

ALLIE (MINH-ANH) NGUYEN

allien Nguyen@berkeley.edu | (612) 295-2636 | <https://www.linkedin.com/in/allie-minhanh-nguyen/>

Education

Doctor of Philosophy in Environmental Engineering

Anticipated Graduation: May 2027

- College of Engineering, University of California, Berkeley

Master of Science in Environmental Engineering

Anticipated Graduation: Dec 2023

- College of Engineering, University of California, Berkeley

Bachelor of Environmental Engineering

Aug 2018 – May 2022

- College of Science and Engineering, University of Minnesota (UMN) – Twin Cities
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Research Experience

University of California, Berkeley

Berkeley, CA

Project: *Pandemic Readiness and Equity through Virus Epidemiology of Wastewater (PREVIEW)*

Aug 2022 – Present

- Mentors: Professor Kara Nelson, Dr. Rose Kantor.
- Conduct literature review on wastewater-based epidemiology, such as the decay of viruses in wastewater and wastewater sample concentration methods.

University of Minnesota – Twin Cities

Minneapolis, MN

Project: *Biochar for Nutrient Removal from Municipal Wastewater*

Sep 2021 – Aug 2022

- Mentor: Professor Sebastian Behrens.
- Operated and prepared wastewater media for sequencing batch reactors.
- Analyzed water chemistry of phosphate, nitrate, nitrite, and ammonium using segmented flow analysis and UV-Vis spectrophotometry to examine wastewater nutrient removal capacities of biochar.

Project: *Hydrologic and Hydraulic Characteristics of Effective Sea Lamprey Barriers*

Jan 2022 – May 2022

- Mentors: Professor Miki Hondzo, Dr. Dan Zielinski.
- Conducted literature review on the efficacy of current sea lamprey barrier technologies.
- Designed and performed fluid mechanics experiments with model barriers in hydraulic flumes.
- Analyzed the time-averaged and root-mean-square velocities of the water flow due to barriers' impacts, lamprey detachment forces, and turbulent kinetic energy from the experiment results.

Project: *Determination of Biomethane Generation Potential in the Domestic Municipal Waste Flow of Hanoi, Vietnam*

Jan 2021 – Nov 2021

- Mentor: Professor Ulrike Tschirner.
- Sampled organic municipal waste and conducted calculations based on the samples' waste composition in Hanoi, Vietnam.
- Performed biochemical methane potential tests on a sample of organic matters resembling the above waste to find its anaerobic digestion capability.

Internal Technical Reports

Nguyen, Allie; Dorner, Mariah; Behrens, Sebastian. "Ammonium Sorption Isotherm Experiments on Biochar", December 2021.

Presentation

Nguyen, Allie; Tschirner, Ulrike. "Determination of Biomethane Generation Potential in the Domestic Municipal Waste Flow of Hanoi, Vietnam". Fall Virtual Undergraduate Research Symposium 2021, University of Minnesota, 27 November 2021, Minneapolis, Minnesota. Poster Presentation.

Industry Experience

Institute of Environmental Science and Engineering, Hanoi University of Civil Engineering

Environmental Engineering & Management Intern

May 2019 – Jan 2021

- Participated in preparation of five environmental engineering publications.
- Contributed work to environmental management consultancy contracts of the Institute. Completed field trips to wastewater treatment plants, clients' factories, and contaminated sites in Hanoi, Bac Ninh, Da Nang, and Ninh Binh provinces.
- Prepared teaching materials of IESE's in-person and online environmental management training courses for external companies.

Publications

Book: Viet-Anh Nguyen, Anh Hong Do, Bang Trong Le, Dzung Anh Dao, **Minh-Anh (Allie) Nguyen**, Moo-young Han, *Appropriate On-site Sanitation Facilities*. Project by the Vietnam – Korea Center of Water and Sanitation Appropriate Technologies (WASAT), funded by the Ministry of Science and ICT, South Korea (in preparation).

Article: Viet-Anh Nguyen, Thi Minh Thanh Vu, **Minh-Anh (Allie) Nguyen**, Viet Minh Nguyen, *Can COVID-19 disease be transmitted in water environment?* J. Environment and Cities, Vietnam Association of Urban and Industrial Environment, 2021. ISSN 1859-3623, Vol.131, pp. 36-42.

