

Environment and Bioenergy Research Group (UHM)

&

Environmental Biotechnology for Resource Recovery and Sustainability Group (HKUST)

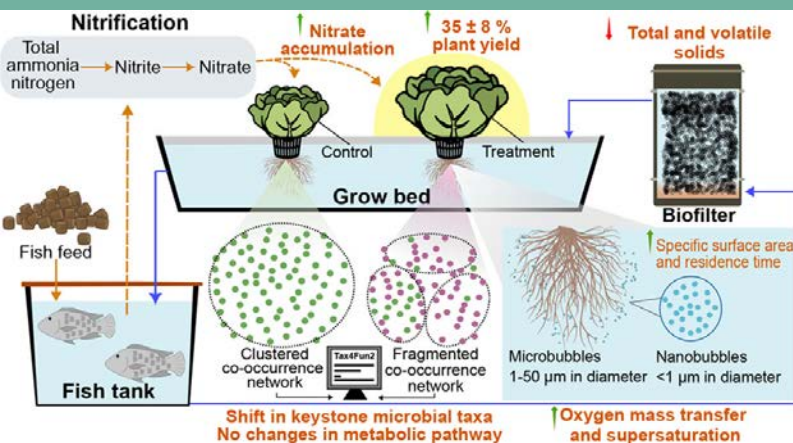


2025 NEWSLETTER



UNIVERSITY of HAWAII
MĀNOA

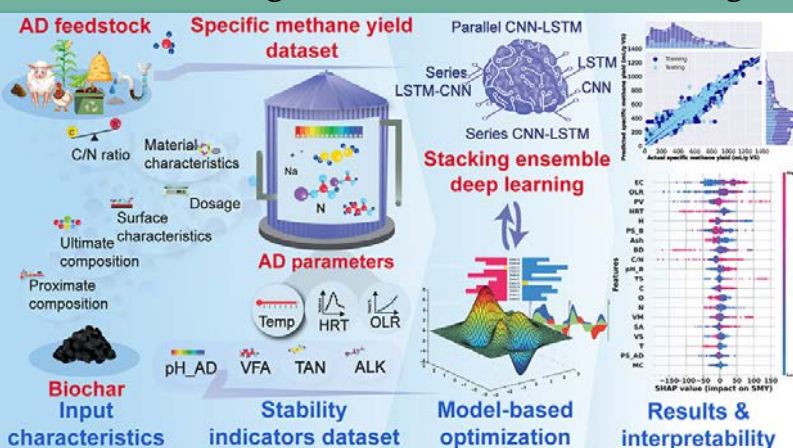
Aquaponics and nanobubble technology



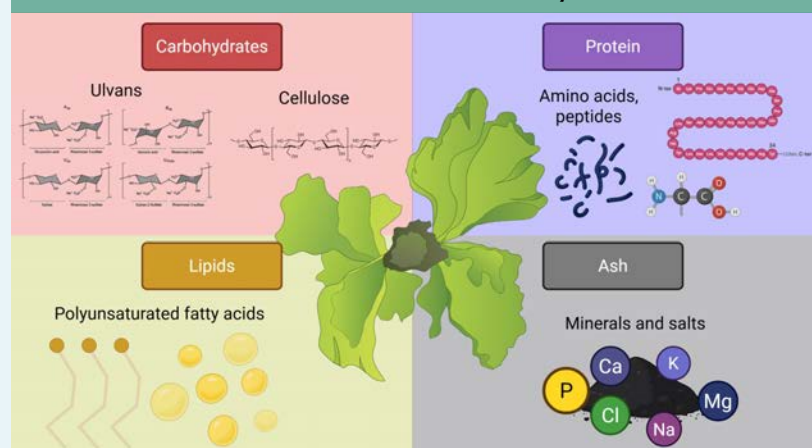
Algal cultivation and CO₂ utilization



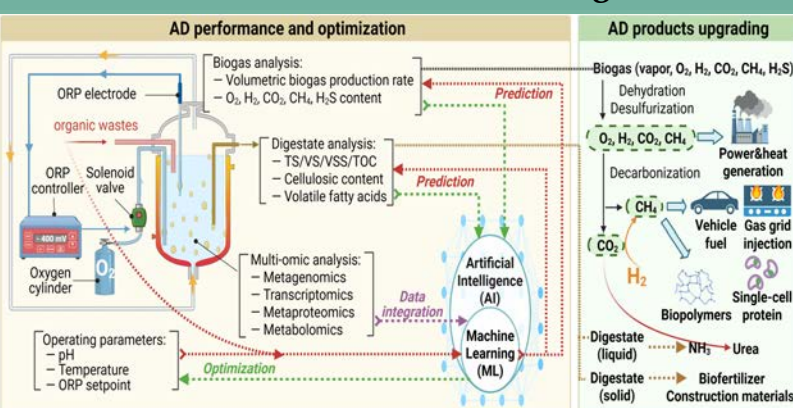
Anaerobic digestion and machine learning



Macromolecular analysis



Micro-aeration in anaerobic digestion



Bioenergy mapping of the Hawaiian Islands



Who's in the Khanal lab?



