SRINIDHI LOKESH

CURRICULUM VITAE – APRIL 2025

University of Nevada, Reno
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EDUCATION

PhD in Environmental Engineering **January 2019–May 2023**
University of Nevada, Reno (UNR)

MS in Environmental Engineering **January 2016–May 2018**
New York University (NYU)

Bachelor of Technology in Mining Engineering **August 2011– May 2015**
National Institute of Technology Karnataka (NITK)

ACADEMIC APPOINTMENTS

Research Scientist **January 2025-Present**
Department of Civil & Environmental Engineering

Postdoctoral Scholar **August 2023–Present**
Soil and Crop Sciences, Colorado State University

PUBLICATIONS

1. **Lokesh S**, Norris A, Ridgway K, Cast L, Helfrich A, L'Orange C, Jathar S, Borch T. Non-target Analysis of Wildfire Emissions from Wildland-urban Interface Structures: Insights from Advanced Analytical Techniques– **In Preparation**
2. **Lokesh S**, Timilsina A, Shahriar A, Numan T, Yang Y. 2023. Quantification of quinones in environmental media by chemical tagging with cysteine-containing peptides coupled to size exclusionary separation. *Analytical Chemistry*. 95(34). 12575–12579
3. **Lokesh S,** Arunthavabalan S, Hajj EY, Hitti E, Yang Y. 2023. Investigation of 6PPD-quinone in rubberized asphalt concrete mixtures. *ACS Environmental Au*. 3(6), 336–341
4. **Lokesh S**, Yang Y. 2021. Critical Role of Semiquinones in Reductive Dehalogenation. *Environmental Science & Technology*. 54, 14218–14225
5. **Lokesh S**, Juhee K, Zhou Y. W, Wu D. P, Pan B, Wang X. L, Behrens S, Huang C. H, Yang Y. 2020. Anaerobic dehalogenation by reduced aqueous biochars. *Environmental Science & Technology*. 54, 15142–15150

6. Numan T, **Lokesh S**, Shahriar A, Timilsina A, Lard M. L, Clark J, Raeofy Y, Zhao Q, Poulson S. R, Verburg P. S, Richardson J. A, Cook R. L, Samburova V, Yang Y. 2025. Post-Wildfire Mobilization of Organic Carbon. *Soil Systems*, *9*(1), 11.

7. Timilsina A, **Lokesh S**, Shahriar A, Numan T, Schramm T, Stincone P, Nyarko L. K, Dewey C, Boiteau R, Petras D, Yang Y. 2024. Identifying Quinones in Complex Aqueous Environmental Media (Biochar Extracts) through Tagging with Cysteine and Cysteine-Contained Peptides and High Resolution Mass Spectrometry Analysis *Environmental Science & Technology 58* (37), 16432-16443

8. Shahriar A, **Lokesh S**, Timilsina A, Numan T, Schramm T, Stincone P, Nyarko L, Dewey C, Petras D, Boiteau R, Yang Y. 2024. High-Resolution Tandem Mass Spectrometry-Based Analysis of Model Lignin–Iron Complexes: Novel Pipeline and Complex structures. *Environmental Science & Technology*, *58*(34), pp.15090-15099.

CONFERENCE TALKS & POSTER

1. S Abrar, Timilsina A, Voggenreiter E, Mollenkopf M, **Lokesh S**, Radakovich A, Numan T, Joshi P, Stincone P, Petras D, Kappler A, Yang Y. Reactive organic carbon governing the ecosystem functions of permafrost soil and their response to climate change. 2024 Goldschmidt Conference.

2. Timilsina A, **Lokesh S**, Shahriar A, Numan T, Stincone P, Petras D, Yang Y. Identifying Quinones in Complex Environmental Media through Tagging with Cysteine and Cysteine-Contained Peptides and High Resolution Mass Spectrometry Analysis. October 2023, ASA, CSSA, SSSA, International Annual Meeting.

