

Dr. Val J. P. Syverson
Curriculum Vitae | February 18, 2025
School of Natural Sciences, University of California, Merced
Phone: (559) 288-2872 | E-mail: vsyverson@gmail.com | Pronouns: he/they

Summary

Ph.D. in paleontology. Interested in macroevolutionary effects of biotic interactions, development of Paleozoic benthic ecosystems, data ethics and sociological biases in paleobioinformatics, natural history museum collections and exhibit design. Expertise in research, teaching and curriculum development, statistics and data science, databases and web design, scientific writing/illustrating/editing, collections management, exhibit design. Located in Davis, CA.

Current appointment

Lecturer/Assistant Curator, Earth & Planetary Sciences, University of California, Davis (September 2025 - present).

- Courses: Informal STEM Teaching; from Museums to Classrooms

Previous appointments

Postdoctoral Researcher, University of California, Merced (November 2022 - Jan 2025).

Project: Revising and updating radiocarbon-based chronologies for Pleistocene small mammals of North America in Neotoma Paleocology Database (neotomadb.org)

Postdoctoral Researcher, University of Wisconsin, Madison (March 2016 – July 2017).

Projects:

Educational curriculum, resources, and UI/UX development for Paleobiology Database

Interoperability between Paleobiology Database and other databases (ePANDDA/ELC)

Text-mining digitized scientific literature for specimen information (xDD)

Instructor, Biology/Geology, Clovis Community College (Summer 2018 - Winter 2022)

Courses taught: Physical Geology, Intro. to Earth Sciences, Intro. to Biological Sciences (for course details, see “Professional work experience and training” below)

Education

University of Michigan, Ann Arbor, Michigan

Ph.D., Geology, Department of Geology. Degree conferred December 14, 2014

Advisor: Dr. Tomasz K. Baumiller .

Dissertation title: Predation, resistance, and escalation in sessile crinoids

California Institute of Technology, Pasadena, California

B.S., Geology. Degree conferral date: June 13, 2008

Publications (articles and books)

Syverson, V.J.P., S. Goring, N. Cullen, A. M. Bellvé, M. A. Jarzyna, A. Martindale, and J. L. Blois. “Updated chronologies for North American small mammal fossil localities in the Neotoma Paleocology Database.” *Sci Data* 13, 173 (2026). doi:10.1038/s41597-025-06491-7

Bellvé, A. M., V. J. P. Syverson, M. A. Jarzyna, and J. L. Blois. “Preservation biases in the fossil record distort species ecological niche and distribution models.” *Ecography* (2026). doi:10.1002/ecog.08085

Bellvé, A. M., V. J. P. Syverson, M. A. Jarzyna, and J. L. Blois. "Temporal uncertainty in fossil records can distort distributions and ecological niches during periods of climatic instability." (In review, *Nature Ecology and Evolution*, 2026)

Blois, J. L., A. M. Bellvé, M. A. Jarzyna, E. Saupe, and V. J. P. Syverson. "Paleobiogeographic insights gained from ecological niche models: Progress and continued challenges". *Paleobiology* (2025). doi:10.1017/pab.2024.16

Syverson, V. J. P., and D. R. Prothero. "Reevaluating climate change responses in Rancho La Brea birds and mammals: new dates and new data". *Paleobiology* (2025). doi:10.1017/pab.2024.37

Prothero, D. R., V. Syverson, and C. Cleaveland. "Age-mortality profiles in mammals from La Brea Tar Pits: insights into population dynamics, taphonomy, and statistical techniques." *Historical Biology* (2025). doi:10.1080/08912963.2025.2476121

Balassa, D., D. R. Prothero, and V. J. P. Syverson. "Stasis in red-tailed hawks (*Buteo jamaicensis*) from La Brea Tar Pits during the last glacial-interglacial cycle", 2022. New Mexico Museum of Natural History Bulletin 90 (Fossil Record 8).

Cleaveland, C., D. R. Prothero, and V. J. P. Syverson. "How did La Brea Swainson's hawks (*Buteo swainsoni*) respond to climate change?", 2022. New Mexico Museum of Natural History Bulletin 90 (Fossil Record 8).

Olson, S., R. S. White, D. R. Prothero, D. Balassa, K. Marriott, and V. J. P. Syverson. "Ontogenetic growth in the Pleistocene pronghorn *Stockoceras* from San Josecito Cave, Mexico", 2022. New Mexico Museum of Natural History Bulletin 90 (Fossil Record 8).