Samir Kumar Khanal is a Professor Environmental Engineering, Dept. of Civil and Environmental Engineering, The Hong Kong University of Science and Technology (HKUST), and Professor in the Dept. of Molecular Biosciences and Bioengineering, University of Hawai'i at Mānoa (UHM) where he started his tenure-track faculty position in 2008. He received post-doctoral training for 2 years and then continued as a Research Assistant Professor for 4 years in the Dept. of Civil, Construction and Environmental Engineering at Iowa State University. He obtained a B.S. (Hons) in Civil Engineering from Malaviya National

Institute of Technology, Jaipur, India, and an M.S. in Environmental Engineering from the Asian Institute of Technology, Bangkok, Thailand. His Ph.D. degree is in Environmental Engineering from the Hong Kong University of Science and Technology, Hong Kong. Prof. Khanal is a globally recognized researcher in the field of anaerobic digestion, nanobubble technology, aquaponics, waste-to-resources, and machine learning and artificial intelligence (ML/AI) applications in microbial-mediated processes for waste (water) treatment resource recovery. He has over 170 refereed publications in top-rated international journals, 18 book chapters, and 11 books including one best-selling book (*Anaerobic Biotechnology for Bioenergy Production: Principles and Applications*) and one textbook (*Bioenergy: Principles and Applications*) to his name. Prof. Khanal has also delivered over 175 plenary, keynote, invited, guest lectures nationally/internationally. His Scopus H-index is 66.0 (citations over 16,860) and a Google Scholar H-index of 74.0 (citations over 23,000). Prof. Khanal is a highly cited researcher (top 1%) by Web of Science (Clarivate, 2024). As evidenced by his achievements and research impact, Prof. Khanal was awarded the highly prestigious Board of Regents' Medal for Excellence in Research by the University of Hawai'i at Mānoa (2018), Elsevier's Impactful Research Award (2018), CTAHR Dean's Award for Excellence in Research by the College of Tropical Agriculture and Human Resources (CTAHR), University of Hawai'i at Mānoa (2016), and Faculty Award for Excellence in Mentoring Undergraduate Research & Creative Work (2024). Prof. Khanal was also awarded Research Excellence Award by International Bioprocessing Association (2021), and Outstanding Alumni Award-2021 by the Dept. of Civil and Environmental Engineering, The Hong Kong University of Science and Technology (2021). Prof. Khanal is ranked one of the Best Environmental Sciences Scientists (666th best researcher in the U.S. and 1572th in the world) by *Research.com*. He is an Editor-in-Chief of the highly prestigious journal, *Bioresource Technology* and serves on the Editorial Board/Advisory Board of four other journals. He has also served as a leading guest editor of several special issues related to Anaerobic Digestion, Machine Learning and Waste-to-Resources for *Bioresource Technology*. Prof. Khanal is a professional engineer in the state of Iowa, USA. <https://www.samirkkhanal.com>

Who's in the Khanal lab?



Dr. Surendra K.C. is a Research Assistant Professor at Dept. of Civil and Environmental Engineering at Hong Kong University of Science and Technology (HKUST), and a research fellow at Global Institute for Interdisciplinary Studies (GIIS), Kathmandu, Nepal. Before joining HKUST, Dr. KC was a research scholar at Dept. of Molecular Biosciences and Bioengineering, UH Manoa, HI, USA. His [research \(linked here\)](#) focuses on

bioconversion of organic resources into value-added products via anaerobic digestion and insect farming; use of nanobubble technology in improving performance of biological processes; aquaponics/biaponics; macroalgae-based biorefinery; resource mapping; and scaling-up and automatization of biological processes. Currently, he serves as an editor of *Bioresource Technology Reports* (IF 4.3). He has served as a leading guest editor of two special issues related to anaerobic digestion and insect-based biorefinery for *Bioresource Technology* and *Industrial Biotechnology*, respectively. He was listed as Top 2% Scientists by Elsevier and Stanford University for the last three years.

Dr. Ty Shitanaka is a recent Ph.D. graduate in our group and current postdoctoral researcher. He received his B.S. in marine biology from UH Manoa. His [research \(linked here\)](#) focuses on applying CO₂-nanobubbles to improve algal productivity and creating bioproducts from algal biomass.



Kyle Rafael Marcelino is a Ph.D. Candidate in our group. He received his B.S. in Biological Engineering and M.S. in Civil and Environmental Engineering from UH Manoa. His [research \(linked here\)](#) focuses on using nanobubble technology to efficiently deliver oxygen in aquaponic systems, improving their productivities and nutrient use efficiencies.

Who's in the Khanal lab?



Jung Shick Kwon joined our lab in 2016 as a Ph.D. student. He graduated with a B.E. and M.S. in Bioengineering from Ajou University. He works on single-cell fungal protein production from diverse organic waste streams, including from food waste and molasses.

Shreeja Lopchan Lama is a recent M.S. graduate in our group. She received her undergraduate degree in Environmental Engineering from Kathmandu University, Nepal. Her M.S. work focused on developing an integrated nanobubble-biochar aquaponic system to improve nutrient utilization efficiency and plant growth.



Brannon Evans joined our lab as a M.S. student in 2024. He received his B.S. in Biotechnological Engineering from Hawaii Pacific University in 2022. His research focuses on deriving value-added products from brown macroalgae native to Hawaii.

Keshav Dubedi joined our lab as a M.S. student in 2024. He holds a B.S. in Environmental Engineering from Kathmandu University, Nepal. His research focuses on remote sensing, GIS, large spatiotemporal data analytics, atmospheric processes, hydroclimatic analysis, and environmental modeling.



Sachita Baniya joined our lab as a M.S. student in 2024. Her research focuses on anaerobic digestion process stability and methane enhancement. She applies process modeling and machine learning to improve monitoring and control of bioreactors.

Who's in the Khanal lab?



Dr. Mei Zhou is a Postdoctoral Researcher in the Department of Civil and Environmental Engineering at HKUST. Before joining our HKUST group in August 2025, Dr. Zhou obtained her Ph.D. in Environmental Science from the University of Tübingen, Germany.

Her [research \(linked here\)](#) focuses on developing microaeration strategies to enhance anaerobic digestion for waste(water) treatment and resource recovery. At HKUST, she is working on integrating microbial community analysis with process engineering to optimize biogas upgrading and wastewater polishing systems. Dr. Zhou has authored several first-author publications in high-impact international journals.



Dr. Shuo Wang is a Postdoctoral Researcher in the Department of Civil and Environmental Engineering at HKUST. Before joining our HKUST group in August 2025, Dr. Wang obtained his Ph.D. in environmental engineering from Shandong University, China.

His [research \(linked here\)](#) focuses on enhancing phosphate bio-reduction to achieve phosphorus removal in constructed wetlands. Currently, his research primarily focuses on use nanobubble technology to enhance phytoremediation, offering a sustainable solution for improving plant-based removal of environmental pollutants.



