JP, **Snyder-Mackler N**, Brent L J N (2021). "Sociality predicts individual variation in the immunity of free-ranging rhesus macaques." *Physiology and Behavior* 241:113560. doi:10.1016/j.physbeh.2021.113560.
47. **Johnson CSC^G**, Shively CA, Michalson KT, Lea AJ, DeBo RJ, Howard TD, Hawkins GA, Appt SE, Liu Y, McCall CE, Herrington D, Register TC^{**}, **Snyder-Mackler N^{**}** (2021). "Divergent effects of Western and Mediterranean diets on behavior and monocyte polarization." *eLife*, 10:e68293 doi: 10.7554/eLife.68293.
46. Miller CM, **Snyder-Mackler N**, Nguyen N, Fashing PJ, Tung J, Wroblewski EE, Gustison ML, Wilson ML (2021). "Extragroup paternity in gelada monkeys, *Theropithecus gelada*, at Guassa, Ethiopia and a comparison with other primates." *Animal Behaviour*, doi: 10.1016/j.anbehav.2021.05.008.
45. Tinsley Johnson E^{*C}, Feder JA^{*}, Bergman TJ, Lu A, **Snyder-Mackler N^{**}**, Beehner JC^{**} (2021). "The Goldilocks Effect: Female geladas in mid-sized groups have higher fitness." *Proceedings of the Royal Society B*, doi: 10.1098/rspb.2021.0820.3.
44. Testard C, Larson SM, **Watowich MM^G**, Kaplinsky CH, Bernau A, Faulder M, Marshall HH, Lehmann J, Ruiz-Lambides A, Higham JP, Montague MJ, **Snyder-Mackler N**, Platt ML, Brent L J N (2021). "Rhesus macaques build new social connections after a natural disaster." *Current Biology*. doi: 10.1016/j.cub.2021.03.029
43. **Baniel A^P**, Amato KR, Beehner JC, Bergman TJ, **Mercer A^U**, Perlman RF, Petruccio L^C, Reitsema L, **Sams SN**, Lu A, **Snyder-Mackler N^{**}** (2021). "Seasonal shifts in the gut microbiome indicate plastic responses to diet in wild geladas." *Microbiome*, 9:26. doi: 10.1186/s40168-020-00977-9.
42. Shively CA, Appt SE, Chen H, Day SM, Shaltout HA, Silverstein-Meltzer MG, **Snyder-Mackler N**, Uberseder B, Vitolins MZ, Register TC (2020). "Mediterranean diet, stress resilience, and aging in a nonhuman primate." *Neurobiology of Stress*, doi:

10.1016/j.ynstr.2020.100254

41. Lu A, Feder JA, **Snyder-Mackler N**, Bergman TJ, Beehner JC (2020). "Male-mediated maturation in a wild primate." *Current Biology*, doi: 10.1016/j.cub.2020.10.003 42.
40. **Chiou KL^P**, Montague MJ, Goldman EA, **Watowich MM^G**, **Sams SN**, Song J, Horvath JE, Sterner KN, Ruiz-Lambides AV, Martinez MI, Higham JP, Brent LJJ, Platt ML, **Snyder-Mackler N^{**}** (2020). "Rhesus macaques as a tractable physiological model of human ageing." *Philosophical Transactions of the Royal Society B*, 367:11. doi: 10.1098/rstb.2019.0612.
39. Emery Thompson M, Rosati AG, **Snyder-Mackler N** (2020). "Insights from evolutionarily relevant models of human ageing." *Philosophical Transactions of the Royal Society B*, 367:11. doi: 10.1098/rstb.2019.0605.
38. Gnanadesikan GE, Hare B, **Snyder-Mackler N**, MacLean EL (2020). "Estimating the heritability of cognitive traits across dog breeds reveals highly heritable inhibitory control and communication factors." *Animal Cognition*, doi: 10.1007/s10071-020-01400-4.
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1. White DJ, Gersick AS, Freed-Brown SG & **Snyder-Mackler N** (2010). “The ontogeny of social skills: experimental increases in social complexity enhance reproductive success in adult cowbirds.” *Animal Behavior*, 79:2, 385-390. doi: 10.1016/j.anbehav.2009.11.014.