Olson, S., D. R. Prothero, D. Balassa, and V. J. P. Syverson. "Stasis in *Neophrontops americanus* (Egyptian vultures) from La Brea Tar Pits during the last glacial-interglacial cycle", 2022. New Mexico Museum of Natural History Bulletin 90 (Fossil Record 8).

Prothero, D. R., V. J. P. Syverson, R. Hulbert, Jr., E. E. de Anda, and D. Balassa. "Allometric trends in growth and dwarfing in the dwarf pronghorn *Capromeryx*: does dwarfing follow the same trends as growth?", 2021. New Mexico Museum of Natural History Bulletin 82 (Fossil Record 7).

Long, K.L., D. R. Prothero, and V. J. P. Syverson. "How do small birds evolve in response to climate change? Data from the long-term record at La Brea tar pits", 2020. Integrative Zoology 0: 1-13.

Prothero, D., M. Madan, and V. J. P. Syverson. "Stasis in the smaller owls from Rancho La Brea during the last glacial-interglacial climate change", 2020. Paleontologica Electronica.

Syverson, V. J. P. (editor), S. Coffman, G. Hurtado, and R. Alcazar. "Laboratory manual for BIOL-3: Introduction to Life Science at Clovis Community College", 2019. Clovis Community College.

Syverson, V. J. P., C. Brett, F. Gahn, and T. K. Baumiller. "Spinosity and regeneration in Middle Paleozoic crinoids confirm predator taxonomic preferences", 2018. *Paleobiology* 44(2):290-305.

Long, K., D. Prothero, and V. J. P. Syverson. "Did Saber-Tooth Kittens Grow Up Musclebound? A Study of Postnatal Limb Bone Allometry in Felids from the Pleistocene of Rancho La Brea." *PLoS One* (27 Sep 2017).

Peters, S., I. Ross, J. Czaplowski, A. Glassel, J. Husson, V. J. P. Syverson, A. Zaffos, and M. Livny. "Diving into published text, tables, and figures with GeoDeepDive", 2017. *Eos* 98, published 22 Sep 2017.

Prothero, Donald R., V. J. Syverson, K. R. Raymond, M. Madan, S. Molina, A. Fragomeni, S. DeSantis, A. Sutyagina, and G. L. Gage. "Geographic Clines, Chronoclines, and the Fossil Record: Implications for Speciation Theory", 2016. *Species and Speciation in the Fossil Record*, pp. 389-404. University of Chicago Press.

Gillespy, P., D. R. Prothero, V. J. Syverson. "Stasis in teratorns from the La Brea Tar Pits during the last glacial-interglacial cycle", 2016. New Mexico Museum of Natural History Bulletin 74 (Fossil Record 5).

Madan, M., D. R. Prothero, V. J. Syverson. "Stasis in Barn Owls from the La Brea Tar Pits during the last glacial-interglacial cycle", 2016. New Mexico Museum of Natural History Bulletin 74 (Fossil Record 5).

Long, K. L., D. R. Prothero, V. J. Syverson. "Stasis in Rancho La Brea black vultures (*Coragyps occidentalis*) over the last glacial-interglacial cycle", 2016. New Mexico Museum of Natural History Bulletin 64 (Fossil Record 5).

Madan, M., D. R. Prothero, V. J. Syverson. "Stasis in Great Horned Owls from the La Brea Tar Pits during the last glacial-interglacial cycle", 2015. New Mexico Museum of Natural History Bulletin 67 (Fossil Record 4).

Syverson, V. J., Charles G. Messing, and Tomasz K. Baumiller. "First insights into growth and population dynamics in the extant cyrtocrinid *Holopus mikihe* (Crinoidea) near Roatán, Honduras", 2014. Bulletin of Marine Science 91 (1).

Syverson, V. J., and Tomasz K. Baumiller. "Temporal trends of predation resistance in Paleozoic crinoid arm branching morphologies", 2014. Paleobiology 40 (3):417-427.

Prothero, D. R., V. J. Syverson, K. R. Raymond, M. Madan, S. Molina, A. Fragomeni, S. DeSantis, A. Sutyagina, and G. L. Gage, 2011. "Size and shape stasis in late Pleistocene mammals and birds from Rancho La Brea during the Last Glacial-Interglacial cycle". Quaternary Science Reviews 56:1-10.

Syverson, V. J., and D. R. Prothero, 2010. "Evolutionary patterns in late Quaternary California condors". PalArch Journal of Vertebrate Palaeontology 7:1-18.