Jie Meng is currently a Ph.D. student in our group. She specializes in sustainable waste treatment and resource recovery. Her work integrates experimental studies of anaerobic digestion with machine learning modeling to advance biowaste valorization.

Conference and seminar presentations (Prof. Khanal)

Dr. Khanal's scholarship primarily focuses on waste(water) treatment and resource recovery, with emphasis on anaerobic digestion, nanobubble technology, and aquaponics. In 2025, he delivered over 25 esteemed presentations across the U.S., Korea, Indonesia, Mainland China, and Hong Kong.

Presentation Title: Advances in Anaerobic Digestion- Unlocking Potential for Decarbonization

- **Conference Name:** The International Conference on the Practical Zero Emissions Technologies and Strategies
- **Role:** Plenary speaker
- **Location:** Shanghai, China
- **Date:** December, 2025

Presentation Title:

Micro/Nanobubble Applications in Environmental Remediation and Agriculture

- **Conference Name:** 5th International Conference on Biomass and Solid Waste Energy and Environment
- **Role:** Plenary speaker
- **Location:** Xi'an, China
- **Date:** September, 2025



Conference and seminar presentations (Prof. Khanal)

Presentation Title: Macroalgae-derived Biomaterials and Biochemicals

- **Conference Name:** International Conference on Future Integration for Resilient and Sustainable Infrastructure Technology (FI-RST)
- **Role:** Plenary speaker
- **Location:** Seoul, Korea
- **Date:** November, 2025

Presentation Title: Advances in Anaerobic Digestion: Unlocking the Potential for Decarbonization

- **Conference Name:** Bio-purification and Transformation of Waste gas 2025
- **Role:** Plenary speaker
- **Location:** Hangzhou, China
- **Date:** October, 2025

Presentation Title: Anaerobic Digestion – A Pathway to Decarbonization

- **Conference Name:** 2nd International Forum on Green, Low-carbon Technology and Resource Utilization
- **Role:** Plenary speaker
- **Location:** Suzhou, China
- **Date:** November, 2025

Yonsei University's 140th Anniversary

International Conference on Future Integration for Resilient and Sustainable Infrastructure Technology (FI-RST)

Date: 17 (Mon) ~ 18 (Tue) November, 2025
Location: The Commons at Yonsei Univ., Korea

17 Nov. (Mon) 14:00 ~ 17:00 | The Commons at Yonsei Univ.

- Opening ceremony
 - Opening greetings: Joonghong Park (Group Leader of Yonsei University Graduate Program for Resilient Infrastructure Technology)
 - Address of welcome: Chungyong Lee (Dean, College of Engineering, Yonsei University) and Hyoungkwan Kim (Chair of The School of Civil and Environmental Engineering, Yonsei University)
- Invited Lecture by Distinguished International Scholar
 - Prof. Fang Dongping (Tsinghua Univ., CIB (International Council for Research and Innovation in Building and Construction))
 - Prof. Samir Khanal (Hong Kong Univ. of Science and Technology, Biosource Technology Editor-in-Chief)

18 Nov. (Tue) 10:00 ~ 17:00 | Jake Lah Hall and Kwak Jeung-hwan Challenge Hall in The Commons at Yonsei Univ.

- Academic Presentation (Session 1: Sustainability, Session 2: Resilience)
- Poster Presentation (Graduates)
- Capstone Design Exhibition (Undergraduates)

Yonsei University Graduate Program for Resilient Infrastructure Technology, School of Civil and Environmental Engineering, Yonsei University
Contact: 02-2123-8160 / ceeri@yonsei.ac.kr

Global organic waste generation and GHG emissions

- 105 billion metric tons of organic wastes is generated globally each year
 - 2% are treated and recycled
- By managing these bioresources, we can cut global Greenhouse Gas (GHG) emissions by 10% by 2030
 - 5%: avoiding emissions from organic wastes
 - 5%: displacing fossil fuels and artificial fertilizers
- Methane accounts for 20% of all anthropogenic emissions
- Treatment of wastes through AD can cut 25% of anthropogenic methane emissions

TURKEY: INNOVATIVE AND RELIABLE WASTE TO ENERGY SOLUTIONS

BIOMETHANE

第二届国际绿色低碳与资源化利用技术论坛暨苏州市国际联合实验室学术委员会会议

污水资源化、资源化与资源化

2025.11.10

Conference and seminar presentations (Prof. Khanal)

Dr. Khanal also gave many talks to students and companies in Hong Kong.

Presentation Title: Pursue Your Dream (PYD)

- **Seminar Name:** ENGG 6780 Career Development for Engineering Research Students
- **Location:** HKUST, Hong Kong, China
- **Date:** November, 2025



Presentation Title: What Does/Can an Environmental Engineer do?

- **Seminar Name:** ENGG 2010 seminar
- **Location:** HKUST, Hong Kong, China
- **Date:** October, 2025



Presentation Title: Sustainability with Emphasis on Bioenergy, Biomaterials, Nanobubbles, Green Wall and Smart Vertical Farming

- **Seminar Name:** Kuok Group/ Kerry Properties
- **Location:** Hong Kong, China
- **Date:** October, 2025

Conference and seminar presentations (Prof. Khanal)

Presentation Title: Advances in Anaerobic Digestion for Organic Waste Valorization

- **Conference Name:** International Conference on Solid Waste 2025
- **Role:** Keynote speaker
- **Location:** Dongguan, China
- **Date:** June, 2025

Presentation Title: Aquaponics and Nanobubble Technology – 15-years of Collaborative Research with Korea University

- **Conference Name:** K-CLUB World Conference
- **Role:** Plenary speaker
- **Location:** Seoul, Korea
- **Date:** July, 2025

Presentation Title: Nanobubble Technology Applications in Agriculture and Environmental Remediation

- **Seminar Name:** EBS 290 Seminar- Dept of Biological and Agricultural Engineering, University of California, Davis.
- **Location:** California, U.S
- **Date:** December, 2025



