

Tanvi P. Honap

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Education

2012-2017 Doctor of Philosophy in Evolutionary Biology, Arizona State University, Tempe, USA
2010-2012 Master of Science in Virology, Savitribai Phule Pune University (formerly University of Pune), Pune, India
2007-2010 Bachelor of Science in Microbiology (with a minor in Industrial Microbiology), Savitribai Phule Pune University (formerly University of Pune), Pune, India

Employment History

2017- Research Assistant Professor, Department of Anthropology, University of Oklahoma Faculty, Laboratories of Molecular Anthropology and Microbiome Research (LMAMR), University of Oklahoma
2012-2017 Teaching Assistant for General Biology for Majors (2 semesters), Organic Evolution (2 semesters), Conceptual Approaches to Biology for Majors (1 semester), and Applied Genetics (1 semester); Research Assistant (3 semesters)

Research Interests

Pathogen evolution; human microbiome; ancient DNA; bioinformatics; neglected tropical diseases

Internal Research Grants

2016 Of monkeys and mycobacteria: a nonhuman primate connection to leprosy. Graduate Jumpstart Grant, Graduate and Professional Students Association, Arizona State University (USD 500)
2014 Investigating leprosy in nonhuman primates. Graduate Research Grant, Graduate and Professional Students Association, Arizona State University (USD 1,950)

Awards and Scholarships

2017 Dissertation Completion Fellowship, School of Life Sciences, Arizona State University (USD 11,595)
2016 Outstanding Student Podium Presentation in Anthropological Genetics award, American Association of Physical Anthropologists Meetings, Atlanta, USA
2010 University Grants Commission Indira Gandhi Scholarship for Single Girl Child (INR 40,000 towards tuition for Master of Science degree)
2010 First place in the Horizon 2010 Intercollegiate Poster Presentation Competition, Pune, India
2007 Jamshetji Tata Trust Scholarship for the Pune Intercollegiate Consortium Exploratory Program (INR 1,400)

Publications

* denotes co-first authors

2021 Jacobson DK, **Honap TP**, Ozga AT, Meda N, Kagone T, Carabin H, Spicer PG, Tito RY, Obregon-Tito A, Reyes LM, Troncoso-Corzo L, Guija-Poma E, Sankaranarayanan K, and Lewis CM (2021). Analysis of global human gut metagenomes shows that metabolic resilience potential for short-chain fatty acid production is strongly influenced by lifestyle. [Scientific Reports](#) 11:1724.
2020 Jacobson DK, **Honap TP**, Monroe C, Lund J, Houk B, Novotny A, Robin C, Marini E, and Lewis CM (2020). Functional diversity of microbial ecologies estimated from ancient human coprolites and dental calculus. [Philosophical Transactions of the](#)

- Royal Society B 375: 20190586
- 2020 Borry M, Cordova B, Perri A, Wibowo M, **Honap TP**, Ko J, Yu J, Britton K, Flink LG, Power RC, Stuijts I, Garcia SD, Hofman CA, Hagan RW, Kagone TS, Meda N, Carabin H, Jacobson D, Reinhard K, Lewis CM, Kostic A, Jeong C, Herbig A, Hubner A, and Warinner C (2020). CoproID predicts the source of coprolites and paleofeces using microbiome composition and host DNA content. PeerJ 8:e9001
- 2020 **Honap TP**⁺, Sankaranarayanan K⁺, Schnorr S, Ozga AT, Warinner C, and Lewis CM (2020). Biogeographic study of human gut-associated crAssphage suggests impacts from industrialization and recent expansion. PLoS ONE 15(1): e0226930
- 2019 Schnorr SL, Hofman CA, Netshifhefhe SR, Duncan FD, **Honap TP**, Lesnik J, and Lewis CM (2019). Taxonomic features and comparisons of the gut microbiome from two edible fungus-farming termites (*Macrotermes falciger*, *M. natalensis*) harvested in the Vhembe district of Limpopo, South Africa. BMC Microbiology 19 (164).
- 2018 **Honap TP**, Pfister L-A, Housman G, Mills S, Tarara RP, Suzuki K, Cuzzo FP, Sauter ML, Rosenberg MS, and Stone AC (2018). *Mycobacterium leprae* genomes from naturally infected nonhuman primates. PLoS Neglected Tropical Diseases 12(1): e0006190
- 2017 Benjak A⁺, **Honap TP**⁺, Avanzi C, Becerril-Villanueva L, García I, Rojas-Espinosa O, Stone AC, and Cole ST (2017). Insights from the genome sequence of *Mycobacterium lepraemurium*: massive gene decay and reductive evolution. mBio 8:e01283-17
- 2016 Ozga AT, Nieves-Colón MA, **Honap TP**, Sankaranarayanan K, Hofman CA, Milner GR, Lewis CM, Stone AC, and Warinner C (2016). Successful enrichment and recovery of whole mitochondrial genomes from ancient human dental calculus. American Journal of Physical Anthropology 160: 220–228
- 2013 Alagarasu K, **Honap T**, Damle IM, Mulay AP, Shah PS, and Cecilia D (2013). Polymorphisms in the Oligoadenylate Synthetase Gene Cluster and its Association with Clinical Outcomes of *Dengue Virus* Infection. Infection, Genetics, and Evolution 14:390-395
- 2012 Alagarasu K⁺, **Honap T**⁺, Mulay AP, Bachal RV, Shah PS, and Cecilia D (2012). Association of vitamin D receptor gene polymorphisms with clinical outcomes of *Dengue virus* infection. Human Immunology 73(11):1194-1199