Grants and grant-funded projects

Funded:

Lab manual for Introductory Biology, Clovis Community College (2018)

Open Educational Resources projects for Clovis Community College (Spring 2022):

Physical Geology online lab manual, Historical Geology lab manual (collaboration)

Not funded:

University of California Presidential Postdoctoral Fellowship proposals (2019, 2021)

NSF DBI Postdoctoral Fellowship proposal (2015)

NSF SGP proposal (2014)

Invited talks

2018: "Using Earth Science Databases for Research and Teaching", CSU Fresno, 1/25

Professional work experience and training

Teaching experience

Informal STEM Teaching: From Museums to Classrooms (UC Davis): Sole teacher.

Project course in natural history museum exhibit design and education for CalTeach/MAST. September 2025-present.

Data Science for Nature Conservation (CalTeach, Bobcat STEM High School Academy, UC Merced): Course designer and lead instructor. June 27-28, 2023 and July 8-10, 2024. Course materials available at github.com/paleomammals/biodata_shortcourse

Physical Geology (Clovis Community College): Sole teacher, introductory class in principles of physical geology. Lecture, lab, and field trip. Taught in person beginning Summer 2018; taught online June–August 2020 and August 2020–December 2022.

Introduction to Biological Sciences (Clovis Community College): Lab instructor, introductory class for biology-track students. Authored lab manual (see below). Taught in person beginning Spring 2019; taught online March–May 2020.

Introduction to Earth Sciences (Clovis Community College): Sole teacher, introductory survey course in earth sciences. Lecture and lab. Taught in person Fall 2019.

Led Fall 2018 field trip to Monterey Bay Aquarium/Point Lobos with BIOL 11b & GEOL 1 classes and Spring 2018 field trip to Yosemite Valley with same

Evolution and Extinction (University of Michigan, Fall 2010, Winter 2012–2014): Designed and taught weekly discussion sections for lower-level non-majors paleontology course; graded written exams.

Invertebrate Paleontology (Lab) (University of Michigan, Winter 2011): Sole teacher for upper level invert. paleo. lab, including lesson design, exams, and field trip.

Technical communication

Editor: Wrote or edited and published lab manuals for each of three introductory courses (BIOL-3, GEOL-1, and GEOL-2) at Clovis Community College. The biology manual is now the standard text for students taking this class in person at CCC as of fall 2019, and the geology manuals as of fall 2022. Available at github.com/vjpsyverson/CCCLabManuals

Web developer: Developed tools for the Paleobiology Database website, including the diversity curve script used in this teaching activity:

serc.carleton.edu/NAGTWorkshops/intro/activities/185138.html

Senior Paleontologist/Lead Paleontological Resources Specialist (PRS), PaleoWest Consulting (2018–2020) and Technical editor at Paleo Solutions/Rocky Mountain Paleo Solutions (October 2015–June 2016): Wrote and edited technical reports (EIR/EIS, planning, permitting, surveys, compliance, and mitigation) on paleontological, archeological, and environmental resources.

Projects supervised: "Recharge Fresno" Regional Transmission Mains, City of Fresno, CA; Palen Solar Project, EDF Renewables, Riverside County, CA; Desert Harvest Solar Project, EDF Renewables, Riverside County, CA

Consulting editor, American Journal Experts (February 2015–June 2016): In-field English-language and technical editing on scientific publications (41 articles)

Technical writer, ESolar (June 2008–July 2009): Consulted with engineers to write documentation and make diagrams for field manuals on the operation of solar–thermal field hardware and software

Copy and layout editor, *The California Tech* (undergraduate newspaper) (2004–2008)

Collections management

Museum assistant, University of Michigan Museum of Paleontology (Summer 2010, 2011, 2012; Fall 2011, 2012) (funded from NSF award DBI 0847820): Assisted invertebrate paleontology collections manager in organizing specimens, digitizing collection information, and digitizing specimens from type collection.

"Exhibit Design" class, University of Michigan, winter term 2014

Paleontological consulting

Senior paleontologist, PaleoWest (June 2018–present): Conducting archival research, field surveys, and monitoring; supervising staff paleontologists, writing paleontological resource management plans and technical reports, handling specimen curation, and all other aspects of projects where paleontological research is required.