PREPRINTS

- Freudiger A, Jovanovic VM, Huang Y, **Snyder-Mackler N**, Conrad DF, Miller B, Montague MJ, Westphal H, Stadler PF, Bley S, Horvath JE, Brent LJN, Platt ML, Ruiz-Lambides A, Tung J, Nowick K, Ringbauer H, Widdig A. “Taking identity-by-descent analysis into the wild: Estimating realized relatedness in free-ranging macaques” *bioRxiv* doi: 10.1101/2024.01.09.574911
- Arner AM, Muhoya B, **Sanchez Rozado M^o**, Gurven MR, Kahumbu J, Kamau J, Kinyua P, Lotukoi F, Martins FJ, Miano C, Montague MJ, Njeru S, Peng J, Straub P, Watowich MM, Davis LK, **Snyder-Mackler N**, Ayroles JF, Lea AJ. “Sex differences in immune function and disease risk are not easily explained by an evolutionary mismatch.” *BioRxiv* doi: 10.1101/2024.02.13.580011v1

INVITED COMMENTARIES

- Chiou KL^P** and **Snyder-Mackler N** (2024). “Genetic Chimerism: Marmosets contain multitudes.” *eLife* doi: [10.7554/eLife.97866](https://doi.org/10.7554/eLife.97866)

Belsky D and **Snyder-Mackler N** (2017). “Integrating Genomics and Social Epidemiology—Analysis of Late-Life Low Socioeconomic Status and the Conserved Transcriptional Response to Adversity.” *American Journal of Epidemiology*, doi: 10.1093/aje/kwx145.

Snyder-Mackler N and Tung J (2017) “Vasopressin and the neurogenetics of parental care” *Neuron*, 94:1, 9–11, doi: 10.1016/j.neuron.2017.06.027.

[Google Scholar Profile](#)

[NCBI My Bibliography](#)

MENTORING

Postdoctoral Researchers

Past:

- Kenny Chiou: T32 fellow in the Shock Center for the Biology of Aging; NIH/NIA K99/R00 awardee (2017-2024)
 - Current position: Incoming Tenure Track Assistant Professor at U Alabama Birmingham
- India Schneider-Crease: NSF SBE postdoctoral fellow (2017-2023)
 - Current position: Tenure Track Assistant Professor at ASU
- Alice Baniel: (2018-2022)
 - Current position: Research Scientist (permanent position) in the Institut de Recherche pour le Développement: Institut Des Sciences De L'evolution De Montpellier
- Trisha Zintel: (2020-2022)
 - Current position: Biostatistician/Data Engineer at Sage Bionetworks (Seattle, WA)

Current:

- Baptiste Sadoughi (2024-present)
- Blaise Mariner (2024-present)

PhD Students

Past:

- Corbin Johnson (University of Washington; 2017-2022)
 - Current position: T32 Postdoc at University of Washington (Jayadev Lab)
- Marina Watowich (University of Washington; 2017-2022)
 - Awards: NIH F31/NRSA Fellow (2022); Diana Jacobs Kalman/AFAR Scholarships for Research in the Biology of Aging (2022)
 - Current position: T32 Postdoc at Vanderbilt University (Lea Lab)

Current:

- Mitchell Sanchez Rosado (University of Puerto Rico; 2019-2024)
 - Awards: NIH Diversity Supplement (2020-2022); NIH R36 (2023-2024)
- Brianah McCoy (Arizona State University; 2021-present)
 - Awards: NSF GRFP Fellow (2021-); Achievement Rewards for College Scientists (ARCS) Scholar
- Kelsi Watkins (Arizona State University; 2022-present)
- Brooklynn Scott (Arizona State University; 2023-present)
 - Awards: NSF GRFP Fellow (2023-)
- Cameron Kelsey (Arizona State University; 2023-present)

MS Students

- Layla Brassington (Arizona State University, MsC, 2021-2022)

- Current position: PhD student at Vanderbilt University (Lea Lab)

Graduate Committees (University, degree, graduation year)

