Kathryn Alyce Hanley

Curriculum Vitae

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## Education

1994 Ph.D. University of California, San Diego, La Jolla, CA (Biology)

1989 B.A. Amherst College, Amherst, MA (Biology, *magna cum laude*)

1987 Semester Abroad University of Edinburgh, Scotland

## Academic Positions

2018 - present Regents Professor, Biology New Mexico State University

2018 - present Visiting Scientist Cary Institute of Ecosystem Studies, NY 2016 - present Professor, Biology New Mexico State University

2017 Visiting Sabbatical Fellow Cary Institute of Ecosystem Studies, NY

2010 - 2016 Associate Professor of Biology New Mexico State University

2011 Visiting Researcher (sabbatical) Dept. Entomology, UC Davis

2004 - 2010 Assistant Professor of Biology New Mexico State University

1999 - 04 Research Associate Lab. of Infectious Diseases, NIH

1997 - 99 Postdoctoral Fellow Biology Dept, U. Maryland

1996 - 97 Visiting Assistant Professor Biology Dept, Pomona College

1994 - 96 Postdoctoral Fellow Evolution&Ecology, UC Davis

1989 - 94 Ph.D. Candidate Biology Dept, UC San Diego

## Publications

***Peer-reviewed journal articles***

*Google scholar page:* [*https://scholar.google.com/citations?user=BgvIuVkAAAAJ&hl=en&oi=ao*](https://scholar.google.com/citations?user=BgvIuVkAAAAJ&hl=en&oi=ao)***h-index = 49***

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 Lacerda, M.P.G. Mourão, N. Vasilakis, **K.A. Hanley**. 2024. [Forest edge landscape context   
 affects mosquito community composition and risk of pathogen emergence](https://www.biorxiv.org/content/10.1101/2024.04.30.591911v1). *iScience*, submitted.   
 Posted at bioxriv: bioRxiv 2024.04.30.591911

**101.** Cecilia, H., B.M. Althouse, S.R. Azar, B.A. Moehn, R. Yun, S. L. Rossi, N. Vasilakis, **K.A. Hanley**.   
 2024. *Aedes albopictus* is not an arbovirus aficionado: impacts of sylvatic flavivirus infection in   
 vectors and hosts on mosquito engorgement on non-human primates. *iScience*, submitted.

**100. Hanley, K.A.,** H. Cecilia, S.R. Azar, B.A. Moehn, W. Yu, R. Yun, B.M. Althouse, N. Vasilakis, S. L.   
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### **97.** Garcia-Oliveira, G., A. Guimarães, G. Dias, T. Costa, M. Arruda, E. de Mello, M. Silva, M. de Almeida, **K. A. Hanley**, N. Vasilakis, B. Drummond. 2023. Yellow Alert: Persistent yellow fever virus circulation among non-human primates in urban areas of Minas Gerais State (2021-2023). Viruses 16:31

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 A. Hanley**=, N. Vasilakis=. 2020. The vertical stratification of potential bridge vectors of   
 mosquito-borne viruses in a central Amazonian forest bordering Manaus, Brazil. *Scientific   
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New Mexico, U.S.A. *PLoS One* 14:e0212693

**73.** Diallo, D., C.T. Diagne, M. Buenemann, B.A. Yamar, I.Dia, O. Faye, A. Sall, O. Faye, D.W.   
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**29.** **Hanley, K.A.**, J.T. Nelson, E. E. Schirtzinger,S.S. Whitehead, and C.T. Hanson. 2008.   
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**19.** Burch, C.L., P.E. Turner, **K.A. Hanley**. 2003. Patterns of epistasis in RNA viruses: a review of the   
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**16.** Whitehead, S.S., B. Falgout, **K.A. Hanley**, J.E. Blaney Jr., L. Markoff, B.R. Murphy. 2003. A live   
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 untranslated region is highly attenuated and immunogenic in monkeys. *Journal of Virology* 77:1653-1657.

**15.** **Hanley, K.A.**, J.J. Lee, J.E. Blaney, Jr., B.R. Murphy, S.S. Whitehead. 2002. Paired charge-to-  
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**13.** Troyer, J. M. **=**, **K.A. Hanley=**, S.S. Whitehead, D. Strickman, R.A. Karron, A. P. Durbin, B. R.   
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 capacity for dissemination in mosquitoes and lack of transmission from vaccinees to   
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 contribution

**12.** Pletnev, A.G., M. Bray, **K.A. Hanley**, J. Speicher R. Elkins. 2001. Tick-borne Langat/mosquito-  
 borne dengue flavivirus chimera, a candidate live-attenuated vaccine for protection against   
 disease caused by members of the tick-borne encephalitis virus complex: evaluation in rhesus   
 monkeys and mosquitoes. *Journal of Virology* 75: 8259-8267.

**11.** Chao, L., **K.A. Hanley**, C. L. Burch, C. Dahlberg, P.E. Turner. 2000. Kin selection and the   
 evolution of virulence in parasites: Making hard and soft choices. *Quarterly Review of Biology*   
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**10.** Schall, J.J., H. R. Prendiville, **K.A. Hanley**. 2000. Prevalence of the tick, *Ixodes* *pacificus*, on   
 western fence lizards, *Sceloporus* *occidentalis*: Trends by gender, size, season, site and mite   
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**9. Hanley, K.A.,** M.L. Elliott, J.A. Stamps. 1999. Chemical recognition of familiar versus unfamiliar   
 conspecifics by juvenile black iguanas, *Ctenosaura similis*. *Ethology* 105: 641-650.

**8.** Turner, P.E., C. L. Burch, **K.A. Hanley**, L. Chao. 1999. Hybrid frequencies confirm limit to   
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**7. Hanley, K.A**., K.R. Petren, T.J. Case. 1998. An experimental investigation of the competitive   
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**6. Hanley, K.A.**, R.N. Fisher, T.J. Case. 1995. Higher mite infestations in sexual geckos than their   
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**5.**  **Hanley, K.A.**, D.M. Vollmer, T.J. Case. 1995. The distribution and prevalence of helminths,   
 coccidia and blood parasites in two competing species of gecko: implications for apparent   
 competition. *Oecologia* 102: 220-229.

**4.** Radtkey, R.R., S. Donnellan, R.N. Fisher, C. Moritz, **K.A. Hanley,** T.J. Case. 1995. When species   
 collide: the origin and spread of an asexual gecko species. *Proceedings of the Royal Society of   
 London (Biology)* 259:145-152.

**3.** Upton, S.J., **K.A. Hanley,** T.J. Case. 1994. *Eimeria frenatus* sp. n. and *Eimeria* *rochalimai*   
 (Apicomplexa: Eimeriidae) from *Hemidactylus frenatus* (Sauria: Gekkonidae) in Hawaii.   
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**2.** **Hanley, K.A.,** D.T. Bolger, T.J. Case. 1994. Comparative ecology of sexual and asexual gecko   
 congeners (*Lepidodactylus*) in French Polynesia. *Evolutionary Ecology* 8: 438-454.

**1.** Upton, S.J., **K.A. Hanley**, T.J. Case, C.T. McCallister. 1991. Description of *Isospora schlegeli*   
 (Apicomplexa: *Eimeriidae*) from gekkonid lizards in the South Pacific. *Canadian Journal of   
 Zoology* 69: 3108-3110.

### **Books**

**Hanley, K.A.** and S.C. Weaver, editors. 2009. Frontiers in Dengue Virus Research.

Caister Academic Press. Hethersett, UK. <http://www.horizonpress.com/dengue>

### **Book chapters**

**K.A. Hanley** and ***C.C. Andrade†.*** 2016. RNA interference: a pathway to arbovirus control. In   
 Arboviruses. N. Vasilakis and D. Gubler (eds). Caister Academic Press. Hethersett, UK.

T.P. Endy, S.C. Weaver, and **K.A. Hanley**. 2009. Dengue virus – Past, present and future. In

Frontiers in Dengue Virus Research. K.A. Hanley and S.C. Weaver (eds.). Caister

Academic Press. Hethersett, UK.

N. Vasilakis, K. A. Hanley and S.C. Weaver. 2009. Dengue virus emergence from its sylvatic

cycle. In Frontiers in Dengue Virus Research. K.A. Hanley and S.C. Weaver (eds.).

Caister Academic Press. Hethersett, UK.

**Hanley, K.A.** and S.C. Weaver. 2008. Arbovirus Evolution, pp 351-392. In Origin and Evolution

of Viruses (second edition). E. Domingo, C. Parrish and J. F. Holland (eds.). Elsevier, St.

Louis, MO. [http://www.elsevier.com/wps/find/bookdescription.cwshome/ 714974/description#description](http://www.elsevier.com/wps/find/bookdescription.cwshome/%20714974/description#description)

***Invited***

Vasilakis, N., **K.A. Hanley**. 2023, in press. The Coordinating Research on Emerging Arboviral   
 Threats Encompassing the Neotropics (CREATE-NEO). *Zoonoses*. [Review]

**Hanley, K.A.** 2012. A Planet of Viruses (Book Review). *Quarterly Rev. of Biology* 87:401-402

**Hanley, K.A.** 1997. Infection, Polymorphism and Evolution (Book Review). *Parasitology*

*Today* 13: 278

**Hanley, K.A**., J.E. Biardi, C.M. Greene, T.M. Markowitz, C.E. O’Connell, and J. Hornberger.

1996. The behavioral ecology of host-parasite interactions: An interdisciplinary

challenge. *Parasitology Today* 12:371-373.

**Hanley, K.A.** 1996. Comportamiento social de los garrobos. *Rothschildia* 3: 10.

## Patents

• *Dengue tetravalent vaccine containing a common 30 nucleotide deletion in the 3’ UTR of dengue types 1,2, 3, and 4 or antigenic chimeric viruses 1, 2, 3, and 4.*

US Patent No. 7,517,531, Issued 14 Apr 2009.

• *Development of mutations useful for attenuating dengue viruses and chimeric dengue viruses.*

US Patent No. 7,560,118, Issued 14 Jul 2009.

## Selected Awards, Honors, Society Positions, and Fellowships

2023 • NMSU College of Arts and Sciences Award for Excellence in Student Mentorship

2021 • NM Governor’s Medical Advisory Team on COVID-19 Vaccine Safety

2018 • Westhafer Award for Research Excellence, NMSU

2017 • Manasse Research Scholar, NMSU

2016 • Dalrymple-Young award from the American Committee on Arthropod-borne Viruses

2015 • NMSU Research Discovery Award

• Chair, American Committee on Arthropod-borne Viruses (ACAV)

• Standing Member, NIH Study Section on Genetic Variation and Evolution (GVE)

2014 • Chair-Elect, American Committee on Arthropod-borne Viruses (ACAV)

2013 • President, Rio Grande Branch of the American Society for Microbiology (RG-ASM) [2013-15]  
• First Place for Research Presentations, NMSU University Research Council Fair

2011 • Distinguished Career Award from the NMSU University Research Council for Exceptional   
 Achievements in Creative Scholarly Activity

• Plaque of Appreciation for Teaching Excellence at NMSU

• Woods Hole Oceanographic Institute. Karush Scholar Award for Library Studies

2001-3 • NIAID Staff Recognition Award, $1,500 each year

1997-9 • NSF Postdoctoral Fellowship; Training Grant in Biology of Small Populations, U. Maryland.  *The effects of population bottlenecks and selection on genetic variation in natural populations   
 of the RNA virus Phi 6.*

1996 • NSF NATO Postdoc Fellowship in Science and Engineering, U. British Columbia (declined)

*The role of nuclear polyhedral virus in population cycles of the tent caterpillar.*

1994-6 • NSF Postdoc Fellowship; Training Grant in Integrative Approaches to Animal Behavior, UC   
 Davis

*The effect of social status and hormones on parasitism in the black iguana*

## Grants & Contracts

2023 • USDA NACA 58-3022-3-042 $400,000 08/01/2023 – 07/31/2026  
 *Investigating the Dynamics of Vesicular Stomatitis Virus in Endemic and Incursion Ecological   
 Zones*  
 • NIH R16 AI167830-01A1 $400,000 04/01/2023-03/31/2027       
 *In vivo* relevance of Schlafen-mediated innate immune mechanisms in flavivirus infection  
 M. Llano (UTEP) PI; **K. Hanley collaborator**

2022 • USDA NACA 58-3022-2-018  
 *Integrating vesicular stomatitis virus surveillance, phylogenetics and remote sensing toward   
 an early warning system for vector-borne disease*  
 **K.A. Hanley PI** $700,000 08/15/2022 – 08/14/2025

• K99 RA1168484-01A1

*Assessing the roles of viral mutations and host factors in the transmission of Mayaro virus and   
 other alphaviruses by urban mosquitoes*  
 R. Kroon Campos (UTMB) PI; **K. Hanley collaborator** $985,528 04/01/2023 – 03/31/2028

2021 • NIH P20GM103451 SUPPLEMENT

*Deep sequencing SARS-CoV-2 samples from New Mexico to interrogate immunological   
 selection on genetic variants* S. Lusetti (PI); **K. Hanley Project Leader** $500,000 05/15/2021– 03/31/2022

• CDC U01CK000512-01-09 Supplement

*Emerging Tick-borne Zoonotic Threats at the US-Mexico Border* S. Weaver (UTMB) PI; **K. Hanley, subproject PI** $31,300 05/01/2021 – 06/30/2022

2020 • NSF RAPID 2031816

*RAPID: New World bat life histories and the potential for SARS-CoV-2 spillback*

**K. Hanley (contact),** T. Orr, T. Goldberg, co-PIs $200,000 06/15/2020 – 06/14/2021

• NSF IOS-2039769  
 *EAGER: Integrating animal movement ecology and multi-level social networks to investigate   
 zoonotic disease dynamics* K. Mabry, T. Orr (co-PIs); $300,000 09/15/20 – 08/31/2023

**K.Hanley** (senior personnel)

• NIH R01AI145918

*Trade-offs between arbovirus transmission and clearance in native and novel hosts*

**K. Hanley (contact),** N. Vasilakis, $2,045,741 02/24/2020 – 01/31/2024  
 B. Althouse co-PIs

• NIH 1 U01 AI151807-01

***C****oordinating* ***R****esearch on* ***E****merging* ***A****rboviral* ***T****hreats* ***E****ncompassing the* ***Neo****tropics (CREATE-NEO)*

N. Vasilakis (contact), **K. Hanley,** co-PIs$6,657,430 06/01/2020 – 05/31/2025

2019 • USDA NACA 58-8064-9-012

*An early warning system for vesicular stomatitis virus emergence*

**K. Hanley, PI** $740,000 08/01/2019 – 07/31/2024

2018 • NSF Major Research Instrumentation grant

*MRI: Acquisition of an ASD FieldSpec 4 Hi-Res Spectroradiometer at NMSU*

M. Buenemann PI; $82,880 08/01/2018 – 07/31/2019  
 **K.A. Hanley collaborator**

2017 • Little Fly Labs Contract

*Biocontrol of disease-transmitting mosquito larvae and the pathogens they transmit using a novel gene knockout delivery system.*  
**K.A. Hanley,** J. Xu **co-PIs** $299,000 03/01/2017 – 02/28/2018

• New Mexico Department of Health Contract   
*Characterization and control of* Aedes *mosquito vectors in New Mexico***K.A. Hanley PI** $430,000 03/15/2017 – 07/31/2018

2016 • New Mexico Department of Health Contract  
*Mapping the distribution of Aedes aegypti and Aedes albopictus in New Mexico***K.A. Hanley PI** $90,000 05/15/2016 – 12/31/2016

• NIH ICIDR 1U01AI115577-01   
*Mechanisms and public health impact of sylvatic dengue virus emergence in Borneo*

N. Vasilakis (UTMB) PI, **K.A. Hanley co-I**  $3,166,711 07/01/2016 - 06/30/2020

2014• NIH 1R15AI113628-01  
*Mechanisms of competitive displacement by lineages of mosquito-borne dengue virus*   
**K.A. Hanley PI** $300,000 09/01/2014 – 08/31/2017

*•* NIH Science Education Partnership Award   
*Science Tools in the Classroom: Bioinformatics, Genomics and More!*M. Shuster PI $1,045,371 05/01/2015 - 02/28/2019  
**K.A.** **Hanley advisory board member**

2013 • NSF Research Coordination Network  
*Infectious Disease Evolution Across Scales*  
A. Graham PI; $499,916 07/01/2014 – 06/30/2019  
**K.A. Hanley steering committee member**

*•* NIH RISE R25GM061222.   
*RISE to the Postdoctorate Option III*E. Serrano MPI, **K.A. Hanley co-investigator** $4,273,114 09/15/2013 - 07/31/2018

• NMSU Interdisciplinary Research Grant   
*Impact of deforestation on sylvatic arbovirus spillover in Borneo*

**K.A. Hanley & B. Benefit, co-PIs**  $8,656 08/01/2013 – 12/31/2013

2012• NIH RO1 AI067380   
*Quasispecies dynamics in arbovirus emergence persistence and fitness*

G.Ebel (CSU) PI, **K.A. Hanley collaborator** $149,999 09/27/2012 – 08/31/2016

• AAAS Women’s Internat’l Research Collab. Grant   
*Impacts of deforestation on risks of sylvatic dengue virus spillover in Malaysia*

**K.A. Hanley PI** $19, 912 01/01/2012 - 12/31/2012

• NCGR NMINBRE\_A4\_July2012   
*Comparing mammalian and mosquito RNAi responses to flavivirus infection*

**K.A. Hanley & E.E. Schirtzinger, co-PIs** $10,450 07/01/2012 - 12/31/2012

2011 *•* NIH 1R21AI092041-02   
*A new synergy for flavivirus therapy: RNAi enhancement and viral mutagens*

**K.A. Hanley & J. Arterburn, co-PIs**$275,000 06/01/2011 - 05/31/2013

• Tulane National Primate Research Center Pilot Study   
*Replication of sylvatic dengue virus in a natural primate host*

**K.A. Hanley PI** $35,000 01/01/2011 - 12/31/2011

2009 *•* NIH 1R21AI082399-01

*Does dengue virus suppress RNA interference in its mosquito vector?*

**K.A. Hanley PI** $250,000 06/11/2009 - 05/31/2011

2008 • NIH RO1 1R01AI069145-01A2   
 *Mechanisms of sylvatic dengue emergence*

S.C. Weaver (UTMB) PI, **K.A. Hanley co-I** $1,892,850 09/22/2008 – 09/21/2012

*•*Los Alamos National Labs-NMSU MOU   
*A GPS telemetry animal tracking system: filling the critical knowledge gap in avian migration and avian influenza distribution*

**K.A. Hanley co-PI** $134,524 08/01/2008 – 09/30/2010

• NMSU Interdisciplinary Research Grant

*Development of novel antiviral therapies for flaviviruses*

**K.A. Hanley & J. Arterburn, co-PIs** $50,000 05/15/2008 – 05/14/2009

*•* NIH2P20RR016480-09 NIH NM-INBRE   
*Impact of RNA interference on quasispecies evolution in vector-borne flaviviruses*

J. Arterburn PI, $375,000 04/01/2006 - 03/31/2009  
**K.A. Hanley sub-project investigator**

*•*NMSU ASRC mini-grant  
*Adaptation of dengue virus to a novel arthropod host*

**K.A. Hanley PI** $1,911 03/09/2008 – 03/08/2009

2007 • NMSU ASRC mini-grant  
*Investigation of the ability of dengue virus to suppress RNA interference*

**K.A. Hanley PI** $2,000 12/31/2007 – 12/30/2008

2005 • NIH Research Scholar Award K22 A164193  
*Vector-driven selection in dengue virus*

**K.A. Hanley PI** $250,000 09/01/2005 – 07/31/2008

• NIH2P20RR016480-06 NIH NM Ideas Network for Biomedical Research   
*Evolutionary consequences of dengue virus emergence.*

J. Arterburn PI,$105,000 04/01/2006 – 03/31/2009  
**K.A. Hanley sub-project investigator**

• NSF ADVANCE IT grant.

*Genetic determinants of transmission mode in flaviviruses*

**K.A. Hanley PI** $14,663 08/15/2005 – 12/31/2005

1993 • NSF Dissertation Improvement Grant; $8,000

*Parasites of sexual and asexual gecko congeners: Does differential parasitism explain*

*the evolutionary maintenance of sexual reproduction?*

**Teaching (2012-present)**

2012-present Associate > Full Professor of Biology, NMSU

SU2023 *Grant Writing Workshop* (day-long workshop for international junior   
 investigators sponsored by CREID)  
 *Responsible Conduct of Research* (half-day workshop for NMSU RISE)  
SP2023 *Science and Ethics* (BIOL450/540)  
FA2022 *Biology of Emerging Infectious Diseases* (BIOL469)  
SP2022 *Virology* (BIOL475)

FA2021 *Writing Grants and Manuscripts* (week-long workshop in Panama)

FA2020 *Biology of Emerging Infectious Diseases* (BIOL469)

SP2020 *Virology* (BIOL475)

FA2019 *Human Biology for Non-Majors* (BIOL101)

SP2019 *Science and Ethics* (BIOL450/540)  
 *Microbiology Research* (BIOL450/550)

FA2018 *Biology of Emerging Infectious Diseases* (BIOL469)  
SP2018 *Virology* (BIOL 475)

FA2017 Organizer: *Clinical Presentation and Management of Arboviral Diseases:   
 Lessons from the Bedside for Researchers at the Bench or in the Bush*   
 (Continuing Medical Education Course, sponsored by the American   
 Society of Tropical Medicine and Hygiene. Baltimore MD)

SP2017 *Science and Ethics* (BIOL450/540)  
 *Microbiology Research* (BIOL450/550)  
FA 2016 Organizer: *Know Thine Enemy: Identifying Mosquitoes and the Viruses   
 they Carry*   
 (Continuing Medical Education Course, sponsored by the American   
 Society of Tropical Medicine and Hygiene. Atlanta, GA)  
 *Arbovirus Emergence*  
 (Border Epidemiology Surveillance Team, Burrell College of Medicine,   
 Las Cruces NM)

*Biology of Emerging Infectious Diseases* (BIOL469)

SP 2016 *Virology* (BIOL 475)  
FA 2015 *Behavioral and Evolutionary Ecology* (BIOL 587)  
SP 2015 *Virology* (BIOL 475)

*Science and Ethics* (BIOL450/540)  
 *Microbiology Research* (BIOL450/550)

FA 2014 *Biology of Emerging Infectious Diseases* (BIOL469)  
SU 2014 RISE Workshop on *Advances in Biomedical Research*  
SP 2014 *Human Biology* (BIOL 101)  
 *Science and Ethics* (BIOL450/540)  
 *Microbiology Research* (BIOL450/550)

FA 2013 *Behavioral and Evolutionary Ecology* (BIOL 587)  
 Research in Microbiology (BIOL 450/550)

SU 2013 *RISE Workshop on Global Health*

SP 2013 *Virology* (BIOL 475)

*Tropical Field Ecology of Belize* (BIOL 450)

FA 2012 *Biology of Emerging Infectious Diseases* (BIOL469)

SU 2012 RISE Workshop on *Health Disparities due to Infectious Disease*

SP 2012 *Human Biology* (BIOL 101)

## Graduate Students & Post-Doctoral Fellows

Student Degree and Program Year Graduated

Christy Andrade, Ph.D. Post-doctoral Fellow 2012 - 2014

Lindsey Biehler Ph.D. Biology 2024 - present

Meredith Brown, DVM/Ph.D. Post-doctoral Fellow 2010 - 2011

Hélène Cecilia, Ph.D. Post-doctoral Fellow 2022 - present

Anthony Clemons, Ph.D. Post-doctoral Fellow 2014 - 2015

Paige Harman M.S., Biology 2024

Eduardo Hernandez Acosta Ph.D. Biology 2023

William Johnson M.S. Biology 2014

Tiffany Kautz non-thesis M.S., Biotechnology 2012

Ajit Karna, Ph.D. Post-doctoral Fellow 2017 - 2018

Kalli Lambeth M.S. Biology 2010

Nyree Maes M.S. Molecular Biology 2008

Jess Martin Post-doctoral Fellow 2023-present

Michael McDowell M.S. Biology 2010

Joseph Medwid M.S. Biology 2019

Swati Mukherjee Ph.D. Molecular Biology 2010

Stephanie Mundis M.S. joint Biology & Geography 2017

Kimberly Pepin, Ph.D. Post-Doctoral Fellow 2006 - 2007

Rebecca Richman M.S. joint Biology & Geography 2013

Tammy Romero M.S. Molecular Biology 2006

Erin Schirtzinger, Ph.D. Post-doctoral Fellow 2011 – 2013  
Stacey Scroggs Ph.D. Biology 2019

Carleen Silva Ph.D. Biology 2022 - present

Ebenezer Tumban Ph.D. Molecular Biology 2007

Federico Valdez, Ph.D. Post-doctoral Fellow (joint USDA) 2020 - present

Nikole Warner, Ph.D. ASERT Post-doctoral Fellow 2020

Madelin Whelpley M.S. Biology 2023

Katherine Young M.S. Biology 2015

Katherine Young Ph.D. Biology 2019

Katherine Young Post-doctoral Fellow 2020-2022

Lawrence Zhou Ph.D. Biology 2025, anticipated

# Graduate Committees

Student Degree, University, Yr. Graduated Major advisor

Otis Akrasi M.S. Geography, NMSU, 2023 M. Buenemann

Alejandro Camacho-Davila\* Ph.D. Chemistry, NMSU 2006 J. Herndon

Gonzalo Castillo M.S. Biology, NMSU 2008 G. Unguez

Cody Champion Ph.D. Biology, NMSU, 2018 J. Xu

Felicity Coulter Ph.D., Mol. Micro, OHSU W. Messer

Christine Dahlin Ph.D. Biology, NMSU 2010 T. Wright

Sean Dolan\* M.S. Anthropology, NMSU 2011 M. McCrossin

Lisa Drake M.S., Biology, NMSU 2011 I. Hansen

Lisa Drake Ph.D. Biology, NMSU 2015 I. Hansen

Alejandro Delgado M.S. Biology, NMSU 2006 J. Gustafson

Jordan Gass Ph.D. Pathobiology, UNM 2023 - present

R. Govindaraju Ph.D. Biology, NMSU 2010 C. D. Bailey

Kristina Gonzalez Ph.D. Biology, NMSU, 2018 I. Hansen

Lalo Gonzalez Ph.D. Biology, NMSU 2013 J. Curtiss

Chinh Hoang M.S. Biology, NMSU 2006 G. B. Smith

Yashoda Kandel Ph.D. Biology, NMSU I. Hansen

Anna Kirby M.S., FWCS, NMSU M. Gompper

S. Kumarapperuma\* Ph.D. Chemistry, NMSU 2008 J. Arterburn

Mahesh Lamsal M.S. Biology, NMSU . 2023 I. Hansen

April Lopez Ph.D. Biology, NMSU I. Hansen

Hailey Luker Ph.D. Biology, NMSU I. Hansen

Douglas Miller M.S. (non-thesis), NMSU 2016 M. Nishiguchi

Elliott Miot Ph.D., Med Entomol, Sorbonne, FR L. Lambrechts

Stephen Peinado M.S., EPPWS, NMSU 2013 R. Creamer

David Price Ph.D. Biology, NMSU, 2015 I. Hansen

Vanessa Macias M.S. Biology, NMSU 2010 J. Xu

Rong Mu Ph.D. Mol Biol, NMSU 2011 A. Dawe

Kendra Pesko Ph.D. SOM Pathology, UNM 2011 G. Ebel

Dong Pei Ph.D. Biology, NMSU 2017 J. Xu

David Price Ph.D. Mol Biology, NMSU 2015 I. Hansen

John Rosskopf M.S. Pathobiology, UTEP 2010 K. Johnson

William Soto Ph.D. Biology, NMSU 2009 M. Nishiguchi

Madeline Steck Ph.D. Pathology, UTMB 2023 - present

John Upton M.S. Pathobiology, UTEP 2008 K. Johnson  
Federico Valdez Ph.D. Pathobiology, UTEP, 2018 M. Llano

Carlos Valenzuela Ph.D. Pathobiology, UTEP M. Llano

Nikos Vasilakis Ph.D. Virology, UTMB 2008 S. Weaver

Holly Vuong M.S. Fish&Wildlf, NMSU 2006 D. Caccamise

Taylor Weary Ph.D., Pathobiol Sci, U, Wisc, 2023 T. Goldberg

Anna Young Ph.D. Biology, NMSU 2011 T. Wright

\* Dean’s representative

## Selected, Invited Presentations (2008-present)

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2024 • National University of Costa Rica, School of Veterinary Medicine  
 *VSV moves in mysterious ways*

2023 • Harvard Medical School Blavatnik Institute of Microbiology  
 *The Tortoise or the Hare? Within-host dynamics and transmission of sylvatic flaviviruses in   
 native and novel primate hosts.*

• Boston University Department of Microbiology  
 *The Tortoise or the Hare? Within-host dynamics and between-host transmission transmission   
 of sylvatic dengue, Zika and yellow fever viruses*  
 • Oregon Health and Sciences University, Molecular Microbiology and Immunology   
 Department Annual Retreat. Graduate Student Invitee.  
 *Inside, Outside and Upside-Down: Within-Host Dynamics and Transmission of Sylvatic   
 Dengue, Zika and Yellow Fever Virus  
 • Gordon Research Conference on Microbial Evolution  
 Monkey in the Middle: Leveraging Lab and Field Studies to Understand Spillover and   
 Spillback of Mosquito-Borne Flaviviruses*  
 • UC Davis School of Veterinary Medicine, Department of Medical Microbiology and   
 Immunology  
 *Monkey in the Middle: Within-Host Dynamics and Transmission of Dengue and Zika Virus in   
 Native and Novel Non-Human Primate Hosts* • UC Davis Designated Emphasis in the Biology of Vector-Borne Disease  
 *Who’s Flying this Thing? Investigations of Emerging Arthropod-borne Viruses*  
 • Northern Arizona University, Biological Sciences Seminar Series  
 *Monkey in the Middle: Spillover, Spillback and Spread of Mosquito-Borne Viruses*

2022 • Keynote Speaker, Jefferson Vaccine Center Symposium, Philadelphia, PA  
 *When Mosquitoes Monkey Around: How Within-Host Dynamics Impact Transmission of*

*Dengue and Zika Virus in both Native and Novel Monkey Hosts*

• Plenary Talk, American Society for Virology, Madison, WI

*When Mosquitoes Monkey Around: Spillover and Spillback of Mosquito-borne Viruses*

*between Wildlife and Humans*

2021 • Texas A&M University  
*Spillover, Spillback and Spread: How Viruses From Wildlife Take Over the World*

• ASTMH presentation and panel discussion on Arbovirus Surveillance during the COVID-19 pandemic  
*Surveillance of Emerging Arboviruses in the Americas*

• NM-INBRE Keynote

*Panning for Pathogens: Surveillance as a Strategy for Pandemic Prediction and Prevention*

• University of New Mexico

*Panning for Pathogens: Surveillance as a Strategy for Pandemic Prediction and Prevention*

• University of Texas Medical Branch

*Have Vector, Will Travel: Spillover, spillback and spread of vector-borne viruses*

2020 • The College of William and Mary  
*Spillover, Spillback and Spread: How Viruses From Wildlife Take Over the World*  
•Virtual Seminar Series on Virus Evolution  
*Waiting in the Wings: Spillover, Spread and Spillback of Mosquito-Borne Viruses*

• University of Texas El Paso Biology Seminar Series  
 *Ecological and Evolutionary Drivers of Spillover and Spillback of Mosquito-Borne Viruses*

• Keynote Speaker for University of Florida Emerging Pathogens Institute Research Day  
*Waiting in the Wings: Spillover, Spread and Spillback of Sylvatic Arboviruses*

2019 • Institut Pasteur, Paris, France

*Ecological and Evolutionary Drivers of Spillover and Spillback of Mosquito-Borne Viruses*

• Research Coordination Network on Infectious Disease Evolution Across Scales (RCN-IDEAS). Princeton University, Princeton, NJ.

*Arbovirus Coinfections: Impacts on Epidemiology*

• Louisiana State University School of Veterinary Medicine, Baton Rouge, LA

*Waiting in the Wings: Spillover, Spread and Spillback of Sylvatic Arboviruses*

2018 • Meeting of the American Society of Tropical Medicine and Hygiene, New Orleans, LA

Symposium on History of Arbovirology: How the Past Informs the Present

*Magnificent Obsession: Searching for the Lair of Sylvatic Arboviruses*

• University of Idaho Center for Health and the Human Ecosystem   
Keynote Speaker for Annual Research Symposium

*March of the Mosquito-Borne Viruses: Spillover, Spread and Spillback of Dengue, Chikungunya, Zika and Yellow Fever Virus*

2017 • Wadsworth Center, New York State Department of Health, Division Seminar

*Ecological and Evolutionary Approaches to Understand Spillover and Spread of Dengue Virus and Zika Virus*

• Cary Institute of Ecosystem Studies Lunch Bunch Seminar Series

*March of the Mosquito-Borne Viruses: Spillover, Spread and Spillback of Dengue, Chikungunya, Zika and Yellow Fever Virus*

• University of Texas Rio Grande Valley  
*Waiting in the Wings: Emergence, Evolution and Control of Mosquito-Borne Viruses*

• University of New Mexico Research Symposium on Zika Virus  
*Ecological Studies of Zika virus and its vectors: Research on four continents*

2016 • NMSU Biomedical Research Symposium.

*Dengue and Chikungunya and Zika: Science in a Time of Public Health Emergency*

• Global Resilience Network.   
*Zika and Other Emerging Mosquito-Borne Diseases: Update and Potential Risk Mitigation Strategies* (Live WebForum)  
• Waksman Institute of Microbiology, Rutgers University.   
*Waiting in the Wings: Evolution, Emergence and Control of Arthropod-Borne Viruses*

2015 • NIH IDeA Western Regional Meeting.   
*Waiting in the Wings: Circulation and Spillover of Sylvatic Dengue Virus*

• Symposium on “Contributions of Naturalists to the Fight Against Dengue in Brazil and Beyond”, American Society of Naturalists Meeting.   
*Waiting in the Wings: Circulation and Spillover of Sylvatic Dengue Virus* (Brazil, June 2015)

• Distinguished Lecture in Life Sciences, Pennsylvania State University.   
*Waiting in the Wings: Emergence and Evolution of Mosquito-Borne Viruses*

2013 • College of Veterinary Medicine at Illinois, Pathobiology Seminar Series.   
*Mosquitoes and monkeys and man, oh my! Sylvatic cycles and spillover of mosquito-borne viruses*• Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak.   
*Prospects for emergence of sylvatic dengue virus*.

• University of Illinois, Urbana/Champaign. *Fuel for the fever:   
Mechanisms of emergence and invasion of mosquito-borne viruses*

• Meeting of the Entomological Society of America, Southwestern Branch.   
*Viral determinants of vector competence among species and strains of flaviviruses.*

2012 • Center of Excellence for Infectious Diseases, Texas Tech Health Sciences Center  
 *Prospects for emergence of sylvatic dengue virus*

• Department of Ecology and Evolutionary Biology, Yale University.   
 *When mosquitoes monkey around: prospects for emergence of sylvatic dengue virus*

• Department of Biology, New Mexico State University.   
 *When mosquitoes monkey around: sylvatic dengue virus in wild and captive primates*

2011 • Department of Entomology, University of California, Davis.   
 *Fevers from the forest: Dynamics of sylvatic dengue virus and chikungunya virus in their   
 primate hosts and mosquito vectors in southeastern Senegal.*

• Laboratory of Zoonotic Pathogens Rocky Mountain Laboratories, NIAID, NIH.   
 *Fevers from the forest: Dynamics of dengue and chikungunya viruses in their sylvatic   
 transmission cycles in southeastern Senegal*

• Society for the Study of Evolution, Evolutionary Medicine Symposium in Honor of George Williams   
*The Taming of the Flu: How evolution enables and undermines live vaccines* (Norman, OK, 6/18/11-6/20/11)

• National Evolutionary Synthesis Center (NESCent) catalysis meeting on the evolution of infectious diseases: Integrating empirical and modeling approaches.   
*Intra-Host Virus Dynamics* (Durham, NC, 3/22/11-3/25/11)

2010 • American Society of Microbiology 2010 Meeting Symposium on the Evolution of Vector-Borne Diseases.   
*Empty Niche Syndrome: Why we are unlikely to eradicate dengue virus* (San Diego, CA).

• International Conference on Emerging Infectious Diseases.   
*The role of inter-strain competition in the emergence and resurgence of dengue virus* (Atlanta, GA).

*•* German-American Frontiers of Science Evolution of Infectious Disease Symposium.