Computer languages and software

Research code: advanced R, basic Python, basic GIS

Web development: HTML5/CSS/Javascript

Typesetting and illustration: MS Office/LibreOffice, Adobe CS (Illustrator, InDesign), etc.
Database management: Specify, PostgreSQL

Professional training

FAIROS and CARE Principles in Past Global Change RCN (Summer 2023 - present)

First symposium: May 17-19, 2023, Biosphere 2, Arizona

Second symposium: July 29-August 2, 2024, Keshena, Wisconsin

RCN papers in progress: contributor on 3, lead author on 1

Online Teaching Certification, Clovis Community College (Summer 2020)

SAGE 2YC Workshop at AGU 2019: Inclusive and Effective College Science Classrooms: Engaging Students, Designing Lessons, and Integrating Diversity into Curriculum (December 8, 2019)

Paleobiology Database Intensive Workshop in Analytical Methods (Summer 2011)

HTML5/CSS Bootcamp I, Geekwise Academy (January/February 2015)

Service

Member of Paleontological Society Collections Committee (July 2025 - present)

Rewrote lab manual and reorganized lab sequence for Intro. to Biology course; developed in-person and online labs for Physical Geology and Intro. to Earth Science

Consulted on development and implementation of C-MOOR

(<https://c-moor.github.io/>) bioinformatics lab curriculum for Intro. to Biology course

Organizing committee member for Early Career Scientists Symposium, Winter 2013 (Macroevolution: Fossils, Frameworks, and Phylogenies), University of Michigan Dept. of Ecology and Evolutionary Biology

Conference abstracts (only those as first/presenting author are listed)

Syverson, V. J. P., and J. Blois. "Updated Quaternary ¹⁴C chronologies for North American Quaternary mammal localities in the Neotoma Paleoecology Database for community paleoecology." (talk) 12th North American Paleontological Conference (NAPC), 2024.

Syverson, V. J. P., and J. Blois. "Revising and updating Quaternary ¹⁴C chronologies in the Neotoma Paleoecology Database for community paleoecology." (talk) 12th North American Paleontological Conference (NAPC), 2024.

Syverson, V. J. P., and J. Blois. "Revising and updating Quaternary chronologies in the Neotoma Paleoecology Database for community paleoecology." (talk) Geological Society of America (GSA) Annual Meeting, 2023.

Syverson, V. J. P., and D. Prothero. "Revised ¹⁴C chronologies confirm morphological stasis during rapid climate shifts at Rancho La Brea." (talk) GSA Annual Meeting, 2023.

Syverson, V. J. P., and M. Selvans. "Doing more with less: using online data sets for inquiry-based lab instruction." (talk) American Geophysical Union (AGU) Annual Meeting, 2020.

Syverson, V. J. P. "The quantitative footprint of natural history collections and specimens in the scientific literature". (talk) GSA Annual Meeting, 2017.

Syverson, V. J. P., "Changing frequencies of infestation traces and reaction features in Paleozoic crinoid columns". (talk) GSA Annual Meeting, 2015.

Syverson, V. J. P., M. Madan, and D. R. Prothero. "Stasis in great horned owls from the La Brea Tar Pits during the last glacial-interglacial cycle". (submitted) SVP 75th Annual Meeting, 2015.

Syverson, V. J., C. G. Messing, and T. K. Baumiller. "First insights into growth and population dynamics in the extant cyrtocrinid *Holopus rangii* (Crinoidea)". (presentation) North American Echinoderm Conference, 2014.

Syverson, V. J., C. G. Messing, and T. K. Baumiller. "Reconstructing cyrtocrinid ecology and biology based on living populations of *Holopus* and *Cyathidium*". (poster) 10th NAPC, 2014; PS Special Publications Vol. 13, p. 38.

Syverson, V. J., and T. K. Baumiller. "Spinosity over time in Paleozoic crinoids and its implications for predation pressure". (presentation) GSA Annual Meeting, 2013.

Syverson, V. J., and T. K. Baumiller. "Evolutionary response in Paleozoic crinoid arm branching patterns to grazing predators". (presentation) GSA Annual Meeting, 2012.

Syverson, V. J., and T. K. Baumiller. "Morphological variability and developmental constraints in crinoid arms". (poster) GSA Annual Meeting, 2011

Syverson, V. J., and Prothero, Donald R., 2007. "Evolutionary patterns in Pleistocene to Recent California condors". (poster) GSA Annual Meeting, 2007

Profiles and portfolios

ResearchGate: https://www.researchgate.net/profile/V_Syverson

Google Scholar: <https://scholar.google.com/citations?user=xZZM1EMAAAJ&hl=en>

LinkedIn: <https://www.linkedin.com/in/valerie-syverson-4a46093>

GitHub: <https://github.com/vjpsyverson>