

Curriculum Vitae
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A. EDUCATION

- 2018** Ph.D. in Geology, University of Cincinnati, Cincinnati, OH
Dissertation title: "Reconstructing high-frequency Holocene glacial chronostratigraphies in the Northwestern and Central Himalaya and Transhimalaya."
Dissertation Advisor: Professor Lewis A. Owen.
- 2013** MPhil. in Geosciences, Jawaharlal Nehru University, New Delhi, India
Thesis title: "Drumlins in the Himalayas: Geography, Genesis, Classification and Evolutionary History."
Thesis Advisor: Professor Milap C. Sharma.
- 2011** M.A. in Geography, Jawaharlal Nehru University, New Delhi, India
- 2009** B.A. with honors in Geography, North Bengal University, West Bengal, India

B. EMPLOYMENT

- 2019–2021** Postdoctoral Scholar and Luminescence Laboratory Manager, Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles
- 2018–2019** Part-time faculty, Department of Physics, Geology & Engineering Technology, Northern Kentucky University, Kentucky
- 2017–2018** Graduate Research Assistant, Geochronology laboratories of the Department of Geology, University of Cincinnati, Cincinnati
- 2016–2017** Graduate Teaching Assistant, Department of Geology, University of Cincinnati, Cincinnati
- 2014–2016** Graduate Research Assistant, Digital Collections & Repositories, UC Library, University of Cincinnati, Cincinnati
- 2012–2014** Graduate Teaching Assistant, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi

C. ACADEMIC AND PROFESSIONAL LEADERSHIP EXPERIENCE

- 2017** Treasurer for the Geology field trip to California and Nevada organized by the Department of Geology at the University of Cincinnati. Responsibilities include planning, budgeting for the entire trip, distributing funds, and communicating with graduate students and faculty members.
- 2016** *Geo-club* treasurer, a geology graduate student organization at the University of Cincinnati (UC). Work involved budgeting for Departmental activities and annual fieldwork, fundraising

- activities on and off-campus, communicating with alumni, and maintaining the UC alumni communication group in LinkedIn.
- 2014** Founding member of ‘Centre for Planning and Alternative Development.’ The organization is a non-governmental body to improve primary education in rural Uttarakhand, India.
- 2013** Indian graduate student team leader of the field geology team organized by the Department of Geology, University of Cincinnati, under Professor Lewis Owen's supervision.

D. TEACHING EXPERIENCE

- 2019–2021** I (co)mentored a graduate and three undergraduate students at the UCLA Luminescence Laboratory. I trained the students on how to date sediment samples and conduct rigorous geochemical processing in the lab. I occasionally took students on local field trips to train them in the field. In these field trips, I taught the students how to do mapping, collect field data, chose the best sample site, and collect cosmogenic and luminescence samples.
- 2018–2019** As a *Part-time faculty* at Northern Kentucky University, I taught the following three introductory geology courses. I designed and developed the courses and the syllabi, gave lectures (in-class and online), assisted students in assignments, research paper writing, and oral poster presentations, and performed the grading. My online classes include comprehensive instructional and lecture videos with labs. In my in-person class, I applied the flipped classroom (active learning) strategy. I provided multiple lecture videos before the class and applied more hands-on training and discussions during the class.
- *GLY 110: The Face of the Earth with Lab, Fall 2019* – online accelerated course.
 - *GLY 110: The Face of the Earth with Lab, Spring 2019* – online accelerated course.
 - *GLY 120: This Dangerous Earth, Fall 2018*
- 2016–2017** As a *Teaching Assistant* at the University of Cincinnati, I was responsible for developing multiple lecture modules in Physical and Environmental geology. I was responsible for delivering presentations, performing grading, evaluations, and pre-exam assistance.
- *GEOL 1002: Surface Processes, Spring 2017*
 - *GEOL 1009: Natural Hazards, Fall 2016*
 - *EVST/GEOL 2025: Hydrology and Biogeochemistry, Spring 2016*
- 2016–2020** Completed a certificate course on *Preparing Future Faculty* (PFF) at the University of Cincinnati. The PFF program intends to hone teaching skills, improve pedagogy, and incorporate innovative teaching methods in the classroom. Under this program, I taught traditional and non-traditional students, learned different active learning strategies (e.g., blended learning, flipped classrooms), and attended >10 workshops and conferences on pedagogy and science teaching on and off the campus. I also visited local Liberal Arts Colleges in Cincinnati to understand their teaching focus and styles, and I observed classes of other faculties both at UC and NKU.
- 2015–2016** Mentored undergraduate students in diverse group projects in the Himalaya—a study abroad program by the University of Cincinnati.
- 2012–2014** As a *Teaching Assistant* at Jawaharlal Nehru University, I was responsible for tutoring graduate students with technical support. I was also responsible for hands-on training in field mapping using GPS and compass-clinometer, preparing sedimentary logs, and geology mapping.
- *Geomorphological field techniques, Spring 2012*

