

LAURA C. LOYOLA

Spatial Sciences Institute
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CURRENT APPOINTMENTS

University of Southern California, Los Angeles, CA
Director of Undergraduate Studies (January 2018 – Present), Spatial Sciences Institute
Lecturer (2015-Present), Spatial Sciences Institute

EDUCATION

Doctor of Philosophy (2015) Integrative and Evolutionary Biology (IEB), University of Southern California
Graduate Certificate (2010) Geographic Information Sciences and Technology (GIST), University of Southern California
Bachelor of Arts (1998) Biology, Amherst College

RESEARCH INTERESTS

Behavioral Adaptations to Habitat Loss and Habitat Partitioning
Use of Unmanned Aerial Systems (UAS) and High Resolution Imagery for Vegetation Analysis and Species Identification
Land Cover Change as an Indicator of Forest Habitat Quality
Anthropogenic Factors Influencing Forest Loss
Application of Geographic Information Systems (GIS) for Conservation and Management

TEACHING INTERESTS

Spatial Thinking and Reasoning
Data Acquisition and Fitness-for-Use
Environmental Justice and Maps for Empowering for Social Issues
Geospatial Technologies and UAS for Conservation and Management
Mapping and Cartography
Pedagogy and Curricular Development

PROFESSIONAL CERTIFICATES

Remote Pilot License (RPL) Certified by the Federal Aviation Administration (FAA), 2018 until recertification is required 2020 (Cert # 4150999)

TEACHING EXPERIENCE

Courses Taught

Spatial Sciences Institute, University of Southern California

SSCI 214g: Human Populations and Natural Hazards, Course Instructor (Spring 2020)
SSCI 350: International Geodesign, Course Director/Course Lead (Summer 2020, 2019)
SSCI 684: Spatial Modeling with GIS, Course Instructor/Course Lead (Spring 2020, 2019, 2018)
SSCI 301L: Maps and Spatial Reasoning, Course Instructor/Course Lead (Fall 2019, 2018, 2017); Lab Instructor (Fall 2015)
SSCI 594a#: Master's Thesis, Course Instructor (Summer 2017)
SSCI 594z#: Master's Thesis, Course Instructor (Spring 2019, Fall 2018, Fall 2016)
SSCI 594b#: Master's Thesis, Course Instructor (Summer 2018, 2016)
SSCI 587#: Spatial Data Acquisition, Course Instructor /Course Lead (Fall 2019, Spring 2019, Fall 2018); Course Instructor (Summer 2017 – Spring 2018, Fall 2016)
SSCI 165Lgw: Sustainability Science in the City, Lab Instructor (Fall 2015 – Spring 2017)

Department of Human and Evolutionary Biology, University of Southern California

HBIO 200Lg: The Human Animal, Lab Instructor (Spring 2016)
(Courses with the designations L, g, and # refer to lecture classes with an accompanying laboratory component, General Education courses and online courses, respectively)

Courses Taught as Graduate Teaching Assistant

Spatial Sciences Institute, University of Southern California

SSCI 587: GPS/GIS Field Techniques (2013)

Department of Human and Evolutionary Biology, University of Southern California

HBIO 200Lg: The Human Animal (2014 – 2015)

Department of Anthropology, University of Southern California

ANTH 200Lg: Human Origins (Spring 2013 – Spring 2014, Fall 2008 – Spring 2009, Fall 2010 – Spring 2011)
(Courses with the designations L and g refer to lecture classes with an accompanying laboratory component and General Education courses, respectively)

Guest Lectures

“The Shape of Water and the Fluidity of Bodies and Boundaries” A Spatial Workshop at the Sidney Harman Academy for Polymathic Study Spring 2019 Student Retreat *Entropy and Stability* (Workshop Lead), Catalina Island, March 2019

“Remote Sensing Technology” Presented to SSCI 301: Maps and Spatial Reasoning, Spatial Sciences Institute, University of Southern California, 2019

“An Active-Learning Librarian Class Visit” (Moderator) Presented to SSCI 165: Sustainability Science in the City, Spatial Sciences Institute, University of Southern California, 2018

“Restoring Urban Biodiversity” Presented to SSCI 165: Sustainability Science in the City, Spatial Sciences Institute, University of Southern California, 2017