Conference and seminar presentations (lab members)

We are also proud to share that several of our lab members recently presented their research at prestigious conferences. Below are highlights of their presentations:

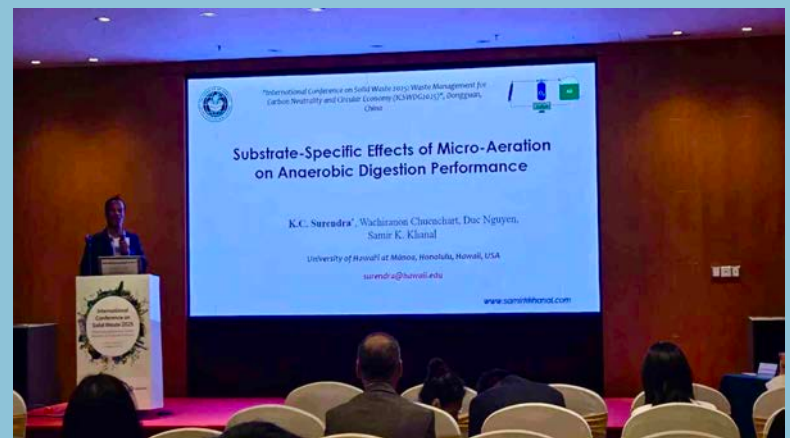
Presentation Title: Substrate-specific Effects of Micro-aeration on Anaerobic Digestion Performance

- **Conference Name:** International Conference on Solid Waste 2025
- **Presented by:** Surendra K. C.
- **Location:** Dongguan, China
- **Date:** June, 2025



Presentation Title: Black Soldier Fly (*Hermetia illucens*) System for Resource Recovery from Organic Waste

- **Conference Name:** The 11th 3R International Scientific Conference on Material Cycles and Waste Management (3RINCs)
- **Presented by:** Surendra K. C.
- **Location:** Jeju, Korea
- **Date:** May, 2025



Conference and seminar presentations (lab members)

Presentation Title: Resource Recovery from Organic Waste for Urban Resilience and Sustainability

- **Presented by:** Surendra K. C.
- **Location:** Korea University, Sejong Campus, Republic of Korea
- **Date:** May, 2025



Presentation Title: Nanobubbles in Aquaponics: Tiny Bubbles, Big Impacts

- **Presented by:** Surendra K. C.
- **Location:** Gansu Agricultural University, Lanzhou, Gansu, China
- **Date:** June, 2025



Surendra K.C. was welcomed by Prof. Huajun Si, Vice-President, Gansu Agricultural University, Lanzhou, Gansu, China

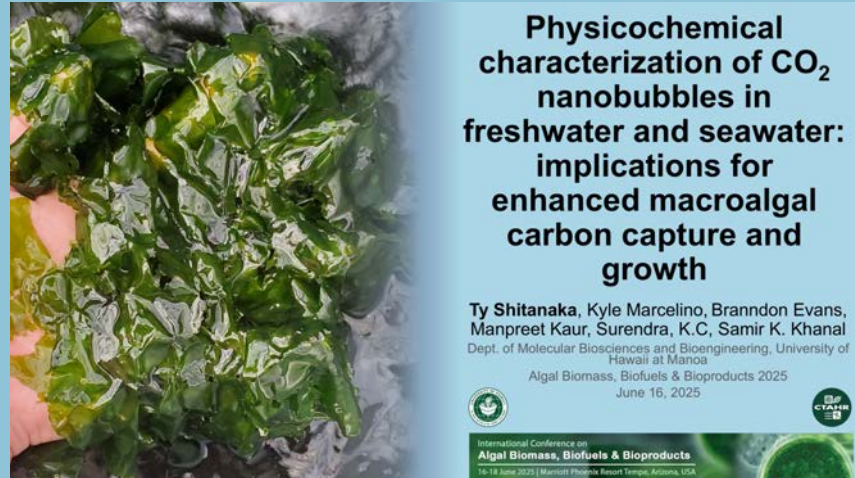


Conference and seminar presentations (lab members)

Presentation Title:

Physicochemical
Characterization of CO₂
Nanobubbles in Freshwater and
Seawater: Implications for
Enhanced Macroalgal Carbon
Capture and Growth

- **Conference Name:** Algal Biomass, Biofuels, and Bioproducts 2025
- **Presented by:** Ty Shitanaka
- **Location:** Tempe, AZ, USA
- **Date:** June, 2025



Presentation Title: Improving Water Quality in Media-based Aquaponic Systems with Nanobubble Aeration Technology

- **Conference Name:** Aquaculture 2025
- **Presented by:** Kyle Rafael Marcelino
- **Location:** New Orleans, LA, USA
- **Date:** March, 2025



Conference and seminar presentations (lab members)

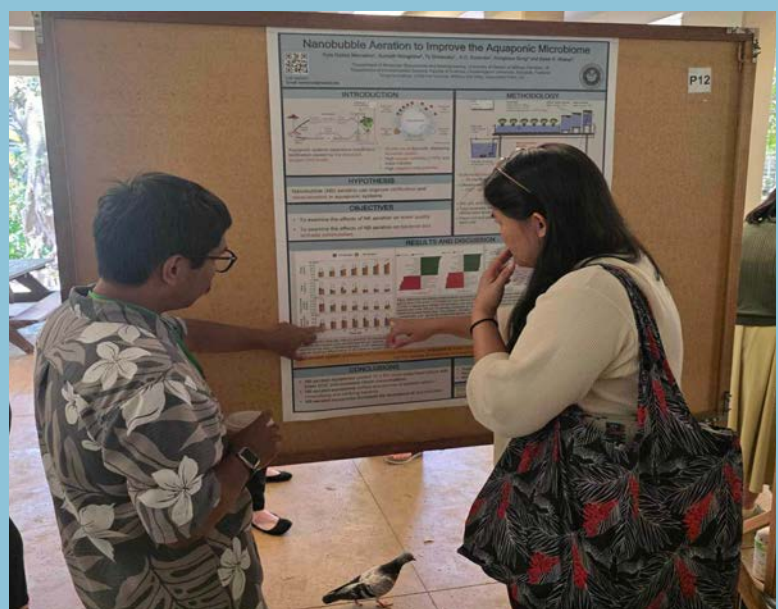
Presentation Title: Navigating Innovations from CEA Systems to Nanobubble Research