- *Cartography, remote sensing, and GIS, Fall 2011*

E. PUBLICATIONS IN PEER-REVIEWED JOURNALS

- Castillo, B., McGill, S.F., Scharer, K.M., Yule, J.D., McPhillips, D., McNeil, J., **Saha, S.**, Brown, N.D., and Moon, S. 2020 (*accepted*). Ages of Prehistoric Earthquakes on the Banning Strand of the San Andreas Fault, near North Palm Springs, California. *Geosphere—Geological Society of America*.
- Orr, E.N., Owen, L.A., **Saha, S.**, Hammer, S., and Caffee, M.W. 2020. Rockwall slope erosion in the NW Himalaya. *Journal of Geophysical Research - Earth Surface*, preprint. <https://doi.org/10.1002/essoar.10502583.2>.
- Orr, E.N., Owen, L.A., **Saha, S.**, Hammer, S., and Caffee, M.W. 2020. "Climate-driven late Quaternary fan surface abandonment in the NW Himalaya," Untangling the Quaternary Period—A Legacy of Stephen C. Porter. Ed: Waitt, R.B., Thackray, G.D., Gillespie, A.R., *Geological Society of America Special Paper*. [https://doi.org/10.1130/2020.2548\(04\)](https://doi.org/10.1130/2020.2548(04))
- Saha, S.**, Owen, L.A., Orr, E.N., and Caffee, M.W. 2020. A statistical and numerical modeling approach for spatiotemporal reconstruction of glaciations in the Central Asian mountains. *MethodsX* 220, 372–400. <https://doi.org/10.1016/j.mex.2020.100820>
- Orr, E.N., Owen, L.A., **Saha, S.**, and Caffee, M.W. 2019. Rates of rockwall slope erosion in the upper Bhagirathi catchment, Garhwal Himalaya. *Earth Surface Processes and Landforms* 44, 3108–3127. <https://doi.org/10.1002/esp.4720>
- Saha, S.**, Owen, L.A., Orr, E.N., and Caffee, M.W. 2019. Cosmogenic ^{10}Be and equilibrium-line altitude dataset of Holocene glacier advances in the Himalayan-Tibetan orogen. *Data in brief* 26, 104412. <https://doi.org/10.1016/j.dib.2019.104412>
- Saha, S.**, Owen, L.A., Orr, E.N., and Caffee, M.W. 2019. High-frequency Holocene glacier fluctuations in the Himalayan-Tibetan orogen. *Quaternary Science Reviews* 220, 372–400. <https://doi.org/10.1016/j.quascirev.2019.07.021>
- Saha, S.**, Owen, L.A., Orr, E.N., and Caffee, M.W. 2018. The timing and nature of Holocene glacier advances at the northwestern end of the Himalayan-Tibetan orogen. *Quaternary Science Reviews* 187, 177–202. <https://doi.org/10.1016/j.quascirev.2018.03.009>
- Orr, E.N., Owen, L.A., **Saha, S.**, Caffee, M.W., and Murari, M.K. 2018. Quaternary glaciation of the Lato Massif, Zaskar Range of the NW Himalaya. *Quaternary Science Reviews* 183, 140–156. <https://doi.org/10.1016/j.quascirev.2018.01.005>
- Orr, E.N., Owen, L.A., Murari, M.K., **Saha, S.**, and Caffee, M.W. 2017. Quaternary glaciation of Stok, northern Zaskar Range, Transhimalaya, Northern India. *Geomorphology* 284, 142–155. <https://doi.org/10.1016/j.geomorph.2016.05.031>
- Saha, S.**, Sharma, M.C., Murari, M.K., Owen, L.A., and Caffee, M.W. 2016. Geomorphology, sedimentology, and minimum exposure ages of streamlined subglacial landforms in the NW Himalaya, India. *Boreas* 45, 284–303. <https://doi.org/10.1111/bor.12153>
- Saha, S.** 2013. Water Quality Assessment of Four Different Wetlands and its implication to Climate Change. *International Indexed & Referred Research Journal*, ISSN 0975-3486, IV (40), 33–37. DOI: [10.13140/RG.2.1.3180.0401](https://doi.org/10.13140/RG.2.1.3180.0401)

