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Samantha López Clinton

Curriculum vitae

Profile

I am a PhD student at the Department of Bioinformatics and Genetics of the Swedish Museum of Natural History, Stockholm University and the Centre for Palaeogenetics. I was the first manager for the first molecular field laboratory in the Amazon Rainforest, which led to my involvement in several research projects (see publications). My Biology BSc followed a transdisciplinary approach with a strong emphasis on community; knowledge was built through research projects with real-life applications to support particularly vulnerable populations in Mexico. I'm passionate about science communication and reproducibility; through Forskar Fredag's "Borrow a Researcher" initiative, I've spoken to around 450 students from 18 schools about research and life as a scientist. I also co-chaired the Inclusion, Diversity, Equity, and Accessibility (IDEA) Task Force for the Society for Molecular Biology and Evolution (SMBE).

Education

Doctor of Philosophy (Ph.D) in Bioinformatics and Genetics - 2026
Swedish Museum of Natural History, Stockholm University, Centre for Palaeogenetics, Sweden

Master of Science (M.Sc) in Evolutionary Biology - 2022
Uppsala University, Uppsala, Sweden

Bachelors Degree (B.Sc) in Biology - 2019
Metropolitan Autonomous University Xochimilco Campus, Mexico City, Mexico

Languages

English - Native speaker
Spanish - Native speaker
Swedish - Intermediate
German - Intermediate

Research Experience

Population genomics of 75,000 year-old bulk-bone sediments from Arne Qvamgrotta cave in Norway

Jan 2026 to date

I received an EMBO Scientific Exchange Grant for a three-month visit to Dr. Sanne Boessenkool's group at the University of Oslo. Here, I work on extracting and analysing nuclear genomes from bulk-bone sedimentary ancient DNA.

Centre for Ecological and Evolutionary Synthesis, University of Oslo, Norway

BulkDNA biodiversity monitoring and population metagenomics

Oct 2022 to date

During my PhD, I explore the use of terabyte-scale databases and existing taxonomic classification softwares to facilitate plant, insect and vertebrate monitoring from eDNA and mixed sample shotgun sequence data. I further leverage the data conduct population genomics analyses. This work is supervised by Dr. Tom van der Valk.

Department of Bioinformatics and Genetics, Museum of Natural History, Sweden
Department of Zoology & Centre for Palaeogenetics, Stockholm University, Sweden

Wild tamarin non-invasive genotyping with MinION

June 2021 to date

For my MSc degree project, I developed a genotyping tool to identify individuals, sex and species of free-ranging saddleback and emperor tamarins in Southeastern Peru using non-invasive samples and the MinION portable sequencer. This project was supervised by Dr Katerina Guschanski and Dr Mrinalini Watsa.

Uppsala University, Department of Ecology and Genetics, Uppsala, Sweden

Brown bear lineage attribution using historical dental calculus

Mar to June 2021

During my MSc and as a 15 credit research training course, I used historical DNA sequencing data from dental calculus samples to identify the evolutionary lineage of 101 Scandinavian brown bears. The project was supervised by Dr Katerina Guschanski.

Uppsala University, Department of Ecology and Genetics, Uppsala, Sweden

Senior laboratory manager

Aug to Dec 2018

I performed biological sample processing including blood, fecal, animal and plant tissue, genetic disease screening of wild and captive primates, sequencing library preparation, and DNA barcoding on the MinION.

Green Lab Amazon Rainforest Field Genomics Laboratory, Inkaterra Guides Field Station, Madre de Dios, Peru

Associate Research scientist, research team leader and field laboratory manager

Summer 2015 to date

I collaborate in several projects (see publications). During summer field seasons I managed the primate sensory ecology and disease ecology research assistant teams and coordinated the field laboratory, biological sample pre-processing and labelling, with one field season reaching 581 bat, bird, terrestrial mammal and primate captures with more than 2,000 different samples. I was part of the primate mark-recapture team and mentored new research assistants upon their arrival in the field.

Centro de Investigación y Capacitación Río los Amigos, Madre de Dios, Peru

Publications

López Clinton S, Iwaszkiewicz-Eggebrecht E, Miraldo A, Goodsell R, Webster MT, Ronquist F, van der Valk T. 2025. Small Bugs, Big Data: Metagenomics for Arthropod Biodiversity Monitoring. *Ecology and Evolution* 15. https://doi.org/10.1002/ece3.72163.

Oskolkov N, Jin C, **López Clinton S,** Guinet B, Wijnands F, Johnson E, Kutschera VE, Kinsella CM, Heintzman PD, van der Valk T. 2025. Improving taxonomic inference from ancient environmental metagenomes by masking microbial-like regions in reference genomes. *GigaScience 14*. https://doi.org/10.1093/gigascience/giaf108.

Sánchez-Vendizú P, Erkenswick G, Reyes, J., **López Clinton S,** Silvestre Espejo T, Cáceres G, Libke Z, Arana A, Mendoza-Silva J, Tirapelle C, Williams S, Swamy V, Martínez-Altamirano J, Esteves J, Barnuevo-Bullón JP, Hernández-Mejía J, Caffo X, Mendevil Malpica A, Salazar-Aragón R, Gutiérrez-Jiménez L, Stabile J, Cuzmar N, Paine TD, Peralta-Aguilar P, Inga-Díaz G, Lescano J, Viñas-Martínez A, McElroy ME, Coayla D, Linares R LM, Pilfold NW, Sacco AJ, Arakaki M, Mena JL, Tobler MW, Salinas L, Arana C, Pacheco V, Prost S, Watsa M. 2025. Decoding the Peruvian Amazon with in situ DNA barcoding of vertebrate and plant taxa. Scientific Data 12. https://doi.org/10.1038/s41597-025-05697-z.

Dolenz S, **López Clinton S,** Heintzman PD, 2025, El ADN Antiguo: Perspectivas y Retos Actuales, *Arqueología Mexicana*, January-February, pp. 40-45.

López Clinton S. 2023, Microcosmos explorers: foldscope workshop for science outreach in Mexican schools. *Biology Methods and Protocols* 8(1) bpad035. https://doi.org/10.1093/biomethods/bpad035.

Publications in preparation

López Clinton S, Voyt R, Jensen A, Erkenswick G, Rogers J, Muthuswamy R, Guschanski K, Watsa M. (In prep) A novel SNP panel for genotyping tamarins using field-friendly technologies and both high and low quality DNA.

Prost S, **López Clinton S**, Voyt R, Guschanski K, Watsa M. (In prep) Cheetah and tamarin SNP genotyping under field conditions using Nanopore technologies.

Voyt R, **López Clinton S**, Jensen A, Erkenswick G, Rogers J, Muthuswamy R, Guschanski K, Watsa M. (In prep) Genotyping and relatedness analyses of 250 wild tamarin individuals from Southeastern Peru.

Voyt R, **López Clinton S**, Jensen A, Erkenswick G, Rogers J, Muthuswamy R, Guschanski K, Watsa M. (In prep) Chimerism detection in various tide types with SNP genotyping panel in two species of free-ranging tamarins.

Watsa M, **López Clinton S**, Chen R, Melin A, Erkenswick G. (In prep) Polymorphic colour vision and behaviour: the use of sight, smell and taste in two species of free-ranging tamarins in southeastern Peru.

Swamey V, Watsa M, Erkenswick G, **López Clinton S**, Coayla D, Paz Mendoza M. (In prep) Madre de Dios botanical DNA barcode reference library on an on-site MinION flowcell.

Watsa M, Erkenswick G, Pomerantz A, Chen J, Khadpekar Y, Pilfold NW, **López Clinton S**, Viñas Martínez A, Rudin D, McElroy M, Schmitt A, Paz Mendoza M, Brack J, Dainko D, Park DJ, Cave S, Prost

S. (In prep). *In situ* population genetics: A primer on Peruvian tamarins via ddRADSeq on a MinION sequencer. For submission to PLOS One.

Erkenswick G, Watsa M, Pomerantz A, Park DJ, Cave S, Schmitt A, Rudin D, Viñas Martínez A, Paz Mendoza M, Chen J, Khadpekar Y, Pilfold NW, **López Clinton S**, McElroy M, Brack J, Dainko D, Prost S. (In prep). Parasite and microbiome comparisons between captive and wild primates in the Peruvian Amazon. For submission to PLOS One.

Laboratory Skills

DNA isolation/extraction
PCR
Gel & automated electrophoresis
Gel and PCR purifications
DNA barcoding
Disease screening
Library preparation
MinION sequencing

Field Skills

Tracking New World primates
Biological sampling
Mark-recapture
Bird and bat mist-netting
GPS and off-trail navigation
Behavioural observations
Radiotelemetry
Scandinavian wildlife tracking

Software Skills

NGS data handling (qc, mapping, calling and filtering variants)
Bash
Python
Slurm/HPC
Git/GitHub
Snakemake

Selected Conference Presentations

López Clinton S. Cultivating Diversity: Progress report and future directions of SMBE IDEA, at the SMBE IDEA symposium. 2024. Annual Meeting of the Society for Molecular Biology and Evolution (SMBE).
Puerto Vallarta, Mexico

López Clinton S, Miraldo A, Iwaszkiewicz-Eggebrecht E, van der Valk T. Exploring the possibilities of population metagenomics on Swedish insects. 2023. SciLifeLab Science Summit.
Stockholm, Sweden

López Clinton S, Jin C, Miraldo A, Iwaszkiewicz-Eggebrecht E, van der Valk T. Leveraging metagenomics approaches for biodiversity monitoring. 2023. SedDNA Meeting.
Potsdam, Germany

López Clinton S, Jin C, Miraldo A, Iwaszkiewicz-Eggebrecht E, van der Valk T. Exploring new computational methods for genome-wide eDNA biodiversity monitoring. 2023. Annual Meeting of the Society for Molecular Biology and Evolution (SMBE).
Ferrara, Italy

López Clinton S, Jin C, Miraldo A, Iwaszkiewicz-Eggebrecht E, van der Valk T. Eukaryote metagenomics applied to arthropod diversity monitoring. 2023. 28th European Meeting for PhD Students in Evolutionary Biology (EMPSEB28). [Voted best talk]
Millport, Scotland

López Clinton S, Voyt R, Jensen A, Erkenswick G, Watsa M, Guschanski K. A field-friendly, low-cost genotyping approach for high and low quality DNA using the MinION portable sequencer. 2022. 5th European Conservation Genetics Meeting.
Edinburgh, Scotland

López Clinton S, Voyt R, Jensen A, Erkenswick G, Watsa M, Guschanski K. A Pipeline for SNP genotyping in non-model species with various DNA sources and sequencing platforms. 2022. Congress of the European Society for Evolutionary Biology.
Prague, Czech Republic

López Clinton S, Voyt R, Jensen A, Erkenswick G, Watsa M, Guschanski K. 2022. Developing saddleback and emperor tamarin SNP set for *in situ* genotyping using the MinION portable sequencer. Joint Conference of the European Federation for Primatology and the Gesellschaft für Primatologie.
Arnhem, Netherlands

López Clinton S, Guschanski K, Watsa M. Developing saddleback tamarin SNP set for *in situ* genotyping using MinION. 2021. "The Revolution" - two day internal symposium at the Animal Ecology Department at Uppsala University. [Voted "Best poster"]
Uppsala, Sweden

Maldonado AM, Soto ID, Peralta AP, Watsa M, Inga G, Moreno A, Erkenswick G, Sanchez N, **López Clinton S**, Linares LM. Conservation assessment and strategy for Nancy Ma's night monkey populations at the Colombian-Peruvian Amazon border. 2018 (Postponed due to COVID). Joint Meeting of the International Primatological Society and the Society of Latin American Primatologists.
Quito, Ecuador

López Clinton S, Watsa M, Erkenswick G, Melin A. The use of sight, smell and taste to predict colour vision type in free-ranging tamarins in southeastern Peru. 2017. III Latinamerican Primatology Conference.
Xalapa, Mexico

Watsa M, Erkenswick G and **López Clinton S.** Reproductive status affects scent-marking behaviour in a free-ranging group of saddle-back tamarins (*Saguinus weddelli*) with multiple breeding females in Peru. 2016. International Primatological Society/American Society of Primatologists, August 21-27.
Chicago, United States of America

Science Outreach Talks

Låna en Forskare (Borrow a Researcher) initiative - Sept 2024 & April 2025
Forskar Fredag. In-person and online talks to around 450 students across 18 schools all over Sweden.
Stockholm, Sweden

Primatology and Molecular Biology in the Amazon Rainforest - June 2021
Centre for Anthropological Studies at the National Autonomous University of Mexico
Mexico City, Mexico

What do biologists do? - June 2021
Middle School Science Fair, Oakland
Querétaro, Mexico

The Amazon Rainforest and the need for innovative ideas - Feb 2021
Deanery of Design, Science, and Technology at the Guadalajara Autonomous University
Guadalajara, Jalisco, Mexico

Field Genetics: from collection to sequencing June 2020
First Virtual Meeting of the School of Biological Sciences at the National Amazonian University of Peru
Iquitos, Peru

Primatology in the Amazon: the art of studying wild monkeys - Jan 2020
Biologists Day Academic Event at the Metropolitan Autonomous University, Xochimilco Campus
Mexico City, Mexico

Molecular Biology in the Amazon - Aug 2019
Conversatorios at Casa Cem, cultural and environmental education centre
Guadalajara, Jalisco, Mexico

Primates of the Amazon - April 2018
Conversatorios at Casa Cem, cultural and environmental education centre
Guadalajara, Jalisco, Mexico

Extracurricular Education

Introduction to Teaching Biology
November to December, 2024
Centre for the Advancement of University Teaching, Stockholm University
Stockholm, Sweden

Wildlife Tracking Programme
January to June, 2024
Learn the Land
Säljemar, Sweden

Visualize your Science - Online
September to November, 2023
National Bioinformatics Infrastructure Sweden
Stockholm, Sweden

Tools for Reproducible Research - Online
November 21st to November 25th 2022
National Bioinformatics Infrastructure Sweden
Stockholm, Sweden

Introduction to Git - Online
November 14th to November 18th 2022
High Performance Computing Center North, Umeå University
Umeå, Sweden

Genome and Metagenome Assembly and Annotation - Online
November 22nd to November 26th 2021
National Bioinformatic Node, National Autonomous University of Mexico
Mexico City, Mexico

Introduction to GIS Applied to Ecological System Analysis
June 3rd to June 7th 2019
Biology and Health Sciences Department, Metropolitan Autonomous University, Xochimilco Campus
Mexico City, Mexico

Technology Tools for the Study of Genomic Medicine - Online
March 4th to April 12th 2010
National Institute of Genomic Medicine
Mexico City, Mexico

Genomics in the Jungle Field and Lab Course
Jul 22nd to Aug 4th 2018
Field Projects International, Inkaterra Guides Field Station
Madre de Dios, Peru

Malaria Diagnosis Workshop
Aug 28th 2018
State Health Department, Jalisco State Laboratory
Guadalajara, Jalisco, Mexico

Primatological Field-Study Design Course
Oct 28th to Nov 1st 2017
III Latinamerican Primatology Conference
Xalapa, Veracruz, Mexico

Participatory Action Research Course
Oct 28th to Nov 1st 2017
III Latinamerican Primatology Conference
Xalapa, Veracruz, Mexico

Theoretical and Practical Course: Wildlife Ecology, Behaviour and Conservation
April 16th to April 23rd 2017
Conservación de la Biodiversidad del Usumacinta A.C., UMA Saraguatos
Tabasco, Mexico

International Gorilla Workshop
Oct 31st to Nov 5th 2016
Guadalajara Zoo
Guadalajara, Jalisco, Mexico

Chimpanzees in Context Symposium
Aug 18th to Aug 20th 2016
Lincoln Park Zoo
Chicago, Illinois, United States of America

Molecular Laboratory Training
Sept 2016
Primate Molecular Ecology Laboratory at Washington University in St. Louis
St. Louis, Missouri, United States of America

Primate Study and Conservation at Priority Sites Seminar - Online
Feb 19th 2016
Conservación de la Biodiversidad del Usumacinta A.C. and Grupo de Biología para la Conservación S. De R.L. de C.V.
Mexico

Molecular Laboratory Training
Nov 2015
Jalisco State Laboratory, Public Health Secretary and the molecular biology screening area
Guadalajara, Jalisco, Mexico

Theoretical and Practical Molecular Biology Course
Sept 7th to Sept 11th 2015
Metropolitan Autonomous University, Xochimilco Campus
Mexico City, Mexico

Tropical Biology and Primatology Field Course
Jul 20th to Aug 9th 2015
Field Projects International, Centro de Investigación y Capacitación Río los Amigos
Madre de Dios, Peru

Volunteer positions

Swedish Arctic Fox Project, Helagsfjället, Sweden - July 2023
Field-based monitoring of Arctic fox dens and habitats in the Swedish mountain tundra.

Neotropical Primate Conservation, UK - Nov 2017 to 2019
Editing online articles and performed English-Spanish translations.

Conservación de la Biodiversidad del Usumacinta A.C. - Nov 2015 to 2020
Performing English-Spanish translations of grant applications and online articles.

Calakmul Primatology - Sep 2015 to 2018
Writing primate related blog entries and English-Spanish translations.

Environmental Management Unit 'Canhel', Guadalajara, Mexico - Aug 2008 to July 2012
Caring for lizards, tortoises, turtles, pythons and other reptiles.

Additional Experience

Teacher - Feb 2019 to Aug 2020
Foldscope workshops "Microcosm explorers"
I designed and taught the science workshops to school children, young adults and adults. I have taught 10 workshops to 140 participants, ages 6 to 72.
Guadalajara and Mexico City, Mexico

Scholarships, grants and awards

Scientific Exchange Grant (10,250 EUR), European Molecular Biology Organisation EMBO, 2025
Activity/Workshop Funding Support (8,500 SEK), Gender Academy at Stockholm University, 2025
Stockholm University Donation Grants (20,000 SEK), Lillie och Ernst Åqvists Fund, 2025
Fieldwork grant (14,000 SEK), Alice och Lars Siléns Fund, 2024
Travel grant (20,900 SEK), Riksmusei Vänner, 2024
Best talk at EMPSEB28 - holiday in Spain, All Genetics, 2023
Travel Scholarship (10,000 SEK), Albert and Maria Bergström's Foundation, 2023
Stenholm Wilgott Travel Scholarship, Uppsala University, 2021
Science Messenger Grant (100 Foldscopes), One World Science, 2019
Alwyn Gentry Scholarship (Field Course Waiver), Field Projects International, 2015
First Terminal Scouts Badge, Scout group XIV Guadalajara, 2009