- **Conference Name:** CTAHR Conference 2025
- **Presented by:** Kyle Rafael Marcelino
- **Location:** Honolulu, HI, USA
- **Date:** April, 2025



Presentation Title: Nanobubble Aeration to Improve the Aquaponic Microbiome

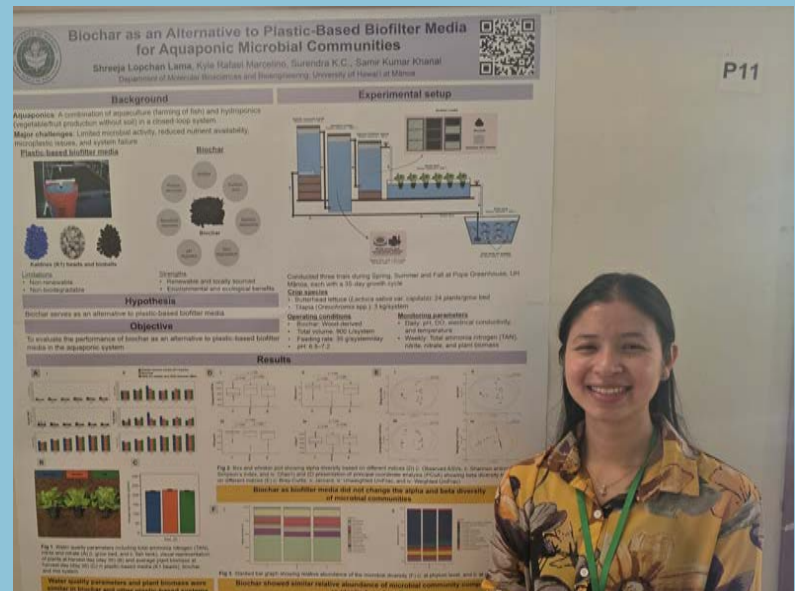
- **Conference Name:** Hawaii American Society for Microbiology Spring Meeting 2025
- **Presented by:** Kyle Rafael Marcelino
- **Location:** Honolulu, HI, USA
- **Date:** May, 2025



Conference and seminar presentations (lab members)

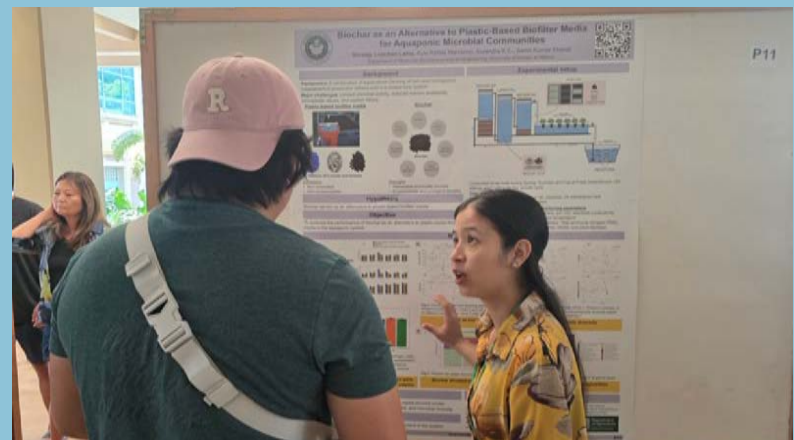
Presentation Title: Biochar as an Alternative to Plastic-based Biofilter Media for Aquaponic Microbial Communities

- **Conference Name:** Hawaii American Society for Microbiology Spring Meeting 2025
- **Presented by:** Shreeja Lopchan Lama
- **Location:** Honolulu, HI, USA
- **Date:** May, 2025



Presentation Title: Enhancing Algal Carbon Capture and Growth Rates with CO₂-nanobubble Technology

- **Conference Name:** Hawaii American Society for Microbiology Spring Meeting 2025
- **Presented by:** Ty Shitanaka
- **Location:** Honolulu, HI, USA
- **Date:** May, 2025



Conference and seminar presentations (lab members)

Presentation Title:

Nanobubble-enhanced Aquaponic Systems for Sustainable Food Production in Hawaii

- **Conference Name:** ARCS Scholar Symposium
- **Presented by:** Kyle Rafael Marcelino
- **Location:** Honolulu, HI, USA
- **Date:** May, 2025



Presentation Title:

Pioneering Hawaiian Macroalgae for Environmental and Economic Resilience

- **Conference Name:** ARCS Scholar Symposium
- **Presented by:** Ty Shitanaka
- **Location:** Honolulu, HI, USA
- **Date:** May, 2025

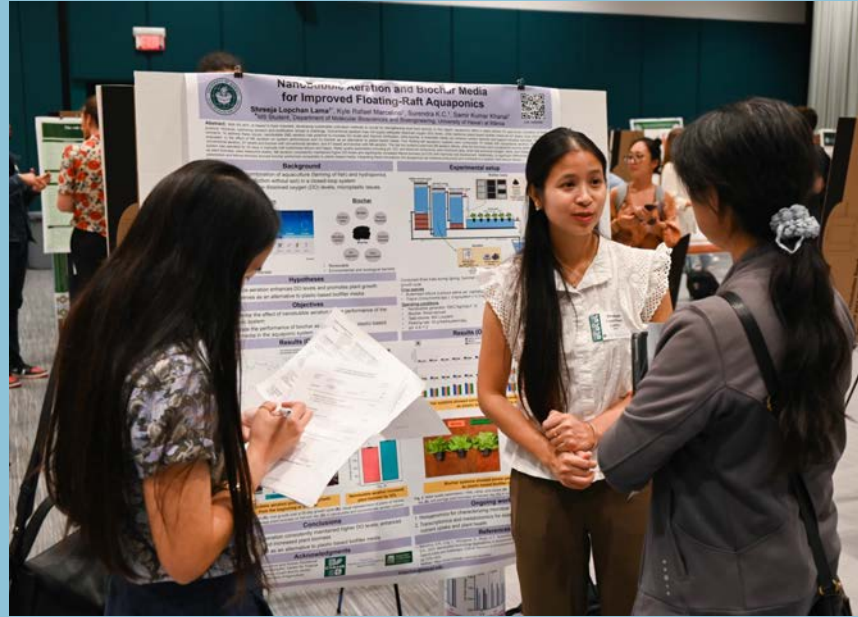


Conference and seminar presentations (lab members)