“Food and Behavior: A Look at Red Colobus and Orangutans” Presented to HBIO 200: The Human Animal, Human and Evolutionary Biology, University of Southern California, 2016

“Restoring Urban Biodiversity” Presented to SSCI 165: Sustainability Science in the City, Spatial Sciences Institute, University of Southern California, 2016

“Red Apes, Red Colobus, and Green Living” Presented to the USC Second Decade Society, San Diego Zoo, San Diego, CA, 2015

“From Red Apes to Red Colobus” Presented to ANTH 200: Human Origins, University of Southern California, 2014

“Careers in Biological Anthropology” Presented to ANTH 200: Human Origins, University of Southern California, 2013

“The Evolution of Altruistic Behaviors” Presented to ANTH 200: Human Origins, University of Southern California, 2013

“Northeast Bornean Orangutan Food Properties” Presented to the Biology Department Seminar, Whittier College, Whittier, CA, 2011

“Community Ecology” Presented in ANTH 309: Primate Social Behavior, University of Southern California, 2010

“Biogeography, Speciation, and Conservation” Presented to ANTH 406: Theory & Method in Biological Anthropology, University of Southern California, 2010

“Primate Communication” Presented to ANTH 309: Primate Social Behavior, University of Southern California, 2009

“Properties of Northeast Bornean Orangutan Plant Foods” Presented to BISC 594a: Integrative and Evolutionary Biology Seminar, 2009

PUBLICATIONS

Refereed Journal Articles

Loyola LC, Knowles JT, Marx AJ, McAlinden R, Fleming SD. (2019) Research and teaching application of remote sensing integration with GIS: Lessons from the field. *Journal of Geographic Information System*, 11(no.2).

Tom-Jack, Q, J Bernstein, **LC Loyola**. 2019. “The role of geoprocessing in mapping crime hot streets.” *ISPRS International Journal of Geo-Information*. 8(no.12): 540-560.
<https://doi.org/10.3390/ijgi8120540>

Loyola LC, Moore T, Turcotte LP, Delgado RA. Folivorous primates exhibit behavioral modifications to mediate variations in energy balance. (In preparation)

Loyola LC. (2019) Financial barriers to entering the primatological field: A brief commentary. *International Journal of Primatology*. 40 (no.4-5): 465-467. <https://doi.org/10.1007/s10764-019-00102-0>

Coiner-Collier S, Scott RS, Chalk J, Cheyne SM, Constantino P, Dominy NJ, Elgar AA, Glowacka H, **Loyola LC**, Ossi-Lupo K, Raguette-Schofield M, Talebi MG, Sala EA, Sieradzy P, Taylor AB, Vinyard CT, Wright BW, Yamashita N, Lucas PW, Vogel ER. (2016). Primate Dietary ecology in the context of food mechanical properties. *Journal of Human Evolution*, 98: 103-118. (<https://doi.org/10.1016/j.jhevol.2016.07.005>)

Special Publications

Kivai SM, **Loyola LC**, Mbora DNM, Wieczkowski J, de Jong YA, King J, Allen LV, Cronin DT, Ting N, Butynski T. (2019) Tana River Red Colobus. In *Primates in Peril: World's 25 Most Endangered Primates, 2018-2020*. Mittermeier RA, Rylands AN, Chiozza F, Williamson EA, Wallis J, Cotton A (eds). IUCN SSC Primate Specialist Group (PSG), International Primatological Society (IPS), Conservation International (CI), Bristol Zoological Society (BZ). pp 42-45. (ISBN: 978-1-5272-4806-9)

Kivai SM, Allen LV, Butynski TM, de Jong YA, **Loyola LC**, Mborora DNM, Ting N. Tana River Red Colobus (*P. rufomitratus*). In *Red Colobus Conservation Action Plan (ReCAP) 2019-2021*. Cronin DT, Linder JM, Ting N, Abwe E, McGraw WC, Hart JA, Detwiler K, Kivai SM, Bi SG, Oates JF, Struhsaker TT (eds). Submitted 2019

HONORS AND AWARDS

Margot Marsh Biodiversity Foundation, Land cover survey and invasive vegetation species analysis of the riverine forests of Tana River, Kenya for the conservation and management of forests for the Tana River primates. (\$21,000) grant in preparation 2019

Summer Undergraduate Research Fellowship (SURF) (5 student awards, \$3000 each) (Faculty PI), University of Southern California, 2019

Dornsife Teaching Computer Support (\$1500), University of Southern California, 2019

Dornsife Faculty Development Funds (\$3500), University of Southern California, 2018 – 2019

Undergraduate Research Assistant Program (URAP) (\$4500) (Faculty PI), University of Southern California, 2017 – 2018

Graduate Student Government Travel Grant, 2015 and 2013

Jane Goodall Institute Grant, 2014

Women in Science and Engineering Merit Fellowship (WiSE) (\$1500), 2014

IEB Merit Scholarship, 2013 and 2011

Jane Goodall Institute Travel Award, 2013

Academic Professional Development: Dissertation Writing Group Award, 2013

Ford Foundation Dissertation Fellowship (Honorable Mention), 2011

Foster Graduate Fellowship. 2011 – 2012

USC College Gold Family Fellowship, 2011

Mayr Life Sciences Fellowship, 2009 – 2010

CONFERENCES AND PANELS

Paper Presentations

Loyola LC, Marx A, Fleming SD. Combining Teaching, Partnerships, and Research in the field: Lessons learned from the Spatial Data Acquisition course (field excursion on Catalina Island). *GIS-PRO & CalGIS 2018*. Palm Springs, CA, 2018

Loyola LC. Colobus behavioral flexibility in response to near and distant anthropogenic factors – contribution to evolutionary research. *27th Congress of the International Primatological Society*. Nairobi, Kenya, 2018

Loyola LC, Moore T, Turcotte LP, Delgado RA. The Tana River red colobus mediate seasonal variations in metabolizable energy intake through behavioral modifications. *Joint Meeting of the International Primatological Society and American Society of Primatologists*. Chicago, IL, 2016

Loyola LC, Delgado RA. The Tana River red colobus (*Procolobus rufomitratus*) exhibit seasonal behavioral flexibility to changes in habitat quality: A longitudinal and spatial comparison of behavioral ecology. *84th Annual Meeting of the American Association of Physical Anthropologists*. St Louis, MO, 2015

Loyola LC, Delgado RA. Surviving in the Tana: Behavioral ecology and conservation of the Tana River red colobus (*Procolobus rufomitratus*). *Joint Meeting of the International Primatological Society and American Society of Primatologists*. Hanoi, Vietnam, 2014

Poster Presentations

Nixon EN, **Loyola LC**. The effect of point source pollution on the health and resilience of the Southern California kelp forest ecosystem. *Undergraduate Symposium for Scholarly and Creative Work* (Honorable Mention). University of Southern California, Los Angeles, CA, 2019

Poynor M, Currylow A, **Loyola LC**. A spatial analysis of habitat partitioning of two sympatric tortoise species: *Pyxis arachnoids* and *Astrochelys radiata* in Tranovaho, Madagascar. *Esri UC*. San Diego, CA 2018

Loyola LC, Turcotte LP, Delgado RA. Validating the use of urinary C-peptide as a measure of metabolizable energy intake in captive colobus monkeys – a variation on preservation methods. *36th Annual Meeting of the American Association of Primatologists*. San Juan, Puerto Rico, 2013

Vogel ER, Coiner-Collier S, Scott RS, Chalk J, Constantino P, Glowacka H, **Loyola LC**, Ossi-Lupo K, Raguét-Schoefield M, Talebi M, Vinyard CJ, Wright BW, Yamashita N, Dominy NJ, Lucas PW. Do food material properties predict jaw and tooth morphology in primates? *82nd Annual Meeting of the American Association of Physical Anthropologists*. Knoxville, TN, 2013

Loyola LC, Delgado RA. A proposed methodology for creating a GIS database framework for the analysis of red colobus (*Procolobus rufomitratus*) habitat. *Joint Meeting of the International Primatological Society and American Society of Primatologists*. Austin, TX, 2011

Loyola LC, Vogel ER, Zulfa A, Delgado RA. The physical properties of Northeast Bornean orangutan plant food. *79th Annual Meeting of the American Association of Physical Anthropologists*, Albuquerque, NM, 2010

Panel Presentations

“Improving Access to Pre-graduate School Field Research Experiences” (Panelist). *89th Annual American Association of Physical Anthropologists Meeting*. Los Angeles, CA, 2020.

“Roundtable on Diversity and Inclusion in Primatology, hosted by the Diversity Committee” (Co-Organizer, Panelist, Record-keeper). *27th Congress of the International Primatological Society*. Nairobi, Kenya, 2018

“Vegas Hits the Jackpot: How the Sports Industry is Impacting Real Estate” (Moderator and Panelist). USC Alumni Association, Real Estate Network. Las Vegas, NV, 2018

“Roundtable on Diversity” (Panelist). *Joint Meeting of the International Primatological Society and American Society of Primatologists*. Chicago, IL, 2016

Teaching Workshops and Institutes

Center for Excellence in Teaching (CET): Institute for Faculty Teaching Online, 2019 – 2020

Mindfulness Awareness Practice for Educators Workshop, Mindfulness Awareness Research Center, University of California, Los Angeles, February – March 2019

Center for Excellence in Teaching (CET): Diversity and Inclusion in Course Materials: A Practical Approach, 2018

Center for Excellence in Teaching (CET): New Faculty Institute, 2017 – 2018

Center for Excellence in Teaching (CET) Workshop: An Active Learning USC Librarian Class Visit, 2017

Center for Excellence in Teaching (CET) Workshop: Setting and Maintaining Academic and Behavioral Expectations in the Classroom, 2016

Center for Excellence in Teaching (CET) Workshop: Managing Classroom Distraction from Cell Phones and Laptops, 2016

Center for Excellence in Teaching (CET) Workshop: The Arc of Academic Life: What to Expect Along the Journey from Graduate School to Tenure, 2016

Center for Excellence in Teaching (CET) Workshop: Peer Observation of Teaching as a Tool for Improving Teaching Effectiveness and Providing Mentoring & Support, 2015

Non-tenure track (NTT)/Research, Teaching, Clinician, Practitioner (RTPC) Faculty Mentoring Workshops, 2015

Conference and Workshop Participation

Esri User Conference (UC), 2019, 2017, 2016

Esri Education Summit, 2019

Esri Geodesign Summit, 2019, 2018

USC LA Geospatial Summit, 2019, 2018, 2017

Connections: USC & Community in Research & Service, 2018

Esri Geodesign Summit – Educator Meeting, 2018

Taylor Yard G2 GeoDesign Workshop, 2018

Spatial Sciences Institute: Introduction to Spatial Sciences: Bring Place and Space Into Your Sociology Projects, 2016

Arroyo Seco Feasibility Study Public Workshop, Pasadena, CA, 2016

Spatial Sciences Institute: GeoDesign Workshop with Carl Steinitz, 2016

SYNERGISTIC RESEARCH ACTIVITIES

Land cover survey and invasive vegetation species analysis of the riverine forests of Tana River, Kenya for the conservation and management of forests for the Tana River primates

Tana River, Kenya and Los Angeles, CA, October 2018 – present

Dr. Stanislaus Kivai, conservation biologist, Institute of Primate Research, National Museums of Kenya, Kenya and Andrew J. Marx, associate professor of the practice of Spatial Sciences, USC

Project Aim: To evaluate and analyze land cover change of riparian forests along the Tana River through the use of remotely sensed imagery, unmanned aerial vehicle (UAV) (aka drone) captured imagery and ground-truthed data to determine forest loss and the extent of invasive vegetation species which are detrimental to the habitat of the Tana River red colobus and Tana River mangabey.

Determining Habitat Partitioning by Tortoise Species in Madagascar through Geo-referenced Field Data and Remotely Sensed Data

Madagascar and Los Angeles, CA, August 2017 – present

Dr. Andrea Currylow, chief scientific review officer, Holohil Grant Program; ACEcological Research and Consulting; adjunct assistant (research) professor, USC

Project Aim: To examine the relationships between habitat type and ranging patterns of six tortoise species to parse out confounding factors of habitat partitioning, including longitudinal changes in microhabitats and variations by age and sex class, seasonality, and captive-bred versus wild tortoises.