F. PUBLICATIONS IN PEER-REVIEWED JOURNALS (in review)

- Saha, S.**, Owen, L.A., Orr, E.N., and Caffee, M.W. The role of inherited cosmogenic ^{10}Be in the new Late Holocene moraine chronostratigraphy in the Bhagirathi catchment of the Garhwal Himalaya, northern India. *Earth Surface Processes and Landforms*, in review.
- Dortch, J.M., Tomkins, M., **Saha, S.**, Schoenbohm, L., Murari, M.K., and Curl, D. Probability-based interpretation of terrestrial cosmogenic radionuclide ages: P-CAAT, a tool for the ages. *Geochronology*, in review.

Saha, S., Moon, S., Brown, N.D., Rhodes, Scharer, K.M., and McPhillips, D. Holocene depositional history inferred from single-grain luminescence ages in southern California, North America. *Geophysical Research Letter*, *in review*.

G. MANUSCRIPTS IN PREPARATION

Owen, L.A., **Saha, S.**, and Dortch, J.M. Quaternary glaciations of the Himalayan-Tibetan orogen. Invited publication to *Quaternary Science Reviews*, *in prep* (50% complete).

H. PUBLISHED ABSTRACTS

Saha, S., Moon, S., Brown, N.D., and Rhodes, E. 2020. Examining single-grain luminescence dating uncertainties between upstream fans and downstream sediment deposits in the seismically active southern California. 2020 AGU Fall meeting, Online. EP029-0008.

Saha, S., Moon, S., Rockwell, T.K., Scharer, K.M., and Brown, N.D. 2020. Reconstructing long-term subsidence and paleoseismic history of the ancient Lake Cahuilla along the southern San Andreas fault in Coachella, California. Poster Presentation at 2020 SCEC Annual Meeting, poster #022.

Burns, J., McGill, S., Rhodes, E.J., Dolan J.F., Brown, N.D., and **Saha, S.** 2020. Dating of Offset Geomorphic Features Along the Garlock Fault, Mojave Desert, California: Testing a Proposed Earthquake Supercycle Model. Geological Society of America Cordilleran Section. Abstract #347542 (meeting canceled due to COVID19).

Saha, S., Moon, S., Brown, N.D., and Rhodes, E. 2019. Inferring sediment dynamics using single-grain feldspar post-IR IRSL luminescence dating in southern California, North America. 2019 AGU Fall meeting, San Francisco. GC13A-06.

Orr, E.N., Owen, L.A., **Saha, S.**, Hammer, S., and Caffee, M.W. 2019. Deciphering the Controls of the Rate and Spatial Distribution of Rockwall Slope Erosion in the NW Himalaya. 2019 AGU Fall meeting, San Francisco. EP22A-03.

Higa, J., Moon, S., Brown, N., Argueta, M.O., **Saha, S.**, Stock, J.M., Sabbeth, L., Bennett, S.E.K., and Martin, A. 2019. Combining Luminescence Dating and High-Resolution Imaging to Analyze an Evolving Microcontinent, Isla Ángel de la Guarda, Gulf of California, México. 2019 AGU Fall meeting, San Francisco. T41H-0367.

Dortch, J., **Saha, S.**, Tomkins, M.D., Murari, M.K., Schoenbohm, L.M., and Curl, D. 2019. Probability-based interpretation of terrestrial cosmogenic radionuclide ages: P-CAAT, a tool for the ages. 2019 AGU Fall meeting, San Francisco. EP31D-2325.