Presentation Title:

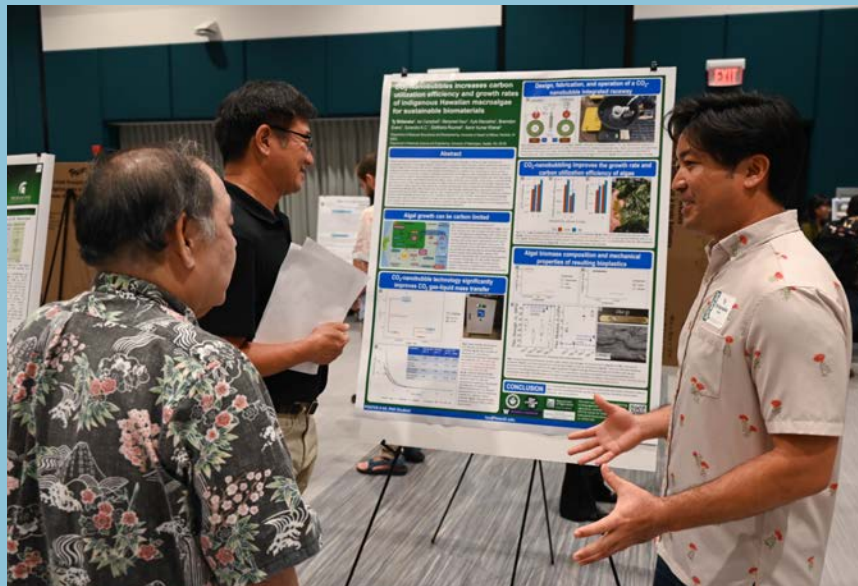
Nanobubble Aeration and Biochar Media for Improved Floating-raft Aquaponics

- **Conference Name:** CTAHR Showcase and Research Symposium
- **Presented by:** Shreeja Lopchan Lama
- **Location:** Honolulu, HI, USA
- **Date:** April, 2025



Presentation Title: CO₂-nanobubbles Increases Carbon Utilization Efficiency and Growth Rates of Indigenous Hawaiian Macroalgae for Sustainable Biomaterials

- **Conference Name:** CTAHR Showcase and Research Symposium
- **Presented by:** Ty Shitanaka
- **Location:** Honolulu, HI, USA
- **Date:** April, 2025



Distinguished guests and visitors at HKUST!

We warmly welcomed several scholars to HKUST where they delivered excellent presentations and engaged in stimulating discussions and exchanges with our team.

Largus Angenent is a Humboldt Professor at the University of Tübingen, Germany. He is one of the worldwide pioneers in the field of environmental biotechnology and a leading researcher in microbial chain elongation.

Presentation Title: Gas Fermentation to Produce Methane, Ethanol, Acetate, N-caprylate, Or Protein



Speaker

Dr. Tao Yan

University of Hawaii at Manoa



22 September 2025
Monday

10:00 am - 11:00 am

Room 3574 (Lift 27/28),
Civil Engineering
Conference Room,
HKUST

SEMINAR

**MUNICIPAL WASTEWATER MICROBIOME AS
IMPORTANT BIOINFORMATIC AND
BIOMEDICAL RESOURCES**

Tao Yan is the Director of Water Resources Research Center, and a Professor of Civil and Environmental Engineering at the University of Hawaii at Manoa. His research interests are in the areas of environmental microbiology, microbial ecology, and environmental biotechnology.

Presentation Title: Municipal Wastewater Microbiome as Important Bioinformatic and Biomedical Resources

Distinguished guests and visitors at HKUST!

Kaichao Yang is a Postdoctoral Researcher in the Department of Civil and Environmental Engineering at the University of California, Berkeley. Dr. Yang's research centers on water-energy nexus and advancing energy-driven technologies to promote a circular water economy.

Presentation Title: Water-Energy Nexus and Advanced Technologies for Wastewater Resource Recovery



Renisha Karki is a Ph.D. candidate in Civil and Environmental Engineering at the University of Michigan. Her research focuses on biomimetic anaerobic digestion systems, drawing inspiration from natural digestive strategies to develop sustainable technologies for bioenergy recovery from diverse organic wastes.

Presentation Title: Rumen-inspired Hydrolytic Bioreactor for Complex Organic Wastes Digestion

Distinguished guests and visitors at UHM!



Sun Grant Directors (Dr. Shawn Donkin, Dr. Steve Gent, Dr. Katie Bratberg, Dr. Jessica McCord, Dr. Niki Labbé, Dr. Courtney Jones, Dr. Mari Chinn)

Lab visit on June 17, 2025

Dr. Donkin, Dr. Gent, Dr. Bratberg, Dr. McCord, Dr. Labbé, Dr. Jones, and Dr. Chinn are all a part of the Sun Grant Program, an initiative to enhance U.S. energy security through the development, distribution, and implementation of biobased energy technologies. They graciously visited our laboratory at UHM on June 17th where they learned about how algae, GIS mapping, nanobubble technology, and more can help to contribute to a more sustainable green economy.

Thank you all for coming to visit, and we appreciate your time! We also appreciate your support in funding our research!