IUCN Red Colobus Conservation Action Plan (ReCAP)

2016 – Present

Project Aim: To develop an action plan for the conservation and management of red colobus monkeys across Africa through international collaborations.

FIELD EXPERIENCE

Tana River, Kenya

January – December 2012

Project Aim: To examine the relationship between metabolizable energy intake (MEI) of the Tana River red colobus and habitat quality over variable seasons and habitats in the riverine forests of the Tana River.

Tana River, Kenya

June – August 2011

Project Aim: Participatory Action Research Feasibility Study to investigate poverty levels and livelihood strategies of local populations alongside conservation strategies.

East Kalimantan, Indonesia

June – August 2009

Project Aim: To evaluate the mechanical properties of *Pongo pygmeus morio* (*P.p. morio*) plant foods in East Kalimantan, Borneo.

Gede, Kenya

May – November 2006

Kenya's Forest Monkeys Project, Field Assistant (PI: Steffen Foerster, PhD)

Project Aim: This project studied the feeding ecology, social behavior, and physiological responses to stress of female *Cercopithecus mitis* (*C. mitis*).

Nairobi, Kenya

May 1997

Institute of Primate Research, National Museums of Kenya, Intern (PI: Dr. Mbaruk Abdalla Suleman)

Multiple projects including research on HIV retro-viral medications and primate conservation.

Nairobi, Taita Hills, and Samburu, Kenya

January – May 1997

St. Lawrence University cultural immersion and language acquisition program with multiple home-stays throughout Kenya, culminating in an independent research project.

GRADUATE STUDENT ADVISEMENT

Geographic Information Sciences & Technology, Master of Science, Committee Chair

Dane Cornell – *Testing Social Disorganization Theory on Violent Crime: A Case Study of Pueblo, CO.* 2019

Trey Lee – *An Examination of Close-Range Photogrammetry and Traditional Case Survey Methods for Terrestrial and Underwater Caves for 3-Dimensional Mapping.* 2018

Reid Harwood – *Improving Positional Accuracy of Smartphones: Exploration of the Use of Broadband Global Area Network (BGN) Systems in Positional Data Collection.* 2018

Quincy Tom-Jack – *Creating Hot Streets: Developing an Automated Approach for Hot Street Analysis (HAS) Using Model Builder.* 2018

Colleen Makar – *Using GIS and Asset Management to Understand Hydrant Damages and Required Maintenance.* 2017

Shannon McLemore – *Spatio-Temporal Analysis of Wildfire Incidence in the State of Florida.* 2017

Marisol Maciel-Cervantes – *Site Selection for Higher Density Affordable Rental Housing Development: Applying the Weighted Linear Combination (WLC) Method in the City of Los Angeles, California.* 2016

Brian Jopp – *A Spatial Analysis of Violent Crime Cold Spots: Testing the Capable Guardian Component of the Routine Activity Theory.* 2016

Cynthia Burrows – *Developing an Archeological Scientific Geodatabase to Chronicle Historical Perspectives at Bethsaida, Israel*. 2016

Geographic Information Sciences & Technology, Master of Science, Committee Member

Patrick McCullen – In progress
Christopher Sanders – In progress
John M Smith – In progress
Sarah Rosenthal – January 2020
Andrew Turpin – January 2020
Sarah Halpern – December 2019
Jason Martin – September 2019
Marie Taylor – August 2019
Regina Butala Ball – July 2019
Shaughn Galloway – May 2019
Cass Kalinsky – May 2019
Stephen Daire – January 2019
Brian Jeantete – December 2018
Monique Lee – December 2018
Donald Borer – August 2018
Kristiane Hill – August 2018
William Dickey – August 2018
Kyle Burke – May 2018
Sara Godfrey – May 2018
Christine Placencia – May 2018
Drew Cover – January 2018
Quentina Borgic – September 2017
Sheldon Jessup – August 2017
Jessica Eselius – August 2017
Jonathan Alfonso – May 2017
Angela Woods – May 2017
Ricky Holzer – December 2016
Matt Kline – August 2016
Mark P. Johnson – May 2016
Robert Alexander – May 2016
Shuk Wai So – May 2016
Yee Kit Sang – January 2016
Edgar H. Jimenez – January 2016
Faith Webster – December 2015