Owen, L.A., **Saha, S.**, Dortch, J. 2019. Timing and extent of Quaternary glaciation in the Himalayan-Tibetan orogen. 2019 AGU Fall meeting, San Francisco. GC41B-03.

Saha, S., Moon, S., Brown, N.D., Rhodes, E.J., McGill, S.F., Castillo, B., Scharer, K.M., McPhillips, D., and Yule, J.D. 2019. Influence of sediment dynamics and alluvial fan formation on paleoseismic studies in southern California, North America. SCEC annual meeting, poster# 129.

Castillo, B., McGill, S.F., Scharer, K.M., Yule, J.D., McPhillips, D., McNeil, J., **Saha, S.**, Brown, N.D., and Moon, S. (2019). Ages of Prehistoric Earthquakes on the Banning Strand of the San Andreas Fault, near North Palm Springs, California. SCEC annual meeting, poster# 134.

Peña, K., McGill, S.F., Rhodes, E.J., Dolan, J., Brown, N.D., Castillo, B., Hatem, A., **Saha, S.**, Zinke, R. (2019). Paleoseismic Results from the Christmas Canyon West Site, Central Garlock Fault, Searles Valley, California. SCEC annual meeting, poster# 107.

Saha, S., Moon, S., Brown, N.D., and Rhodes, E.J. 2019. Influence of sediment dynamics and alluvial fan formation on paleoseismic studies in southern California, North America. 13th New World Luminescence Dating Workshop.

Saha, S., and Owen, L.A. 2019. ¹⁰Be dating of Holocene moraines in the Himalayan-Tibetan orogen: noise versus signal. INQUA 2019 congress in Dublin, oral# 297.

- Saha, S.,** Moon, S., and Brown, N.D. 2019. Influence of sediment dynamics on paleoseismic studies in Southern California, North America. SoCal Geomorphology Symposium.
- Saha, S.,** Owen, L.A., Orr, E.N., Ward, D.J., and Caffee, M.W. 2018. Systematically inherited cosmogenic ¹⁰Be in late Holocene age moraine boulders in the Bhagirathi valley, Garhwal. Geological Society of America Abstracts with Programs. Vol. 50, No. 6. doi: 10.1130/abs/2018AM-320045
- Orr, E.N., Owen, L.A., **Saha, S.,** and Caffee, M.W. 2018. Timing and nature of alluvial/ debris flow fan formation in the NW Himalaya of northern India. Geological Society of America Abstracts with Programs. Vol. 50, No. 6. doi: 10.1130/abs/2018AM-315806
- Saha, S.,** Owen, L.A., Orr, E., Caffee, M.W., Dortch, J., and Sharma, M.C. 2017. Timing and nature of Holocene glacier advances across the Himalayan-Tibetan orogen. 2017 AGU Fall meeting, New Orleans. C23D.
- Orr, E., Owen, L.A., and **Saha, S.** 2017. Determining the rates and drivers of headwall erosion within glaciated catchments in the NW Himalaya. 2017 AGU Fall meeting, New Orleans. EP33F.
- Saha, S.,** Owen, L.A., Orr, E., and Dietsch, C. 2017. High-frequency Holocene glacial chronostratigraphies in the Himalayan-Tibetan orogen offer insight into past shifts of Earth's thermal equator and coeval changes in the sources of moisture. 9th International Conference on Geomorphology (9th ICG), New Delhi, India. Abstract # 18, p. 167.
- Saha, S.,** Owen, L.A., Orr, E., and Dietsch, C. 2016. Reconstructing high-resolution Holocene glacial chronostratigraphies in the Himalaya. GSA Abstracts No. 282114, 48 (7), 304-2.
- Saha, S.,** Owen, L.A., Orr, E., and Dietsch, C. 2016. Reconstructing late Holocene glacial advances in the NW Himalaya, northern India by resolving the problem of too-old (inherited) surface exposure ages on young moraines. GSA Abstracts No. 282261, 48 (7), 328-3.
- Saha, S.,** Owen, L.A., Orr, E., and Dietsch, C. 2016. An attempt to reconstruct high-resolution Holocene glacial fluctuations across the Himalayan-Karakoram-Tibetan orogeny. 6th Third Pole Environment Workshop, 32.
- Orr, E., Owen, L.A., and **Saha, S.** 2016. Interaction between climate and erosion in high altitude mountain environments: The effect of precipitation gradients upon headwall erosion in Northern India, NW Himalaya. 6th Third Pole Environment Workshop, 34.
- Saha, S.,** Owen, L.A., and Dietsch, C. 2015. Chronostratigraphy of the Himalayan glacial fluctuations at the millennial timescale during the Holocene. GSA Abstracts No. 268563, 47 (7), 793.
- Saha, S.,** Owen, L.A., and Dietsch, C. 2015. Chronostratigraphy of the Himalayan glacial fluctuations at the millennial timescale during the Holocene. GSA Abstracts No. 252860, 47 (3), 115.
- Saha, S.,** and Sreekesh, S. 2012. Changes in coastal morphology and mangrove vegetation in and around the Godavari basin. National Conference on Mangrove Wetlands and Near-Shore Marine Ecosystems from Sustainable Issues to Management and Restoration, 27.