Distinguished guests and visitors at UHM!



U.S. Senator Mazie Hirono

CTAHR Ka Lei Hano award recipient and lab tour on April 24, 2025

Senator Mazie Hirono has represented Hawaii in the U.S. Senate since January 3, 2013. She attended and graduated from UH Manoa and Georgetown University Law Center, and served in the Hawaii State House, as Hawaii's Lieutenant Governor, and the U.S. House of Representatives before being elected to the Senate. She has been a strong advocate for the agriculture industry in Hawaii and has been instrumental for securing funding to fight invasive species, covering crop loss for farmers, among other achievements.

Thank you, Senator Hirono, for all that you do and continue to do for Hawaii! We appreciate spending your time in coming to visit our lab.

Distinguished guests and visitors at UHM!



Dr. Gerald Tuskan

Seminar on March 5, 2025

Dr. Gerald Tuskan is the Director and Chief Executive Officer at the Center for Bioenergy Innovation at Oak Ridge National Laboratory. He is also an ORNL Corporate Fellow and is broadly focused on accelerating the domestication of bioenergy relevant non-model plants and microbes for sustainable aviation fuels. Dr. Tuskan has an impressive list of accomplishments, including over 350 publications, an h-index of 83, and being named the 2024 DOE Office of Science Distinguished Scientist.

Thank you very much for visiting us Dr. Tuskan, and we truly learned so much from your seminar!

Distinguished guests and visitors at UHM!



Dr. Harriet Natsuyama

UHM lab visit on February 14, 2025

Dr. Natsuyama is a sansei (3rd generation) daughter of the Natsuyamas, a UH distinguished alumna and former astrophysics professor at California State University, Fullerton, and visiting professor at Japanese universities. During her time in academia, she has published over 200 applied research papers, significantly contributing to the applied mathematics, systems analysis, and computer modeling fields. Over the years, she has also made incredibly generous donations to the UH Foundation, UH Hilo, and UH Manoa.

Thank you so much for visiting our lab, Dr. Natsuyama, and we greatly appreciate your wisdom! We are also so grateful for your incredibly generous donations over the years, which helps students at UH tremendously.

Hosting high school and undergraduate students at UHM



Tatum Okamoto and Kaimalie Stensgaard

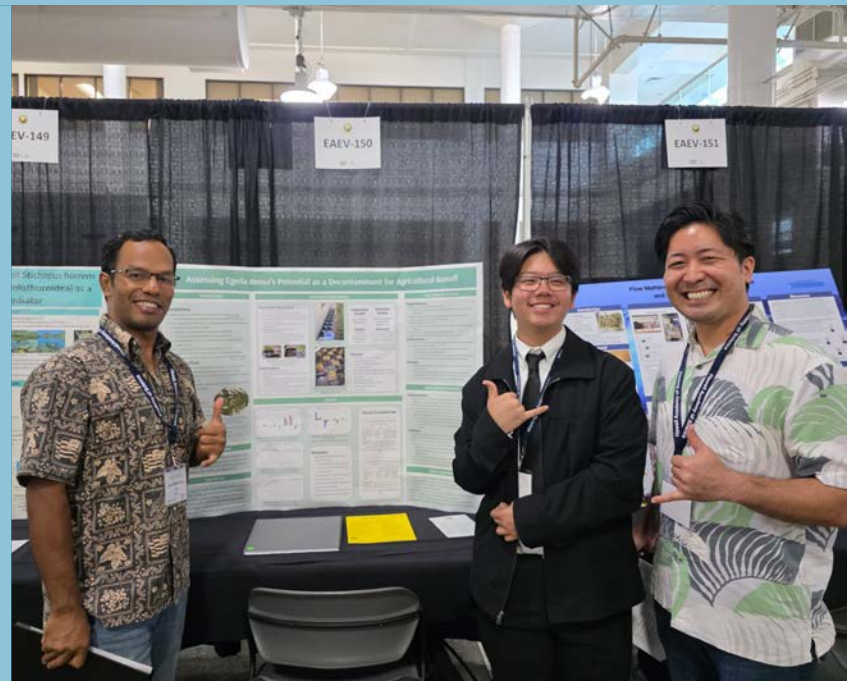
Undergraduate researchers, Fall 2024 – Spring 2025

Tatum and Kaimalie were students in UH Manoa's biological engineering program who completed their BE capstone in our lab. They developed a system using native Hawaiian plants (‘Ākūlikūli) to remove both heavy metals and nutrients. They presented these results at multiple events, including the CTAHR SRS. They both graduated in Spring 2025 with their B.S. in Biological Engineering. We are very proud of them, congratulations Tatum and Kaimalie!

Reid Tamanaha

High School Sophomore, Fall 2024 – Spring 2025

Reid was a sophomore in high school when he reached out to us with interest in developing a project for Science Fair. His project, "Assessing Egeria densa's potential as a decontaminant for agricultural runoff", won the Stockholm Junior Water Prize at the Hawaii State Science Fair. Congratulations Reid and we are proud of you!



The Khanal lab year in review!

Professor at HKUST

Congratulations to Dr. Samir Kumar Khanal for his new position as a Professor in the Department of Civil and Environmental Engineering at The Hong Kong University of Science and Technology! <https://ce.hkust.edu.hk/people/samir-kumar-khanal>



Research Assistant Professor at HKUST

Congratulations to Dr. K.C. Surendra for his new position as a Research Assistant Professor in the Department of Civil and Environmental Engineering at The Hong Kong University of Science and Technology!

<https://facultyprofiles.hkust.edu.hk/profiles.php?profile=surendra-k-c-surendra>

New Lab at HKUST

Congratulations to Dr. Khanal. He received a new lab at The Hong Kong University of Science and Technology!



Ph.D. and M.S. Candidates

Congratulations to Kyle Rafael Marcelino (Ph.D. Candidate) and Brandon Evans (M.S. Candidate) for advancing to candidacy this year!

The Khanal lab year in review!