- Dominic Saiz (Arizona State University, PhD, in progress)
- Glenda Ramirez (Arizona State University, PhD, in progress)
- Sharmi Sen (University of Michigan, PhD, 2023)
- Patricia DeLacey (University of Michigan, PhD, 2023)
- Mollie Peters (Arizona State University, PhD, in progress)
- Laura Newman (New York University, PhD, 2024)
- Christina Costa (New York University, PhD, in progress)
- Joey Orton (Arizona State University, MSc, 2022)
- Alexandra DeCasien (New York University, PhD, 2021)
- Kelly Jin (University of Washington, PhD, 2020)
- Lauren Petruzzo (Stony Brook University, PhD, 2020)

Undergraduate students (University, years in lab)

- Melia Menke (Arizona State University, Barrett Honors, 2023-2024)
- Isabella Ford (Arizona State University, Barrett Honors, 2021-2024)
- Ritika Anand (Arizona State University, Barrett Honors, 2021-2024)
- Kate Nelson (Arizona State University, 2021-2024)
- Spencer Green (Arizona State University, Barrett Honors, 2020-2023)
 - TGen Helios Scholar (2021)
- Jalen Nix (Arizona State University, 2021)
- Isabella Moya (Arizona State University, Barrett Honors, 2021-2024)
 - SOLS Medical Microbiology Student of the Year (2022)
 - Dr. Harry Gilbert and Doris Lorraine Crecelius Scholarship (2022)
- Aliya Kammerer (Arizona State University, Barrett Honors, 2021)
- Yasmine Salehi (Arizona State University, Barrett Honors, 2021-2023)
- Faiyaj Murshed (Arizona State University, 2021-2022)
- Garrett Maag (Arizona State University, 2020-2021)
 - SOLUR program Scholar
- Layla Brassington (Arizona State University, 2020-2021)
- Emma Offenbergl (Stanford University, 2020-2021)
- Matthew Harrington (University of Washington, Honors, 2017-2018)
- Abigail Lam (University of Washington, Honors, 2018)
- Lia Koklic (University of Washington, Honors, 2018-2019)
- Grace De Castro (University of Washington, 2018-2019)
 - Beacon Lab & Field Award (2019)

NSF Research Experience for Undergraduates (2021-)

My lab runs a 10-week NSF-funded Research Experience for Undergraduates (REU). We recruit, train, and pay students from underrepresented backgrounds in the sciences (URM, disabled, LBGTQIA+) to gain research experience in genomics and bioinformatics.

- 2021 cohort: Jazmine Harvey (Sacramento State University); Taliana Tudryn (Durham Community College/ NC State); Brian Graves (UC Davis); Nat Finnegan (UC Davis); Gabi Dugan (Virginia Tech)
- 2022 cohort: Andrea Negron (U Puerto Rico- Humacao); Amy Longtin (George Washington University); Alice Mongane (Carleton College)
- 2023 cohort: Claire Cheng (U Georgia); Jess Neumaier (ASU); Melia Menke (ASU); Elizabeth Wright (U Florida)

ASU DEPARTMENTAL AND UNIVERSITY SERVICE

- 2024 School of Life Sciences: "Reimagining SOLS" faculty group working group member
- 2023- School of Life Sciences DEI Taskforce member
- 2022 Bioethics of direct-to-consumer genomics. ASU Bioethics Breakfast Club.
- 2022- Center for Evolution and Medicine Seminar (CEMinar) organizer
- 2022- Molecular and Cellular Biology Seminar organizer
- 2021- Molecular and Cellular Biology Executive Committee
- 2020- Molecular and Cellular Biology graduate admissions committee
- 2021- School of Life Sciences, CEM, & NDRC Tenure Track and Career Track Faculty Search committees
- 2021 NIH Diversity Supplements Opportunity Kick-off (invited speaker)
- 2020 School of Life Sciences JEDI (Justice, Equity, Diversity, and Inclusion) founding member and advisory board member

NATIONAL LEVEL SERVICE

Scientific Advisory Boards/Committees

- 2024- Animal Models for the Social Dimensions of Health and Aging Research Network, co-PI
- 2024- California National Primate Center, National Scientific Advisory Board
- 2023- National Institute on Aging: Aging Cell Repository, Scientific Advisory Committee