3. Shahriar A, **Lokesh S**, Timilsina A, Numan T, Nyarko L, Dewey C, Stincone P, Petras D, Boiteau R, Yang Y. Identification of Lignin-Derived Organic Iron (Fe) Ligands By Fe Isotopologue Analysis Coupled with Metabolomics. October 2023, ASA, CSSA, SSSA, International Annual Meeting.

4. S Abrar, Timilsina A, Voggenreiter E, Mollenkopf M, **Lokesh S**, Radakovich A, Numan T, Joshi P, Stincone P, Petras D, Kappler A, Yang Y. Identification of Reactive Organic Carbon in Permafrost Soils Along a Thaw Gradient. October 2023, ASA, CSSA, SSSA, International Annual Meeting.

5. Numan T, **Lokesh S**, Timilsina A, Shahriar A, Lard ML, Clark J, Zhao Q, Richardson JA, Poulson S, Cook, RL, Samburova V, Yang Y. Post-wildfire mobilization of organic carbon. October 2023, ASA, CSSA, SSSA, International Annual Meeting.

6. Shahriar A, **Lokesh S**, Timilsina A, Numan T, Nyarko L, Dewey C, Boiteau R, Yang Y. Identification of lignin-derived organic iron (Fe) ligands by Fe isotopologue analysis coupled with metabolomics. August 2023, 266th ACS National Meeting, San Francisco, CA.

7. Timilsina A, **Lokesh S**, Shahriar A, Numan T, Yang Y. Tagging Quinones with cysteine and cysteine-contained peptides for their identification and quantification in complex environmental media (biochar). August 2023, 266th ACS National Meeting, San Francisco, CA.
8. Yang Yu, **Lokesh S**, Arunthavabalan S, Hajj EY, Hitti E. Fate of 6PPD-quinone at asphalt concrete-water interface. August 2023, 266th ACS National Meeting, San Francisco, CA.
9. Yang Y, **Lokesh S**, Shahriar A, Numan T. Coupling thermodynamics and kinetics for the redox and complexation reactions between iron and quinone/phenol. August 2023, 266th ACS National Meeting, San Francisco, CA.
10. **Lokesh S**, Yang Y. Recyclability and reactivity of aqueous biochar in the dehalogenation of triclosan. March 2022, 263rd ACS National Meeting, San Diego, CA.
11. Hajj E, Yang Y, **Lokesh S**, Arunthavabalan S. Fate of 6PPD-quinone at asphalt–water interface. CalRecycle 2022 California Tire Conference.
12. Hajj E, Yang Y, **Lokesh S**, Arunthavabalan S. Fate of 6PPD-quinone at asphalt–water interface. 2022 CalCIMA Education Conference
13. Numan T, **Lokesh S**, Yang Y. Engineering application of biochars. 2022 IAC Pacific Region Summit. Intertribal Agriculture Council. Virtual.
14. Yang Y, **Lokesh S**, Shahriar A, Numan T. 2022. Coupling thermodynamics and kinetics for the redox and complexation reactions between iron and quinone/phenol. American Chemical Society Annual Meeting. San Diego, USA.
15. Yang Y, **Lokesh S**. Critical role of semiquinone in reductive dehalogenation. November 2021, ASA, CSSA, SSSA, International Annual Meeting.
16. **Lokesh S**, Juhee K, Zhou YW, Wu DP, Pan B, Wang XL, Behrens S, Huang CH, Yang Y. Anaerobic dehalogenation by reduced aqueous biochar. April 2019, 261st ACS National Meeting.
17. **Lokesh S**, Ranganna G, Lokesh KV. Studies on Causes and Effects of Landslides and Flash Floods and their Preventive Measures. May 2013, Minamata International Symposium on Environment and Energy Technology (MISSION 2013), Kumamoto, Japan.