Invited Podium Presentations

- 2020 **Honap TP**, Monroe C, Sandberg P, Austin R, Levine M, and Lewis CM (2020). Reconstructing the genomes of the red complex of pathogens from ancient dental calculus samples from the North American Wichita (500-700 BP). Paleopathology Association Meetings, Los Angeles, USA. *Will be held in 2021 due to COVID-19.*

Contributed Podium Presentations

- 2019 Kennedy J, **Honap TP**, Chavez S, Chavez S, and Sankaranarayanan K (2019). Analysis of mitochondrial haplogroup variation and cranial modification at the archaeological site of Cundisa, Bolivia. American Association of Physical Anthropologists Meetings, Cleveland, USA.
- 2019 Jacobson DK, Kagone TS, Meda N, Carabin H, **Honap TP**, Sankaranarayanan K, and Lewis CM (2019). Gut microbiome community composition is significantly influenced by shared living space in rural agriculturalists from Burkina Faso. American Association of Physical Anthropologists Meetings, Cleveland, USA.
- 2018 **Honap TP**, Vågane Å, Herbig A, Rosenberg MS, Buikstra JE, Bos KI, Krause J, and Stone AC (2018). Pre-contact and historic era *Mycobacterium tuberculosis* complex genomes from the Americas. American Association of Physical Anthropologists Meetings, Austin, USA.

- 2017 Stone AC, **Honap TP**, Vågene Å, Herbig A, Rosenberg M, Buikstra JE, Bos KI, and Krause J (2017). Ancient *Mycobacterium tuberculosis* complex genomes from the Americas. International Society for Evolutionary Medicine and Public Health Meetings, Groningen, Netherlands.
- 2017 **Honap TP**, Pfister LA, and Stone AC (2017). Genomic analyses of *Mycobacterium leprae* strains from naturally infected nonhuman primates. American Association of Physical Anthropologists Meetings, New Orleans, USA.
- 2017 Stone AC, **Honap TP**, Vågene Å, Herbig A, Rosenberg MS, Bos KI, Buikstra JE, and Krause J (2017). Ancient TB in the Americas: the partnership between bioarcheology and genetics to identify a killer. American Association of Physical Anthropology Meetings, New Orleans, USA.
- 2017 Stone AC, **Honap TP**, and Pfister LA. Non-human primate *Mycobacterium leprae* strains and their relationship to human leprosy strains. One Past Health Workshop, Ploen, Germany.
- 2016 **Honap TP**, Vågene A, Herbig A, Rosenberg MS, Buikstra JE, Bos KI, Krause J, and Stone AC (2016). Genetic analyses of pre- and post-contact North American *Mycobacterium tuberculosis* complex strains. American Association of Physical Anthropologists Meetings, Atlanta, USA.
- 2016 Stone AC, **Honap TP**, Vågene Å, Herbig A, Rosenberg MS, Bos KI, Buikstra JE, and Krause J (2016). Ancient tuberculosis in the Americas. Plant and Animal Genomes Meetings, San Diego, USA.
- 2016 **Honap TP** (2016). Ancient DNA analyses of New World tuberculosis strains. Graduate and Professional Students Association Interdisciplinary Research Symposium, Arizona State University, Tempe, USA.
- 2015 **Honap TP** (2015). Analysis of a nonhuman primate *Mycobacterium leprae* strain: implications for zoonotic transmission of mycobacterial pathogens. Graduate and Professional Students Association Interdisciplinary Research Symposium, Arizona State University, Tempe, USA.

Invited Poster Presentations

- 2014 **Honap TP**, Pfister LA, and Stone AC (2014). The origins and evolution of *Mycobacterium leprae*. American Association of Physical Anthropologists Meetings, Calgary, Canada.

Contributed Poster Presentations

- 2019 Sankaranarayanan K, **Honap TP**, Schnorr S, Ozga AT, Warinner C, and Lewis CM (2019). Biogeographic study of human gut associated crAssphage suggests impacts from industrialization and recent expansion. American Association of Physical Anthropologists Meetings, Cleveland, USA.
- 2018 Kennedy J, **Honap TP**, Chavez S, Chavez S, and Sankaranarayanan K (2018). Analysis of mitochondrial haplogroup variation and cranial modification at the archaeological site of Cundisa, Bolivia. Latin American Association for Biological Anthropology Meetings, Puerto Rico.
- 2018 Wright S, Monroe C, Furlong M, Reeves M, **Honap TP**, Austin R, and Hofman CA (2018). Exploring the Biological Heritage of Enslaved People at James Madison's Montpelier Through Ancient DNA Analysis. Society for American Archaeology Meetings, Washington D.C., USA.
- 2017 **Honap TP**, Vågene Å, Herbig A, Rosenberg MS, Buikstra JE, Bos KI, Krause J, and Stone AC (2017). Genomic analyses of ancient *Mycobacterium tuberculosis* complex strains from the Americas. Society for Molecular Biology and Evolution Meetings, Austin, USA.
- 2017 Crane A, **Honap TP**, Goebel M, Stone AC, and Varsani A (2017). Towards identifying *Mycobacterium pinnipedii* and viruses associated with Antarctic fur seals