Workshops

- 2024 Earth Biogenomes Project Workshop, Arizona State University
- 2024 NIH, Understanding the Biological Mechanisms Underlying the Health Consequences of Racism, Marginalization, and Discrimination. (invited speaker)
- 2024 NIH BRAIN Initiative Workshop "From Single-cell Genomics to Brain Function and Disorders - Data Integration and Annotation" (invited speaker)
- 2023 Research Summit 6 on Precision Rehabilitation Research, Bethesda, MD (invited speaker/panelist)
- 2023 Diverse Intelligences Summer Institute (DISI) Faculty, Edinburgh, Scotland (invited faculty member)
- 2023 NIA Midlife Stress and Hallmarks of Aging Workshop (invited speaker)
- 2023 NIH/NIA Geroscience Summit (invited panelist)
- 2023 Santa Fe Institute Working Group: "The Causes and Limits of Lifespan Extension" (invited participant)
- 2022 Meharry Medical School Conference: *The Invisible Laws and Policies That Create Illness, Inequality, Disenfranchisement and Discontent In America - How Our Laws and Policies Affect the Health, Wellness and Thriving of a Nation – and What We Can Do About it.* Nashville, TN (invited speaker)
- 2022 NIH/NIA Advisory Council on Aging (Highlight speaker)

- 2021 NIH, BRAIN Initiative, Tissue Quality and Pipeline for the Human Brain Census workshop (invited speaker)
- 2021 Evolutionary Mismatch in the Genomics Era Workshop, Princeton, NJ (invited speaker)
- 2019 Social Determinants of Health Working Group, Durham, NC (member)
- 2018 Connectome Research Workshop, Mexico City, Mexico (invited speaker)

Grant review panels

- 2024 NIH/NIA AGCD-1 (NIA K99 chartered panel), Reviewer
- 2023 NIH/NIA, Alzheimer's-Related Resource Centers for Minority Aging Research (AD/ADRD RCMAR), Reviewer
- 2020 NIH, ZRG1 BBBP-Y (50) Special Emphasis Panel, Reviewer
- 2020 NSF, Rules of Life, ad hoc Reviewer
- 2017 NIH Biobehavioral Regulation, Learning, and Ethology, ad hoc Reviewer
- 2017 NSF SBE Postdoctoral Research Fellowship, Panel Reviewer
- 2014- The Leakey Foundation, Ad Hoc Reviewer
- 2019- Animal Behavior Society Student Grant, ad hoc Reviewer

INVITED TALKS (since 2017)

- | | | |
|------|---|--|
| 2024 | Columbia University | E3B Seminar |
| 2024 | University of Arizona | Ecology and Evolutionary Biology Seminar |
| 2023 | Arizona State University | Comparative Medicine Symposium |
| 2023 | Allen Institute for Brain Sciences | BRAIN Initiative Cell Atlas Network Meeting |
| 2023 | University of Georgia | Genetics Seminar |
| 2023 | Arizona State University | AZ PopGroup Mini-Conference |
| 2023 | NIH/NIMH | NIH BRAIN Initiative Conference |
| 2023 | NIH/NIA | Geroscience Summit, Highlight Speaker |
| 2022 | Princeton University | Lewis-Siegler Institute Quantitative & Computational Biology Seminar |
| 2022 | Brown University | Ecology, Evolution and Organismal Biology Seminar |
| 2022 | Arizona State University | Neurodegenerative Disease Research Center |
| 2022 | University of Washington | Biology of Aging Seminar Series |
| 2022 | Johns Hopkins University School of Medicine | One Medicine Seminar Series |
| 2021 | Arizona State University | Psychology Department; Behavioral Neuroscience Seminar |
| 2021 | Arizona State University | Center for Evolution and Medicine Seminar |
| 2021 | Columbia University | Aging Center Seminar |
| 2021 | New York University | New York Consortium in Evolutionary Primatology |
| 2021 | Arizona State University | Biomedical Engineering Seminar, Arizona State University |
| 2020 | Arizona State University | MCB/Neuroscience joint Colloquium |