POSTER PRESENTATION

1. Radakovich A, **Lokesh S**, Timilsina A, Yang Y. Environmental orthogonal reactions for dissolving and tagging pyrogenic carbon. August 2023, 266th ACS National Meeting, San Francisco, CA

2. **Lokesh S**, Arunthavabalan S, Hajj EY, Hitti E, Yang Yu. April 2022. Fate of 6PPD-quinone at rubberized asphalt concrete-water interface. CEE research symposium, University of Nevada, Reno, NV.
3. **Lokesh S**, Yang Y. 2022. Critical Role of Semiquinones in the Reductive Dehalogenation. April 2022, CEE research symposium, University of Nevada, Reno, NV.
4. Timilsina A, **Lokesh S**, Shahriar A, Yang Y. April 2022. Development of tagging method for identifying quinone in aqueous pyrogenic carbon media. CEE research symposium, University of Nevada, Reno, NV.
5. Numan T, **Lokesh S**, Shahriar A, Yang Y. April 2022. Pyrogenic carbon produced during wildfire and impact on watershed functions. CEE research symposium, University of Nevada, Reno, NV.
6. Shahriar A, **Lokesh S**, Boiteau R, Yang Y. April 2022. Stability constant of lignin-derived small compounds and structure identification for their complexes with Fe. CEE research symposium, University of Nevada, Reno, NV.
7. **Lokesh S**, Arunthavabalan S, Hajj EY, Hitti E, Yang Yu. Fate of 6PPD-quinone at rubberized asphalt concrete-water interface. April 2022, 17th IWA Leading Edge Conference on Water and Wastewater Technologies, Reno, NV. (Poster)
8. **Lokesh S**, Yang Y. 2022. Critical Role of Semiquinones in the Reductive Dehalogenation. April 2022, 17th IWA Leading Edge Conference on Water and Wastewater Technologies, Reno, NV. (Poster)
9. **Lokesh S**, Arunthavabalan S, Hajj EY, Hitti E, Yang Yu. Fate of 6PPD-quinone at rubberized asphalt concrete-water interface. January 2022, Reunited in water 2022 NWEA annual conference & exposition, Las Vegas, NV. (Poster)
10. **Lokesh S**, Yang Y. 2022. Critical Role of Semiquinones in the Reductive Dehalogenation. January 2022, Reunited in water 2022 NWEA annual conference & exposition, Las Vegas, NV. (Poster)
11. Numan T, **Lokesh S**, Shahriar A, Yang Y. Pyrogenic carbon produced during wildfire and impact on watershed functions. January 2022, Reunited in water 2022 NWEA annual conference & exposition, Las Vegas, NV.
12. Shahriar A, **Lokesh S**, Yang Y. Stability constant of lignin-derived small compounds and structure identification for their complexes with Fe. January 2022, Reunited in water 2022 NWEA annual conference & exposition, Las Vegas, NV.

PROPOSALS

1. **Fire impacts on seed germination and seedling establishment**
   Co-wrote proposal with Dr. William Bjorn, Dr. Mike Wilkins, and Dr. Thomas Borch

Sponsor: National Science Foundation

2. **Rapid Determination and Prediction of Physical-Chemical Properties of PFAS Impacting their Fate and Transport using Microfluidics and Machine Learning**
   Co-wrote proposal with Dr. Alexandridis Paschalis, and Dr. Thomas Borch
   Sponsor: Strategic Environmental Research and Development Program
3. **Contribution of micro-predators to necromass production and its transformation**
   Co-wrote proposal with Dr. Edouard Jurkevitch, Dr. Benny Chefetz, and Dr. Thomas Borch
   Sponsor: BSF Research Grant
4. **Sources and Sinks of Fe in Future Hypoxic Oceans**
   Wrote proposal with Dr. Rene Boiteau
   Sponsor: National Oceanic and Atmospheric Administration

HONORS & AWARDS

Student Travel Grant ($500) **2022 & 2019**
University of Nevada Reno

ACS ENVR Certificate of Merit **2021**
American Chemical Society

Nevada Watereuse Association Scholarship ($1,000) **2021**
Nevada Watereuse Association

New York University Graduate Scholarship ($10,000) **2016**
New York University

Best Young Scholar **2013**
Minamata International Symposium on Environmental and Energy Technology 2013 (MISSION 2013), Kumamoto, Japan

National Talent Search Examination Scholar **2010**
National Council of Educational Research and Training, Government of India.

National Science Olympiad **2009**
Government of India

RESEARCH EXPERIENCE

Postdoctoral Scholar: Advisor: Dr. Thomas Borch **August 2023–Present**
Soil and Plant Sciences, Colorado State University

- Develop methods to extract chemicals from filters used to collect emissions from burning structural materials

- Analyze emissions released from burning structural materials using high resolution mass spectrometric analysis
- Develop non-target and targeted approaches to identify and quantify pollutants released from structural fire
- Help PI with proposal writing

Graduate Research Assistant: Advisor: Dr. Yu (Frank) Yang **January 2019–May 2023**
Department of Civil & Environmental Engineering, University of Nevada Reno

- Studied the redox reactive role of aqueous phase biochar in the dehalogenation process
- Examined the critical role of semiquinone in the dehalogenation process
- Evaluated the mobilization and interactions of 6PPD-quinone from rubberized asphalt concrete
- Developing a non-target high-resolution mass spectrometry analysis workflow to identify Fe-lignin degradation complexes
- Developing a quinone tagging based high-resolution mass spectrometry analysis workflow non-target analysis method for identification of quinoidic moieties in aqueous biochar
- Non-Target analysis of the reactive species in biochar for pollutant degradation

Graduate Research Assistant: Advisor: Dr. Andrea Silverman **May 2016–May 2018**
Department of Civil & Urban Engineering, New York University

- Determined the mechanisms and rates of inactivation of human viruses, bacteriophages, and bacteria in natural waters and wastewaters through experimental and modeling approaches

Undergraduate Research Assistant: Advisor: Dr. Lakshmikanth **April 2013–May 2015**
Karnataka State Remote Sensing Application Centre (KSRSAC)

- Used numerical and machine learning models to predict ground vibrations in geotechnical and mining operations
- Evaluated safety of ground excavation projects using data and numerical models
- Coupled physics-based and data-driven models to reduce the risk of failure of mining projects

TEACHING EXPERIENCE

Course Instructor **Spring 2025**
CEE 204 — Natural and Engineered Environmental Systems Spring 2025

Course Instructor **Fall 2024 & Fall 2022**
CEE 417/617 — Quantitative water quality analysis
Conducted lectures and taught laboratory courses.

GradFIT Module Developer **Summer 2021**

Co-developed and held a Matlab-based Statistical Analysis workshop for first-generation college students and students from historically underrepresented backgrounds students joining UNR

Teaching Assistant, UNR **Fall 2019 & Fall 2020**
CEE 417/617 — Quantitative water quality analysis
Co-taught the laboratory course and developed a video module series to facilitate the learning process of laboratory experiments during the COVID-19 pandemic

ACTIVITIES

General Secretary, Indian Student Organization, UNR **2019–2021**
Student Assistant, Office of Global Services (OGS), NYU

ANALYTICAL INSTRUMENTS & PROGRAMMING LANGUAGE

LC-Orbitrap, APCI-GC-TOF-MS, TOC, IC, UV-vis spectrometer, HPLC, LC-Triple quadrupole MS, LC-TOF-MS, Anaerobic Glove Box, FTIR, Quantachrome Surface Area Analyzer, Lachat, R, Matlab, and MZmine

RESEARCH INTERESTS

Environmental chemistry: Wildfire chemistry, Biochar based degradation of emerging contaminants; Non-target screening; Metabolomics; Advanced mass spectrometry; Aquatic chemistry