SERVICE AND OUTREACH

Service to the Profession

Geographic Information Science and Technology Body of Knowledge, Reviewer, 2017

Centre for Tropical Environmental and Sustainability Sciences (TESS) Road Mapping Project, Volunteer, 2017

Holohil Grant Program Review Committee, 2016 - present

Service to the University of Southern California

USC Geodesign Fellows Program, Selection Committee, 2019

USC Dornsife Signature Undergraduate Experience, Steering Committee, 2019

Spatial Sciences Institute, Director of Undergraduate Studies, 2018 – present

Explore USC Faculty/Parent Lunch/Dinner, 2019, 2018

USC Commencement Marshal, 2019, 2018

USC Dornsife Faculty Council Curriculum Caucus, 2016

IEB Program Representative and Recruitment Table, SACNAS National Conference, 2014

Service to the Spatial Sciences Institute (SSI)

SSI Peer Evaluation of Teaching and Service Criteria and Protocol (Lead), 2018 - 2019

GeoDesign Program Student Honors Selection Committee (Committee Chair), 2020, 2019, 2018

SSI Undergraduate Curriculum Review Committee (Committee Chair), 2017 – present

SSI Faculty Merit Review Committee, 2017 – 2018, 2016 – 2017

SSI GIST MS Faculty Jury, 2015 – present

SSI Graduate Programs Review Committee, 2016

SSI GIST Thesis Prize Committee, 2016

Community Outreach

Baldwin Hills Elementary School - University of Southern California Liaison, Los Angeles, CA, 2017

Healthy Living Course, University High School – Human evolution and the modern diet: disequilibrium, nutrition, and food availability (Guest speaker), Los Angeles, CA, 2015

Robert F Kennedy Community Schools, Community Career Day – School for the Visual Arts and Humanities (bilingual presenter), Los Angeles, CA, 2014, 2013

Kongoloni Youth Conservation Initiative – Tree nursery development and maintenance (workshop with Kenya Wildlife Services), Mchelelo Research Camp, Tana River, Kenya, 2012

Hola Secondary School – Field trip to Mchelelo Research Camp, Tana River, Kenya, 2011

PROFESSIONAL MEMBERSHIPS

Southern California Academy of Sciences, 2019

Women In GIS, 2017 – present

University Consortium of Geographic Information Science, 2017 – present

Society for Conservation GIS (SCGIS), 2015 – present

Society for the Advancement of Chicanos and Native American in Science (SACNAS), 2010 – present

International Society of Primatologists, 2009 – present; Ad Hoc Committee on Diversity 2017 – present

American Society of Primatologists, 2009 – present

American Association of Physical Anthropologists, 2009 – 2016

Animal Behavioral Society, 2009 – 2015, 2019

OTHER PROFESSIONAL EXPERIENCE

Bograd Kids, Inc. – Accounting and Customer Service Manager, New York, NY, 2007 – 2008

Wildlife Conservation Society, Bronx Zoo – Volunteer, Mammal Department, Bronx, NY 2005 – 2006

Dr. Robert G. Schwager, M.D./Smooth Touch Laser Center – Center Manager, Joint Commissions on Accreditation of Healthcare Organizations (JCAHO) Certification Team, New York, NY, 2004 – 2006

Biscuits & Bath Doggy Gym – General and Fiscal Manager and Translator, New York, NY 1999 – 2004

Hampshire Veterinary Hospital – Assistant Veterinary Technician, Amherst, MA, 1998 – 1999

Wildlife World Zoo – Volunteer, Litchfield Park, AZ, 1997

LANGUAGES AND SKILLS

Fluent in Spanish, Conversational Swahili and Indonesian

Operation of Darvell mechanical tester; ArcMap and ArcGIS Pro

OUTSIDE INTERESTS, SOCIAL MEDIA

Hiking and distance cycling

Travel throughout continental United States and Puerto Rico, Mexico, Costa Rica, United Kingdom, the Netherlands and other European countries, and East Africa

Twitter: @loyolabusmonkey

Additional web pages/blogs: <http://www.holohil.com/grant-program/>
<http://thegirlwiththemonkeytattoo--blog.tumblr.com>
<http://tanaproject.wordpress.com/2011/10/19/tana-river-blog/>