Book: Viet-Anh Nguyen, Luan Thanh Nguyen, Hien Thi Thu Ha, Hoa Thi Hien Tran, Thao Phuong Nguyen, My Tra Nguyen, **Minh-Anh (Allie) Nguyen**, *Manual on Operation and Maintenance of Rural Water Supply Systems*. Funded by the National Center for Rural Water Supply and Environmental Sanitation, Vietnam Ministry of Agriculture and Rural Development (MARD). Construction Publishing House, 2021. ISBN 978-604-82-3280-1

Report: National Strategy for Rural Clean Water Supply and Sanitation for the period to the year 2030, vision to 2045. Consultancy work, prepared for MARD, funded by UNICEF. 2021.

Report: Viet-Anh Nguyen, Nguyen Duong Quang Chanh, Vu Manh Cuong, **Minh-Anh (Allie) Nguyen** and other team members, *Study on the implementation of low and no-cost options in three wastewater treatment plants, Vietnam* (Project No. 100052). IESE, for the United Nations Industrial Development Organization (UNIDO) and Vietnamese Ministry of Planning and Investment (MPI), Contract No. 3000070422. March-August 2019.

Other Work Experience

Undergraduate Teaching Assistant – College of Science and Engineering, UMN

Sep 2021 – May 2022

- Graded assignments for CEGE 3101 (Computer Applications I) and CEGE 3501 (Introduction to Environmental Engineering).
- Prepared and presented teaching materials with the instructor, and managed class logistics for CSE 1001 (First-year Experience).

Peer Tutor Mentor – SMART Learning Commons, UMN Library

Sep 2019 – May 2022

- Assisted over 100 students' learning inquiries in Math and Chemistry.
- Observed and evaluated peer tutors with 1-on-1 consultation sessions and written reports.
- Led a 60-minute staff meeting every semester for additional training of peer tutors.

International Student Consultant – College of Science and Engineering, UMN

May 2021 – Aug 2021

- Assisted 80 incoming international students during orientation and before their US arrival.
 - Provided logistical support to the CSE Academic Advising office in facilitating activities and preparing for orientation.
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Awards and Scholarships

College of Science and Engineering Dean's List (UMN)	2018-2021
Department of Civil, Environmental and Geo- Engineering James and Sharon Weinel Chi Epsilon Scholarship (UMN)	2021-2022
International Student and Scholar Services Culture Corps Program Scholarship (UMN)	2021
Undergraduate Research Opportunities Program Scholarship (UMN)	2021
CEGE Chi Epsilon Initiation Scholarship (UMN)	2021
CEGE Adolph Sommerfeld Scholarship (UMN)	2020-2021
UMN Global Excellence Scholarship	2018-2022

Leadership, Outreach, and Volunteering

CSE International Ambassadors (CSEIA) (UMN) – President	Apr 2021 – May 2022
<ul style="list-style-type: none">Represented CSEIA in public relationships, managed CSEIA's funding applications, and organize CSEIA's events and activities in logistics preparation and human resources.	
Chi Epsilon Honors Society (UMN Chapter) – Vice President	Apr 2021 – May 2022
<ul style="list-style-type: none">Assisted the President in duties such as leading meetings, communicating with the faculty advisor, and managing student board members.	
American Society of Civil Engineers (UMN chapter) – Historian	Sep 2021 – May 2022
<ul style="list-style-type: none">Kept track of the attendance of the group's events and document events via photography.	
Design U (UMN) – Research and Strategy Team Member	Jan 2021 – May 2021
<ul style="list-style-type: none">Developed strategies and conducted interviews to improve the participation and engagement for The Toaster, an entrepreneurial resource on the UMN Twin Cities campus.	
Welcome Week Leader (UMN)	Apr 2020 – Sep 2020
<ul style="list-style-type: none">Created a welcoming and inclusive environment for new first-year students and facilitated activities and discussions with small groups of students in Weeks of Welcome.	

Skills and Abilities

- Laboratory skills: water sample collection, UV-Vis spectrophotometry, sequencing flow analysis, sequencing batch reactor operation, water chemistry analysis (alkalinity, hardness, microbial level, COD/BOD concentrations), digital PCR.
- Software: MATLAB, Microsoft Excel.
- Languages: Vietnamese (native proficiency), English (bilingual proficiency).
- Certifications: Master Certified Tutor (CRLA Level 3).