2025 Honolulu ARCS Scholar of the Year

Congratulations to Dr. Ty Shitanaka for being named one of the 2025 Honolulu ARCS Scholars of the Year!



2025 Honolulu ARCS Scholars

Congratulations to Dr. Ty Shitanaka (Farrar Award in Tropical Agriculture) and Kyle Rafael Marcelino (Koenig Award in Tropical Agriculture) for becoming 2025 Honolulu ARCS Scholars!



2025 GSO Academic Enrichment Awards

Congratulations to Dr. Ty Shitanaka (Mentoring) and Shreeja Lopchan Lama (Research) for winning these awards by the Graduate Student Organization at UH Manoa!



Hawaii American Society for Microbiology Spring Meeting

Congratulations to Dr. Ty Shitanaka (Travel Award), Kyle Rafael Marcelino (Best Ph.D. Poster Award), and Shreeja Lopchan Lama (Best M.S. Poster Award) for winning awards for presentations about their research!



USAS Aquatic Equipment and Design Student Travel Award

Congratulations to Kyle Rafael Marcelino for receiving a United States Aquaculture Society Travel Award to attend Aquaculture America 2025!



Con-GRAD-ulations to our outstanding students!



Shreeja Lopchan Lama

Molecular Biosciences and Bioengineering

UH Manoa

Shreeja graduated with her M.S. degree this Fall 2025. Congratulations Shreeja!



Mingyi Jia

School of Energy and Environment

City University of Hong Kong

Mingyi graduated with her Ph.D. this Fall 2025. Congratulations Dr. Jia!



Ty Shitanaka

Molecular Biosciences and Bioengineering

UH Manoa

Ty graduated with his Ph.D. this Fall 2025. Congratulations Dr. Shitanaka!

Alumni Corner

Dr. Saoharit Nitayavardhana

Assistant Professor

Department of Environmental Engineering

Chiang Mai University



Dr. Sumeth Wongkiew

Associate Professor

Department of Environmental Science

Chulalongkorn University

Dr. Duc Nguyen

Postdoctoral Research Associate

The Lyell Centre

Heriot-Watt University



Dr. Zhen Hu

Professor, Vice Dean

School of Environmental Science and Engineering

Shandong University

Alumni Corner

Dr. Shilva Shrestha

Assistant Professor

Department of Environmental Health and Engineering

Johns Hopkins University



Renisha Karki

Ph.D. Candidate

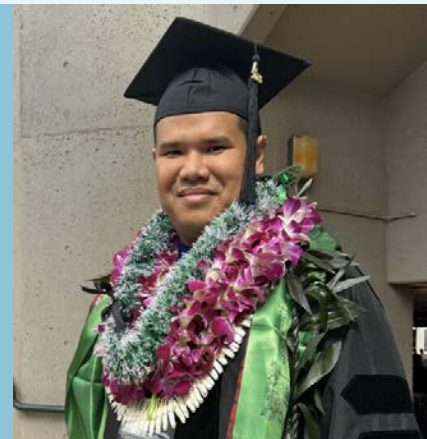
Department of Civil and Environmental Engineering

University of Michigan Ann Arbor

Dr. Wachiranon Chuenchart

Research Engineer

Quasar Energy Group



Dr. Chayanon Sawatdeenarunat

Assistant Professor

Asian Development College for Community

Ecology and Technology

Chiang Mai Rajabhat University

Alumni Corner

Dr. Saruda Sitthikitpanya

Sustainability Specialist

KTC corporate, Thailand



Dr. Kacie Niimoto

Postdoctoral Researcher

Center for Negative Carbon Emissions

Arizona State University

Lisa Lowe

Ph.D. Student

Samueli School of Engineering

University of California Los Angeles



Dr. Sang-Hyoun Kim

Professor

Department of Civil and Environmental Engineering

Yonsei University

Alumni Corner

Dr. Bishnu Karki

Assistant Professor

Department of Biology and Microbiology

South Dakota State University



Dr. Prachand Shrestha

Senior Scientist

Novonesis

Dr. Sindhuja Sankaran

Associate Professor

Biological Systems Engineering

Washington State University



Dr. Melissa Montalbo-Lomboy

Associate Teaching Professor

Henry M. Rowan College of Engineering

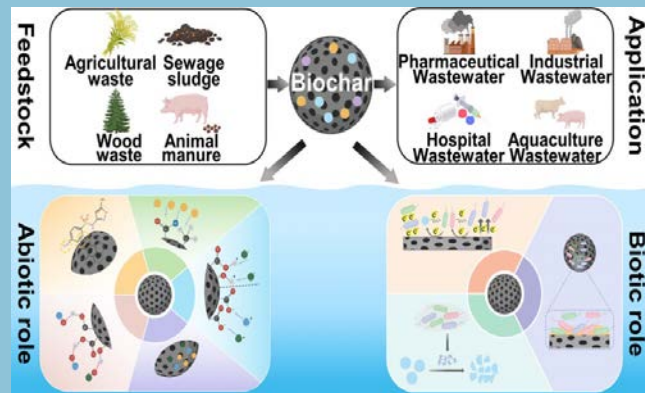
Rowan University

2025 research highlights and publications

Our paper *“Biochar-Based Strategies for Antibiotics Removal: Mechanisms, Factors, and Application”* has been selected as one of the winners of the journal’s **2024 ACS ES&T Engineering Best Paper Awards**.

Our paper *“Green processing of tropical banagrass into biofuel and biobased products: An innovative biorefinery approach”* was one of the **most downloaded papers** in *Bioresource Technology*!

To view our complete list of 2025 publications and access detailed summaries, scan the QR code below.



If you are interested in learning more about our lab, research projects, or collaborations, feel free to reach out:

Website: <https://www.samirkkhanal.com>;

<https://ce.hkust.edu.hk/people/samir-kumar-khanal>

Email: khanal@hawaii.edu; cekhanal@ust.hk

Phone number: (852) 2358-8183

Address: Room 3566, Dept. Civil and Environmental Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong