Curriculum Vitae
Audrey T. Lin, D.Phil

American Museum of Natural History
200 Central Park West
New York, NY 10024-5102
United States
Email: alin@amnh.org | linat@si.edu
ORCID ID: https://orcid.org/0000-0003-2505-1480

EDUCATION

2020 University of Oxford **D.Phil Evolutionary Biology/Zoology**
Thesis: "Interpreting patterns in transcriptomes and ancient DNA from Next Generation Sequencing data." Supervisors: Greger Larson, Tim Coulson, Gkikas Magiorkinis, Aris Katzourakis

2014 University College London **M.Sc. Infection and Immunity (Merit)**

2012 University of Nevada, Las Vegas. **B.S. Biology, Anthropology Minor**

PROFESSIONAL APPOINTMENTS

2023–2025 **Gerstner Postdoctoral Scholar in Bioinformatics & Computational Biology**
American Museum of Natural History, New York, NY.
Advisor: Nancy B. Simmons

2022–2023 **George Burch Postdoctoral Fellow in Theoretical Medicine and Affiliated Theoretical Science**
Department of Anthropology, National Museum of Natural History, Smithsonian Institution, Washington, DC.
Advisors: Logan Kistler, Sabrina Sholts

2020–2022 **Peter Buck Postdoctoral Fellow**
Department of Anthropology, National Museum of Natural History, Smithsonian Institution, Washington, DC.
Advisors: Logan Kistler, Sabrina Sholts

GRANTS AND AWARDS

2021 "Exploring Evolutionary Origins of SARS-CoV-2," $19,282
Smithsonian Women's Committee Grant (SWC2021-05)
Co-PIs Logan Kistler, Sabrina Sholts

2021 "Evolution of avian influenza virus in historic North American bird populations," $25,000
FluLab - New, Proposed, Highly-Powered Replication Studies
Co-PIs Logan Kistler, Sabrina Sholts

2020 "Exploring the evolutionary history of coronaviruses in historic bat specimens," $10,000
Secretary of the Smithsonian and the Smithsonian Regional Councils Discretionary Fund
Co-PIs Logan Kistler, Sabrina Sholts

ACADEMIC PUBLICATIONS

Accepted **Lin AT**, Hill SC, Calvignac-Spencer S, Düx A, Patrono L, Liu H-L, Milensky CM, Sholts SB, Kistler L. Registered Report: Evolution of avian influenza virus in historic North American bird populations. ***PLoS Biology***. doi: 10.17605/OSF.IO/F28AV

2023 **Lin AT**, Hammond-Kaarremaa L, Liu H-L, Stantis C, McKechnie I, Pavel M, Pavel S, Wyss S, Sparrow D, Carr K, Aninta SG, Perri A, Hartt J, Bergström A, Carmagnini A, Charlton S,

Dalén L, Feuerborn TR, France C, Gopalakrishnan S, Grimes V, Harris A, Kavich G, Sacks BN, Sinding M-HS, Skoglund P, Stanton DWG, Ostrander EA, Larson G, Armstrong CG, Frantz LAF, Hawkins MTR, Kistler L. The History of Coast Salish 'Woolly Dogs' Revealed by Ancient Genomics and Indigenous Knowledge. **Science**. doi: 10.1126/science.adi6549

2023 Jamieson A, Carmagnini A, Howard-McCombe J, Doherty S, Hirons A, Dimopolous ED, **Lin AT**, Allen R, Anderson-Whymark H, Barnett R, Batey C, Beglane F, Bowden W, Bratten J, De Cupere B, Drew E, Foley NM, Fowler T, Fox A, Geigl E-M,Gotfredsen AB, Grange T, Griffiths D, Groß D, Haruda A, Hjermind J, Knapp Z, Lebrasseur O, Librado P, Lyons LA, Mainland I, McDonnell C, Muñoz-Fuentes V, Nowak C, O'Connor T, Peters J, Russo I-RM, Ryan H, Sheridan A, Sinding M-HS, Skoglund P, Swali P, Symmons R, Thomas G, Jensen TZT, Kitchener AC, Senn H, Lawson D, Driscoll C, Murphy W, Beaumont M, Ottoni C, Sykes N, Larson G & Laurent Frantz LAF. Limited historical admixture between European wildcats and domestic cats. **Current Biology**. https://doi.org/10.1016/j.cub.2023.08.031

2021 Perri AR, Mitchell KJ, Mouton A, Carretero SA, Hulme-Beaman A, Haile J, Jamieson A, Meachen J, **Lin AT**, Schubert BW, Ameen C, Antipina EE, Bover P, Brace S, Carmagnini A, Carøe C, Castruita JAS, Chatters JC, Dobney K, Dos Reis M, Evin A, Gaubert P, Gopalakrishnan S, Gower G, Heiniger H, Helgen K, Kapp J, Kosintsev PA, Linderholm A, Ozga AT, Presslee S, Salis A, Saremi NF, Shew C, Skerry K, Taranenko DE, Thompson M, Sablin MV, Kuzmin YV, Collins MJ, Sinding M-HS, Gilbert MTP, Stone AC, Shapiro B, Van Valkenburgh B, Wayne RK, Larson G, Cooper A, Frantz LAF. Dire wolves were the last of an ancient New World canid lineage. ***Nature***. doi:10.1038/s41586-020-03082-x

2020 Bergström A, Frantz LAF, Schmidt R, Ersmark E, Lebrasseur O, Girdland-Flink L, **Lin AT**, Storå J, Sjögren K-G, Anthony D, Antipina E, Amiri S, Bar-Oz G, Bazaliiski V, Bulatovic J, Brown D, Carmagnini A, Davy T, Fedorov S, Fiore I, Fulton D, Germonpré M, Haile J, Horwitz L, Irving-Pease EK, Jamieson A, Janssens L, Kirillova I, Kuzmanovic-Cvetkovic J, Kuzmin Y, Losey R, Ložnjak Dizdar D, Mashkour M, Novak M, Onar V, Orton D, Pasarić M, Radivojevic M, Rajkovic D, Roberts B, Ryan H, Sablin M, Shidlovskiy F, Stojanović I, Tagliacozzo A, Trantalidou K, Ullén I, Villaluenga A, Wapnish P, Dobney K, Götherström A, Linderholm A, Dalén L, Pinhasi R, Larson G, Skoglund P. Origins and Genetic Legacy of Prehistoric Dogs. ***Science*****.** doi:10.1126/science.aba9572

2020 **Lin AT**, Myers M. "Ancient virus genomes from museum and archaeological collections can inform past and future epidemics." In ***Feral Atlas: The More than Human Anthropocene***. Eds. Anna L. Tsing, Jennifer Deger, Alder Keleman Saxema, and Feifei Zhou. Stanford University Press. doi:10.21627/2020fa. https://feralatlas.org/

2019 Ameen C, Feuerborn TR, Brown SK, Linderholm A, Hulme-Beaman A, Lebrasseur O, Sinding M-HS, Lounsberry Z, **Lin AT**, Appelt M, Bachmann L, Betts M, Britton K, Darwent J, Dietz R, Fredholm M, Gopalakrishna S, Goriunova OI, Grønnow B, Haile J, Hallsson JH, Harrison R, Heide-Jørgensen MP, Knecht R, Losey RJ, Masson-MacLean E, McGovern TH, McManus-Fry E, Meldgaard M, Midtdal A, Moss M, Nikitin IG, Nomokonova T, Pálsdóttir AH, Perri AR, Popov AN, Rankin L, Reuther JD, Sablin M, Schmidt AS, Shirar S, Smirarowski K, Sonne C, Stiner MC, Vasyukov M, West CF, Ween GB, Wennerberg SE, Wiig Ø, Woollett J, Dalén L, Hansen AJ, Gilbert MTP, Sacks B, Frantz LAF, Larson G, Dobney K, Darwent C, Evin A. The Inuit introduced a specialised sledge dog population which aided their dispersal across the North American Arctic. ***Proceedings of the Royal Society B*****.** doi:10.1098/rspb.2019.1929

2019 Frantz LAF*, Haile J*, **Lin AT***, Scheu A, Geörg C, Benecke N, Alexander M, Linderholm A, Mullin VE, Daly KG, Battista VM, Price M, Arbogast R-M, Arbuckle B, Bălăşescu A, Barnett A, Bartosiewicz L, Baryshnikov G, Bonsall C, Borić D, Boroneanț A, Bulatović J, Çakirlar C,

Carretero J-M, Chapman J, Church M, Crooijmans R, De Cupere B, Cetry C, Dimitrijevic V, Dumitrascu V, Edwards C, Erek M, Erim-Özdoğan A, Ervynck A, Gulgione D, Gligor M, Götherström A, Gourichon L, Groenen M, Helmer D, Hongo H, Horwitz LK, Irving-Pease EK, Lebrasseur O, Lesur J, Malone C, Manaseryan N, Marciniak A, Martlew H, Mashkour M, Matthews R, Matuzeviciute G, Maziar S, Meijaard E, McGovern T, Megens H-J, Miller R, Mohaseb A, Orschiedt J, Orton D, Papathanasiou A, Pearson MP, Pinhasi R, Radmanović D, Ricaut F-X, Richards M, Sabin R, Sarti L, Schier W, Sheikhi S, Stephan E, Stewart JR, Stoddart S, Tagliacozzo A, Tasić N, Trantalidou K, Tresset A, Valdiosera C, van den Hurk Y, Van Poucke S, Vigne J-D, Yanevich A, Zeeb-Lanz A, Gilbert MTP, Schibler J, Zeder M, Peters J, Cucchi T, Bradley DG, Dobney K, Burger J, Evin A, Girdland-Flink L, Larson G. Ancient pig genomes reveal a near complete turnover following their introduction to Europe. ***Proceedings of the National Academy of Sciences of the United States of America***. doi:10.1073/pnas.1901169116
* equal contribution.

2018 Karamitros T, Hurst T, Marchi E, Karamichali E, Georgopoulou U, Mentis A, Riepsaame J, **Lin AT**, Paraskevis D, Hatzakis A, McLauchlan J, Katzourakis A, Magiorkinis G. The HERV-K HML-2 integration within RASGRF2 is associated with intravenous drug abuse and modulates transcription in a cell-line model. ***Proceedings of the National Academy of Sciences of the United States of America*****.** doi:10.1073/pnas.1811940115

2016 **Lin AT**, Magiorkinis G. "Role of Endogenous Retroviruses in Human Genetic Diseases". In ***eLS***. John Wiley & Sons, Ltd. doi:10.1002/9780470015902.a0026711

Preprints

2018 **Lin AT**, Santander CG, Nascimento FF, Marchi E, Karamitros T, Katzourakis A, Magiorkinis G. HERV-K HML-2 transcription in diverse cancers is related with cancer stem cell and epithelial-mesenchymal transition markers. ***bioRxiv*****.** doi: 10.1101/451997

2018 **Lin AT**, Santander CG, Marchi E, Karamitros T, Katzourakis A, Magiorkinis G. Targeting endogenous retrovirus gene transcription in human cancers. ***bioRxiv*****.** doi:10.1101/449686

CONFERENCE PARTICIPATION / ORAL PRESENTATIONS

2024 International Plant & Animal Genome (PAG 31), San Diego, CA, USA. Title: "Adventures in Pathogen RNA Recovery from Formalin-Fixed Natural History and Archival Specimens"
2023 Society of Molecular Biology and Evolution, Ferrara, Italy. Title: "Integrating genomics and Indigenous knowledge to illuminate the life, history, and loss of Coast Salish woolly dogs"
2023 Society for American Archaeology 88th Meeting, Portland, OR, USA. Title: "Mutton and the palaeogenomics of Coast Salish wool dogs"
2019 8th Annual ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) Working Group Meeting, Paris, France. Title: "Time-dependent molecular evolution in ancient DNA"
2018 Archaeological Perspectives on Diversity and Interaction, Suzdal, Russia. Title: "Ancient DNA reveals the genetic history of domestic pigs"
2018 Phylogroup XI, UCL, London, UK. Title: "Ancient DNA of domesticated animals"
2017 7th Annual ICAZ Archaeozoology, Genetics, & Morphometrics Working Group Meeting, Liverpool, UK. Title: "Can time dependent molecular evolution be found in the ancient genomes of domesticated animals?"

CONFERENCE PARTICIPATION / POSTER PRESENTATIONS

2023 Walter Reed Army Institute of Research and Smithsonian Institution One Health Research Symposium. Title: "Pathogen RNA recovery from formalin-fixed, ethanol-preserved North American bird specimens"
2019 Society of Molecular Biology and Evolution, Manchester, UK. Title: "Time-dependent

molecular evolution in ancient DNA"

2018 8th International Symposium on Biomolecular Archaeology, Jena, Germany. Title: "Time-dependent molecular evolution in ancient animal mitogenomes"

2018 II Joint Congress on Evolutionary Biology, Montpellier, France. Title: "Time-dependent molecular evolution in ancient animal mitogenomes"

INVITED / DEPARTMENTAL TALKS

2024 Pacific Northwest Archaeological Society Seminar Series. Title: "Integrating genomics and Indigenous knowledge to illuminate the life, history, and loss of Coast Salish woolly dogs"

2024 American Museum of Natural History, New York, NY, USA. Title: "Integrating genomics and Indigenous knowledge to illuminate the life, history, and loss of Coast Salish woolly dogs"

2023 National Museum of Natural History, Smithsonian Institution, Washington DC, USA, Summer Institute in Museum Anthropology Seminar. Title: "Integrating genomics and Indigenous knowledge to illuminate the life, history, and loss of Coast Salish woolly dogs"

2022 National Museum of Natural History, Smithsonian Institution, Washington DC, USA, Summer Institute in Museum Anthropology Seminar. Title: "Mutton & Coast Salish Woolly Dogs"

2022 National Museum of Natural History, Smithsonian Institution, Washington DC, USA, Anthropology Spring Seminars. Title: "A Very Good Dog: the genomics of 'Mutton', a Coast Salish Woolly Dog"

2022 Department of Archaeology, University of Cambridge. Pitt-Rivers Archaeological Science Seminar. Title: "Very Good Dogs: current research on ancient DNA in dogs"

2021 Elaine Ostrander Lab Meeting (Cancer Genomics and Comparative Genomics Branch, National Human Genome Research Institute, NIH) on current research on ancient DNA in dogs

2021 Center for Conservation Genomics Lab Meeting (Smithsonian's National Zoo & Conservation Biology Institute) on current research on ancient DNA in dogs

2021 National Museum of Natural History, Smithsonian Institution, Washington DC, USA, January All Science Meeting. Title: "Origins and Genetic Legacy of Prehistoric Dogs"

2019 Department of Zoology, University of Oxford, Oxford, UK, Science Jam: Zoology Early Career Researcher Showcase

2017 Department of Software Engineering, School of Computer Science, Charles University, Prague, Czech Republic. Title: "Time-dependent molecular evolution and ancient genomes"

2016 Department of Zoology, University of Oxford, Oxford, UK. Title: "The expression of endogenous retroviruses in human cancer"

2016 Green Templeton College, University of Oxford, Oxford, UK. Title: "The expression of human endogenous retrovirus gene products Np9 and Rec in human cancers"

OUTREACH SERVICE

2023 **Lin AT**, Stantis C, Kistler L. "Mutton, an Indigenous woolly dog, died in 1859 – new analysis confirms precolonial lineage of this extinct breed, once kept for its wool." (The Conversation article). Link.

2023 Science Snacks presented by the Senate of Scientists, Smithsonian National Museum of Natural History. Presenter.

2023 STLV: The 57 Year Mission Convention Science Panel, Las Vegas, NV, USA. Title: "Ethics and the Future: Exploring Genetic Engineering, Cloning, and Eugenics in the Star Trek Universe and Real World". Panelist.

2023 Natural History Research Experiences (NHRE) Intern Summer Session Research Talk. Title: "Mutton and the palaeogenomics of woolly dogs".

2023 AwesomeCon Science Panel, Washington, DC, USA. Title: "How Star Trek Inspired Me to Become a Scientist!" Panelist. Link to flyer.

2023 "Hailing Frequencies Open: Life Sciences." Speaker series organized by the Nichelle Nichols Foundation. Panelist. Link.

2023 Interview: "The Dark Side of Pet Breeding". Student documentary by Asher Anantham, Alana Anantham, and Zarina Aronson. Link.

2022 Interview: "How Wolves Became Man's Best Friend". PawPrint Magazine. Article written by

Emily Joshu.

2022 Grad School Insights, Smithsonian National Museum of Natural History 2022 Summer Internship. Panelist.

2022 In-person pop-up talk for Work It! FUTURES Career Day, part of If/Then Exhibition for Women in Science programming. Smithsonian Arts + Industries Building. Title: “Early Dog Domestication”.

2021 Natural History Research Experiences (NHRE) Intern Summer Session Science Snapshots. Panelist.

2021 Youth Engagement through Science (YES) Teen Internship Program Q&A. Panelist.

2021 NMNH Webinar/Q&A for Outbreak! "Hunting for the 1918 Pandemic Influenza Virus."

2021 NMNH Human Origins Today Event. “How dogs became our best friends: the genetics of dog domestication.” Link.

2020 NMNH Instagram Takeover (also posted to Facebook and Twitter).
Instagram links: Post 1 / Post 2 / Post 3 / Post 4 / Post 5 / Post 6

2020 BioTrekkie Explains! feat. **Lin AT**, du Plessis L, Noor MAF. "Barclay's Protomorphosis Syndrome and the Viruses of Star Trek." YouTube. Link.

2020 **Lin AT**. "Herd immunity for COVID-19 is not a serious option without a vaccine." (Medium.com blog post). Link.

Professional Affiliations (Past and Present)

Association for Women in Science
International Society for Biomolecular Archaeology
North American Society for Bat Research
Society for Molecular Biology and Evolution
Society for the Study of Evolution