I. FELLOWSHIPS, HONORS, AND AWARDS

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| 2020 | Served as a panel member of the journal <i>Quaternary Research</i> , Cambridge University Press, and the American Quaternary Association (AMQUA). |
| 2020 | Certified in <i>Preparing Future Faculty</i> , University of Cincinnati, Cincinnati. |
| 2019 | Elected <i>Early Career Representative (ECR)</i> of the Stratigraphy & Chronology (SACCOM) division of the International Union for Quaternary Research (INQUA). |
| 2017 | <i>Young geomorphologists award</i> of €600 by the International Association of Geomorphologists in the 9 th International Conference on Geomorphology, New Delhi, India. |
| 2017 | <i>Departmental Good Spirit Award</i> of \$300 by the Department of Geology, University of Cincinnati. |
| 2014-2018 | <i>University Graduate Assistantship</i> and <i>Graduate Assistant Scholarship</i> by the University of Cincinnati, Cincinnati, OH. |

- 2011-2014** *National Eligibility Test and Junior Research Fellowship* by the University Grant Commission, India.
- Dec 2010** *National Eligibility Test and Junior Research Fellowship* in Earth Sciences by the Council of Scientific and Industrial Research, India.
- 2009–2011** *Merit-cum-Mean* scholarship by the Jawaharlal Nehru University, New Delhi, India.

J. INVITED TALKS

- 2020** Bankura Zilla Saradamani Mahila Mahavidyapith, Bankura University, India.
- 2020** Associazione Italiana per lo Studio del Quaternario (AIQUA) 2020, Virtual meeting, Italy.
- 2019** International Union for Quaternary Research (INQUA) 2019, Dublin, Ireland.
- 2017** Department of Geology Colloquium, University of Cincinnati, Cincinnati.
- 2016** Quaternary and Anthropocene Research Group, University of Cincinnati, Cincinnati.
- 2016** Department of Geology Colloquium, University of Cincinnati, Cincinnati.
- 2016** Centre for the Study of Regional Development, Jawaharlal Nehru University, Delhi.
- 2015** Quaternary and Anthropocene Research Group, University of Cincinnati, Cincinnati.
- 2015** Department of Geology Colloquium, University of Cincinnati, Cincinnati.