*Evolution of Infectious Diseases* (Potsdam, Germany)

2008 • University of New Mexico  
 *Rational design of a dengue virus vaccine*

• Penn State University.   
*The fever from the forest: Emergence & control of dengue virus*

Ecology and Evolution of Infectious Diseases Meeting.   
 *Design of a live-attenuated vaccine for dengue virus: a meeting of the minds for medicine*

*and evolutionary ecology (*Colo. State University, Fort Collins, Colorado).

**Symposium & Workshop Organizer and Chair (2007 – present)**

2022 K.A. Hanley and Nik Vasilakis (co-chairs). *From the Panama Canal to the Pantanal:   
 investigating diversity, dynamics, drivers and deterrents of emerging zoonotic arboviruses in the   
 Neotropics*. American Society of Tropical Medicine and Hygiene, Seattle, WA (November 2022)

2017 **K.A. Hanley** and D. LaBeaud (co-chairs).Business symposium for the American Committee   
 and Arthropod-Borne Viruses (ACAV). American Society of Tropical Medicine and Hygiene,   
 Baltimore MD (November 2017)

K.A. Hanley and P. Turner (co-organizers). Workshop on *Evolutionary Causes and   
 Consequences of Arbovirus Emergence.* Sponsored by NSF-funded Research Coordination   
 Network on Disease Evolution Across Scales (RCN-IDEAS). New Orleans, LA (May 2017)

2016 **K.A. Hanley** and N. Vasilakis (co-chairs).Business symposium for the American Committee   
 and Arthropod-Borne Viruses (ACAV). American Society of Tropical Medicine and Hygiene,   
 Atlanta, GA

2009 N. Vasilakis and **K.A. Hanley** (co-chairs). *The fever from the forest: Fifty years of research on   
 sylvatic dengue virus.* American Society of Tropical Medicine and Hygiene, Washington, DC

**Professional Service (2004 – Present)**

***Ad hoc reviewer for the following peer-reviewed journals*** American Journal of Tropical Medicine and Hygiene; Biology Letters; BMC Evolutionary Biology;

Current Molecular Medicine; Current Opinion in Virology; Ecology; Emerging Infectious

Diseases; Evolution; Evolutionary Applications; Journal of Biomedicine and Biotechnology;

Journal of Herpetology; Journal of Infectious Diseases; Journal of General Virology; Journal of

Molecular Evolution; Journal of Virology; Nature Communications; Nature Microbiology; Nature   
 Scientific Reports; PLoS Biology; PLoS Neglected Tropical Diseases; PLoS One; PLoS   
 Pathogens; Proceedings of the National Academy of Sciences; Science; Vector-Borne and

Zoonotic Diseases; Virology Journal

***Steering Committee Member***

Sealy Center for Vector-Borne and Zoonotic Diseases, University of Texas Medical Branch

***NIH Study Section Member***

Genetic Variation and Evolution (GVE) study section: 2015-2021

***Ad hoc reviewer for the following funding agencies***

British Medical Research Council

French National Research Agency

National Medical Research Council of Singapore

Norwegian Research Council

Netherlands Organization for Scientific Research

Swiss National Science Foundation

U.S.A. Defense Threat Reduction Agency (DTRA)

U.S.A. Department of Defense Peer Reviewed Medical Research Program

U.S.A. NIH; National Institute for Allergy and Infectious Diseases:

AREA special emphasis panel (ZRG1 IDM-S)  
 Drug Discovery and Mechanisms of Antimicrobial Resistance (DDR) study section

Fellowships: Immunology, Virology, Mycology and Vaccines (ZRG1 F07C-J)   
 Genetic Variation and Evolution (GVE) study section

Partnerships for Biodefense Viral Pathogens Review Committee

Recovery Act Limited Competition: NIH Director’s Opportunity for Research in Five

Thematic Areas (RC4)

Rapid Assessment of Zika Virus (ZIKV) Complications (R21)

Small Business: Non-HIV diagnostics, food safety, sterilization/disinfection, and bioremediation special emphasis panel (ZRG1 IDM-V)

Virology B (VIRB) study section

U.K. Vaccine Network

**References**

Dr. Scott C. Weaver (mentor and collaborator)

John Sealy Distinguished University Chair in Human Infections

Center for Biodefense and Emerging Infectious Diseases and Department of Pathology University of Texas Medical Branch

Galveston, TX 77555-0609

(409) 266-6500

[sweaver@UTMB.EDU](mailto:sweaver@UTMB.EDU)

Dr. Jeffrey B. Arterburn (mentor and collaborator)  
Regents Professor

Department of Chemistry and Biochemistry

New Mexico State University

Las Cruces, NM 88003

(575) 646-2738

[jarterbu@nmsu.edu](mailto:jarterbu@nmsu.edu)

Dr. Stephen S. Whitehead (mentor and collaborator)

Senior Associate Scientist

Laboratory of Infectious Diseases

National Institute of Allergy and Infectious Diseases

National Institutes of Health

33 North Drive, Room 3W10A,

Bethesda, MD 20892

(301) 496-7692

[swhitehead@niaid.nih.gov](mailto:swhitehead@niaid.nih.gov)

Dr. Nikos Vasilakis (collaborator)

Assistant Professor

Center for Biodefense and Emerging Infectious Diseases

Center for Tropical Diseases

Institute for Human Infections and Immunity

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Dr. Ebenezer Tumban (former mentee, now faculty member)

Associate Professor

Department of Biological Sciences

Michigan Tech University

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Houghton, MI 49931

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