

John W. Lower | *Curriculum vitae*

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<https://kibalechimpanzees.wordpress.com/people/>

Research Interests:

Primate ecology, ethology, endocrinology, and evolution, specifically related to dominance, aggression, competition, cooperation, and reproduction in common chimpanzees (*Pan troglodytes*) and other hominids.

Education:

- 2020 – Present University of New Mexico, Ph.D. in Evolutionary Anthropology (*in progress*)
- 2022 University of New Mexico, M.S. in Evolutionary Anthropology. *GPA: 4.13*
Advisor: Professor Martin N. Muller, Ph.D. Affiliations: Kibale Chimpanzee Project and Comparative Human and Primate Physiology Center.
Additional Roles: Graduate student researcher and teaching assistant.
- 2016 Middlebury College, B.A. in Neuroscience (major) and Italian (minor)
GPA: 3.52; Major GPA: 3.61; Advisor: Professor Mark D. Spritzer, Ph.D.
Affiliations: Spritzer Laboratory, Ernstrom Laboratory, Men's Varsity Soccer Team, Page One Literacy Project, DREAM Mentoring program

Relevant Coursework:

Evolution of Primate Behavior, Animal Behavior, Primate Evolution, Sexual Selection, Ecology and Evolution, Tropical Ecology, Human Behavioral Ecology & Life History, Human Physical Activity, Human Evolutionary Physiology & Anatomy, Animal Physiology, Physiological Psychology, Hormones & Behavior, Behavioral Genetics, Anthropological Genetics, Chemistry, Paleoanthropology, Proposal Writing, Advanced Data Analysis, Bayesian Statistics, Calculus II

Non-Degree Coursework:

- 2018 University of Vermont (Biological Anthropology; GPA: 4.00)
- 2016 Boston University (General Chemistry II; GPA: 4.00)
- 2015 Middlebury School in Italy (Early Italian Literature; GPA: 3.33)
 Università degli Studi di Firenze (Storia dell'Educazione; GPA: 4.00)

Fellowships, Awards, and Honors:

- 2023 Explorers Club Exploration Fund Grant (\$5,000)
 Graduate and Professional Student Association New Mexico Research Grant (\$3,000)

- 2023 Graduate and Professional Student Association Student Research Grant (\$500)
- 2023 Graduate and Professional Student Association Professional Development Grant (\$500)
- University of New Mexico Joseph Powell Endowment Fund (\$800)
- University of New Mexico Anthropology Research Development Award (\$500)
- 2022 Leakey Foundation Pre-Doctoral Research Grant (\$20,000)
- Graduate and Professional Student Association Student Research Grant (\$500)
- Graduate and Professional Student Association Professional Development Grant (\$500)
- 2021 Honorable Mention for the National Science Foundation Graduate Research Fellowship
- 2021 Graduate and Professional Student Association Professional Development Grant (\$500)
- 2020 University of New Mexico Spuhler Fellowship (\$20,000)
- University of New Mexico Moore Endowed Fellowship (\$5,248)
- 2019 Noble and Greenough Academic Travel Grant to attend the Northeastern Evolutionary Primatologist conference (Amherst, MA)
- 2016 *Cum laude* graduate; Gamma Kappa Alpha National Italian Honor Society induction; All-Academic Athlete honors; College Scholar honors
- 2015 All-Academic Athlete honors; College Scholar honors
- 2014 Dean's List honors
- 2013 Dean's List honors

Peer-Reviewed Publications:

- 2020 Jaeger, E.C.B., Miller, E.L., Goins, E.C., Super, C.E., Chyr, C.U., **Lower, J.W.**, Honican, L.S., Morrison, D.E., Ramdev, R.A., & Spritzer, M.D., 2020. Testosterone replacement causes dose-dependent improvements in spatial memory among aged male rats. *Psychoneuroendocrinology* 113, 104550.
<https://doi.org/10.1016/j.psyneuen.2019.104550>.

Research Projects and Posters:

- 2016 **Lower, J.W.**, 2016. Effect of Testosterone on Spatial Memory in Aged Male Rats [Undergraduate Research Project]. *Middlebury College*, 1 – 32.
- Lower, J.W.**, 2016. Effect of Testosterone on Spatial Memory in Aged Male Rats [Symposium Poster]. *Middlebury College Spring Symposium*.

Fieldwork Experience:

- 2023 *Field season #1 for PhD dissertation data collection (Kibale National Park, Uganda):* Created an ethics-driven protocol for present-day playback experiments among wild eastern chimpanzees (*Pan troglodytes schweinfurthii*). Independently coordinated experiments in the field with the help of Ugandan field assistants. Simultaneously collected observational data on social network metrics, joint vocalizations, and urine samples for varying degrees of territory-based risk.
- 2017 – 2018 *Photographic Researcher for the Kibale Chimpanzee Project (Kibale National Park, Uganda):* Spent over 60 hours/week in the field collecting photogrammetric, photographic, and videographic data on the anatomy and behavior of wild eastern chimpanzees as part of a long-term research project organized and funded by Harvard, Tufts, and the University of New Mexico.

- 2017 *Research Assistant for the Bottlenose Dolphin Research Institute (O' Grove, Spain):* Assisted with the collection of behavioral/environmental data surrounding marine cetacean and bird species at sea. Conducted various data analyses, using photo ID, GIS, bioacoustic and statistical programs, to better understand the behavioral ecology, social structure, and conservation of bottlenose dolphins (*Tursiops truncatus*) along the Atlantic coast and Arousa Firth of Galicia, Spain.