and Weddell seals. Society for Molecular Biology and Evolution Meetings, Austin, USA.

2017 **Honap TP**, Vågane Å, Herbig A, Buikstra JE, Bos KI, Krause J, and Stone AC (2017). Genomic analyses of ancient tuberculosis strains from the Americas. Plant and Animal Genomes Meetings, San Diego, USA.

2016 Ozga AT, Nieves-Colón MA, **Honap TP**, Sankaranarayanan K, Hofman CA, Milner GR, Lewis CM, Stone AC, and Warinner C (2016). Ancient dental calculus as a reservoir of whole human mitogenomes. American Association of Physical Anthropologists Meetings, Atlanta, USA.

2015 **Honap TP**, Pfister LA, Erkenwick G, Watsa M, and Stone AC (2015). Analysis of a nonhuman primate *Mycobacterium leprae* strain: implications for zoonotic transmission of mycobacterial pathogens. Society for Molecular Biology and Evolution Meetings, Vienna, Austria.

2015 **Honap TP**, Housman G, Erkenwick G, Malukiewicz J, Boere V, Machado-Pereira L, Grativol AD, Ruiz-Miranda C, Silva I, Watsa M, and Stone AC (2015). Investigating the presence of mycobacterial pathogens in New World primates. American Association of Physical Anthropologists Meetings, St. Louis, USA.

2015 Nieves-Colón MA, Ozga AT, **Honap TP**, Pestle WJ, Warinner C, and Stone AC. Comparison of aDNA yields from calculus and tooth roots in pre-Columbian skeletal remains (2015). American Association of Physical Anthropologists Meetings, St. Louis, USA.

2010 **Honap TP**, Tamhankar MA, Bhalerao A, and Deshpande NM (2010). Hydrocarbonlastic bioluminescent bacteria: A solution to hydrocarbon pollution. Horizon 2010 Intercollegiate Poster Presentation Competition, Pune, India.

Other Research Experience

2007-2009 Position: Undergraduate Researcher, Department of Microbiology, Abasaheb Garware College, India. Project: Isolation and identification of bioluminescent bacteria and investigation of their hydrocarbonlastic property. PI: Neelima Deshpande, Ph.D.

2007-2008 Position: Undergraduate Researcher, Pune Intercollegiate Consortium – Exploratory Program, India. Project: Study of groundwater contamination due to municipal garbage dumping sites around Pune city, India. PI: Sanjay Kumbhar, Ph.D.

Service

2019- Member of advisory panel and *ad hoc* reviewer, National Science Foundation

2019- Website administrator, American Association of Anthropological Genetics (www.anthgen.org)

2018- Peer Reviewer for *Proceedings of the National Academy of Sciences USA*; *Science Advances*; *PLoS Neglected Tropical Diseases*; *PLoS ONE*; *Evolution, Medicine, and Public Health*; *GigaScience*; *Philosophical Transactions of the Royal Society B*; *Cell*; *PeerJ*.

2013-2017 Peer Reviewer for Research and Travel Grants, Graduate and Professional Students Association, Arizona State University

2016 Graduate student representative, Faculty search committee, School of Life Sciences, Arizona State University

2016 Volunteer-mentor for undergraduate computational analysis workshop “Intro to Command Line”, Arizona State University

Public Outreach

2013- Volunteer for Ask-A-Biologist website, Arizona State University (answered questions related to evolutionary biology, virology, and genetics from K-12 students)

2016 Volunteer for March Mammal Madness 2016 (helped with genetics content)

Skills

Laboratory Proficient at working in Clean Room conditions with degraded and/or archaeological materials. Skilled in DNA and RNA extraction, PCR and qPCR, Sanger sequencing, amplicon and shotgun library preparation for next-generation sequencing, and target enrichment using in-solution hybridization capture. Competent in bacterial culturing, tissue culturing, virus propagation using cell lines and embryonated eggs, Western Blot, ELISA, and haemagglutination assays.

Bioinformatics Proficient in bash shell scripting, Python, and R.

Languages Fluent in English, Marathi, and Hindi.

Membership in Professional Organizations

American Association of Physical Anthropologists (AAPA) and American Association for Anthropological Genetics (AAAG).

References

Cecil M. Lewis Jr., Ph.D.
(Current Supervisor) Founding Co-Director, Laboratories of Molecular Anthropology and Microbiome Research (LMAMR)
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