K. GRANTS

- 2020** Southern California Earthquake Center (SCEC), \$47,575 to study the “Constraining a long-term paleolake and paleoseismic history using deep boreholes at the ancient Lake Cahuilla, Coachella, California” –status: pending.
- 2019** Southern California Earthquake Center (SCEC), \$40,989 to study the “Constraining a long history of paleolake and paleoseismicity at Coachella, CA, using deep borehole samples” – status: ongoing.
- 2019** USGS: National Earthquake Hazards Reduction Program (NEHRP), \$65,690 to study the “Influence of sediment dynamics and alluvial fan formation on paleoseismic studies in southern California, North America” –status: ongoing.
- 2016** Purdue University, Purdue, IN: Cross-college *SEED Grant*, \$14,205 for processing 21 cosmogenic ¹⁰Be samples and three radiocarbon samples for Ph.D. research, *Status – Completed*.
- 2016** Geological Society of America: *Graduate Student Research Grant*, \$1,875 for Ph.D. fieldwork in the Himalaya in the summer, *Status – Completed*.
- 2015** Graduate Student Governance Association, University of Cincinnati, Cincinnati: *Graduate Student Governance Association Research Fellowship*, \$2,375 for Ph.D. fieldwork in the Himalaya in the summer, *Status – Completed*.
- 2015** Geological Society of America: *Graduate Student Research Grant*, \$1,875 for Ph.D. fieldwork in the Himalaya in the summer, *Status – Completed*.

Grants submitted but not funded

- 2020** USGS: National Earthquake Hazards Reduction Program (NEHRP), \$79,831 to study the “Reconstructing long-term subsidence and paleoseismic history of the ancient lake Cahuilla along the southern San Andreas fault in Coachella, California.”
- 2016** University Research Council (URC) “*Student Research Fellowship*” for graduate students, University of Cincinnati, \$3,000 for summer research.
- 2016** The Sigma Xi “*Grants-in-aid of research*,” \$1,000 for Ph.D. fieldwork in the Himalaya in the summer.

- 2016** University of Cincinnati (UC) Sigma Xi Chapter, “*2016 Student Grants-In-Aid of Research*” (UC-Sigma Xi GIAR), \$2,974.39 for Ph.D. fieldwork in the Himalaya in the summer.
- 2016** American Philosophical Society’s “*Lewis and Clark Fund for Exploration and Field Research*,” \$5,000 for Ph.D. fieldwork in the Himalaya in the summer.
- 2015** University Research Council (URC) “*Student Research Fellowship*” for graduate students, University of Cincinnati, \$3,000 for summer research.
- 2015** The Sigma Xi “*Grants-in-aid of research*,” \$1,000 for Ph.D. fieldwork in the Himalaya in the summer.
- 2015** The American Alpine Club (AAC) research grant, \$1,000 for Ph.D. fieldwork in the Himalaya in the summer.
- 2015** American Association of Petroleum Geologists (AAPG) *Grant-in-aid* research grant, \$2,000 for Ph.D. fieldwork in the Himalaya in the summer.

L. PROFESSIONAL MEMBERSHIPS

International Union for Quaternary Research (INQUA)
 Geological Society of America (GSA)
 American Geophysical Union (AGU)
 The American Quaternary Association (AMQUA)
 Society for Sedimentary Geology (SEPM)
 International Association of Geomorphologists (IAG)
 Association of Polar Early Career Scientists (APECS)
 Houston Geological Society (HGS).

M. MENTORSHIP EXPERIENCE

- 2018–Present** Justin Higa (PhD., Geology), UCLA Luminescence lab.
- 2018–Present** Marina Argueta (MS., Geology), UCLA Luminescence lab, field methods.
- 2020–Present** Christina Kitamikado (BS., Geophysics), UCLA Luminescence lab, field methods.
- 2018–2020** Norma Contreras (BS., Geology), UCLA Luminescence lab
- 2019–2020** Julianna Cativo (BS., Geophysics), UCLA Luminescence lab
- 2016** Kat Rivers (BS., Geology), UC Cosmogenic lab, field methods
- 2016** Mitch Kleimeyer (BS., Geology), UC field methods
- 2016** Zach Altman (BS., Geology), UC field methods

N. ACADEMIC SERVICES

- 2020** Reviewer for the journal *The Cryosphere*, European Geoscience Union.
- 2020** Reviewer for the journal *Environmental Processes*, Springer.
- 2019** Demonstration of augmented reality sandbox model to educate the public on earth's surface processes and landforms as part of UCLA's outreach activities (e.g., CicLAvia).
- 2019** Member of the editorial board of *Quaternary Perspectives* newsletter, INQUA.
- 2019** Reviewer for the Journal *Paleogeography, Paleoclimatology, Paleoecology*.

O. LANGUAGE PROFICIENCY

Languages speak, read, and write

English (fluent), Bengali (native), Hindi (native).