Laboratory Experience:

- 2022 – Present *Volunteer Research Assistant in the UNM Comparative Human and Primate Physiology (CHmPP) Center (Albuquerque, NM):* Organize frozen urine samples, make buffer solutions, and assist with other procedures surrounding enzyme-immunoassays of urinary cortisol and creatinine to quantify inter-individual variation of hormone profiles among wild chimpanzees.
- 2016 *Undergraduate Researcher in the Department of Biology and Program in Neuroscience at Middlebury College (Middlebury, VT):* Ran, coordinated, and presented a study on the *Effects of Testosterone on Spatial Memory in Aged Male Rats* to investigate its pharmaceutical potential in restoring age-related memory loss and associated hypogonadism. Performed daily injections, habituation, husbandry, behavioral testing, enzyme-linked immunosorbent T-assays, and surgical procedures, such as bilateral castration and postmortem brain extraction over a 5-month period of independent research.
- 2015 *Research Assistant at the Neuroscience Institute and NYU School of Medicine (New York, NY):* Characterized the chemical composition and synaptic connectivity of hippocampal interneurons associated with certain behaviors, such as head direction, in genetically-modified mice. Washed, sliced, and stained mouse brains using immunohistochemistry for visualization and analysis involving intracellular recording and electrical stimulation of targeted neurons.
- 2015 *Research Assistant at the NYU Center for Neural Science (New York, NY):* Administered and supervised striatal, hippocampal, and cortical-dependent neuropsychological tasks on human subjects in order to investigate the effects of long-term exercise on memory, cognition, and spatial learning. Organized and analyzed data from a variety of behavioral, electrophysiological (EEG), and VO₂ max tests.
- 2014 *Research Assistant and Lab Technician in the Department of Biology and Program in Neuroscience at Middlebury College (Middlebury, VT):* Participated on team of researchers in molecular neurobiology and genetics lab investigating the “Localization of Synaptic V-ATPhases in *Caenorhabditis elegans*.” Stocked solutions and maintained various *C. elegans* strains by methods of decontamination, sanitization, and selective breeding.

Teaching and Service Experience:

- 2022 – Present *Animal Behavior Teacher at the ABQ BioPark Zoo (Albuquerque, NM):* Teach basics in ethology, ecology, and zoology, as well as organize activities in zoo animal enrichment, observation, and conservation for 7th – 9th grade students attending Camp BioPark over the summers.
- 2021 – Present *Teaching Assistant in the Department of Anthropology and Program in Evolutionary Anthropology at the University of New Mexico (Albuquerque, NM):* Teach two laboratory sections and grade materials for the undergraduate course, Introduction to Biological Anthropology (ANTH 1135L).
- 2020 – 2021 *Graduate Assistant in the Department of Anthropology and Program in Evolutionary Anthropology at the University of New Mexico (Albuquerque, NM):* Assisted Professor Martin Muller and graded materials for the undergraduate course on Human Behavioral Ecology (ANTH 360).
- 2018 – 2021 *Private Tutor through Varsity Tutors, Wyzant Tutoring, Gail McNair LLC, and various secondary schools (Virtual/Remote Learning):* Tutored 7th – 12th grade students in various scientific subjects, including regular and AP Biology, Chemistry, Biochemistry, Physics, Geometry, Algebra, etc. Sessions are performed in-person or via virtual video platforms (e.g., Zoom, FaceTime, etc.).
- 2018 – 2020 *Teaching Fellow at Noble and Greenough School (Dedham, MA):* Taught honors-level courses in biology, biochemistry, and research methodology to 9th – 12th grade students, in addition to various other coaching, advising, residential, and extracurricular duties, responsibilities, and professional development in education.
- 2017 *Teaching Assistant at Northfield Mount Hermon School (Gill, MA):* Worked alongside a master teacher to help plan, prepare, and teach summer courses in Marine Biology and Science Skills. Independently taught a course in Astronomy, coached soccer, and acted as a residential advisor for 7th – 9th grade students.
- 2013 – 2016 *Trip Leader, Guide, and Counselor at Camp Keewaydin Temagami (Temagami, Ontario):* Co-led and supervised campers, ages 11 – 15, on canoe-trips of up to 21 days in length through the Canadian wilderness. Completed 80-hour Wilderness First Responder course (including CPR certification) and extensive staff training.
- 2013 – 2015 *Elementary School Tutor and Treasurer for the Page One Literacy Project (Middlebury, VT):* Promoted literacy and early reading skills by tutoring and mentoring 1st – 5th grade students at local after-school programs. Managed finances for student organization's expenses and annual budget.
- 2015 *Teaching Assistant at the Conservatorio Santa Maria degli Angeli (Florence, Italy):* Taught English, science, math, and a variety of other subjects to K – 6th grade students at a local catholic school while abroad in Florence, Italy.
- 2014 *Goalkeeper Coach and Counselor at the Vermont Soccer School (Johnson, VT):* Assisted at Middlebury College soccer recruitment/development camp for

prospective players, grades 9th – 12th. Coached, refereed, organized drills, and performed demonstrations of effective goalkeeping techniques.

Computer Skills:

R Studio and R Markdown, SPSS, LoggerPro, QGIS, Darwin, Spectrogram, Adobe Lightroom, Photoshop, iMovie, Zoom, Skype, Microsoft Office suite (Excel, Database, PowerPoint, Word, etc.), and all Google programs (Drive, Sheets, Slides, Docs, Forms, etc.).

Language Skills:

Proficiency in oral/written Italian; basics in oral/written Spanish and French.