2020	Triangle Center for Evolutionary Medicine, North Carolina	Club EvMed Seminar
2020	Addis Ababa University, Ethiopia	Zoology Department Seminar
2019	Chicago, IL	Brain Initiative Cell Census Network semi-annual meeting
2019	Michigan State University	Ecology Evolutionary Biology and Behavior Program Seminar
2019	University of Washington	Biological Anthropology Seminar Series
2019	University of Washington	Genome Sciences Pop Bio Seminar
2018	University of Washington	Biology Department Seminar
2018	University of Washington	Nathan Shock Center for the Biology of Aging Seminar
2018	Arizona State University	Center for Evolution and Medicine Seminar
2018	Fred Hutchinson Cancer Research Center	Annual Retreat, Plenary Speaker

PROFESSIONAL DEVELOPMENT & TRAINING

Inclusive training, leadership, and professional development: *Yale Ciencia Academy Advisor Academy (2021-2022); National Research Mentoring Network, Culturally Aware Mentorship workshop (2022); AdvanceGEO workplace climate and bystander intervention (2022); School of Life Sciences Leadership Academy (2021-2022)*

Manuscript peer reviewer: *Science, Nature Neuroscience, eLife, GeroScience, Nature Communications, Molecular Biology & Evolution, Scientific Reports, Aging Cell, Proceedings of the National Academy of Sciences, Journal of Animal Ecology, Animal Behavior, Philosophical Transactions of the Royal Society B: Biological Sciences, Proceedings of the Royal Society B: Biological Sciences, Behavioral Ecology and Sociobiology, Journal of Human Evolution, American Journal of Primatology, Primate Biology, International Journal of Primatology, Zoo Biology, Functional Ecology, Cognitive Science, Molecular Ecology, Molecular Ecology Resources, Behavioral Ecology, Behaviour, Animal Cognition.*

Society Membership: *International Society for Evolution, Medicine, and Public Health; Society for Molecular and Biology and Evolution; American Society of Naturalists; Animal Behavior Society; International Primatological Society; American Association of Biological Anthropologists; American Association for the Advancement of Sciences*

Journal Editor: *Philosophical Transactions of the Royal Society of London B: Biological Sciences, Special issue: "Evolution of the primate ageing process", Guest Editor (2020).*

OUTREACH, MEDIA, AND SCIENCE COMMUNICATION

A. Media coverage of research in outlets including:

- *Financial Times, New York Times, NPR, Westwood One, The Atlantic, Scientific American, New Scientist, NYTimes Magazine, CNN, Fox Weather, Inverse, [Australian Broadcasting Company \(Science Show\)](#), [CBS's 60 Minutes](#), [BBC Mundo](#),*

B. Public outreach presentations and visits to multiple K-8 students in Delaware (Newark Charter School, Newark Center for Creative Learning), Pennsylvania (Thomas Fitzwater Elementary School, Paul V. Fly Elementary School), New Jersey (Cedar Grove Elementary School), North Carolina (Southern Middle School), Seattle

- (Horizon House), and in the Phoenix/Tempe/Scottsdale area (e.g., public presentation at “Nerd Nite”)
- Collaborated with Science Journals for Kids to adapt some of our research [into a lesson plan](#) for middle school students, which has reached young students and aspiring [scientists all over the world](#).
 - Guest on [“Ask a Biologist” podcast](#), which reaches students around the world who are interested in science.
- C. Board member and co-founder of the Save the Simiens foundation (<https://savethesimiens.org/>), a 501(c3) aimed at conserving the Simien Mountains National Park and empowering and assisting the local communities.
- D. Popular science writing:
- “The Molecular Ecologist” <https://www.molecularecologist.com/> (2012-2014)
 - The New York Times’ <https://scientistatwork.blogs.nytimes.com/author/noah-snyder-mackler/> “Scientist at Work” column (2010)
 - BBC Wildlife: “King of the Mountains” <https://geladaresearch.org/wp-content/uploads/2018/04/BBC-Wildlife-October-2016-geladas.pdf>