

SCIENTIFIC ENGLISH IMMERSION WITH HANDS-ON EXPERIMENTATION ON MICROBIAL PLASTIC DEGRADATION IN VIETNAM

Post-In-Person Activity

Prof. Meden F. Isaac-Lam

Project Leader 1

Fulbright Alumni Exchange Program
Citizen Diplomacy Action Fund (CDAF)
2024



School of Biotechnology
Tân Tao University
Long An, Vietnam



Department of Chemistry and Physics
College of Engineering and Sciences
Purdue University Northwest
Indiana, USA 46391



POST-IN-PERSON ONLINE ACTIVITIES

Our Project Team conducted a Zoom meeting on November 22, 2024 (CST) for the Faculty Mentors to reconnect with the participants for the last time and see activities that the participants were involved after the CDAF workshop. Prof. Meden F. Isaac-Lam coordinated the meeting. Faculty mentors Drs. Nhon Dang and Quang Ta Van, and staff assistant Trần Phú Vinh were also in attendance. A total of 16 participants were present virtually.

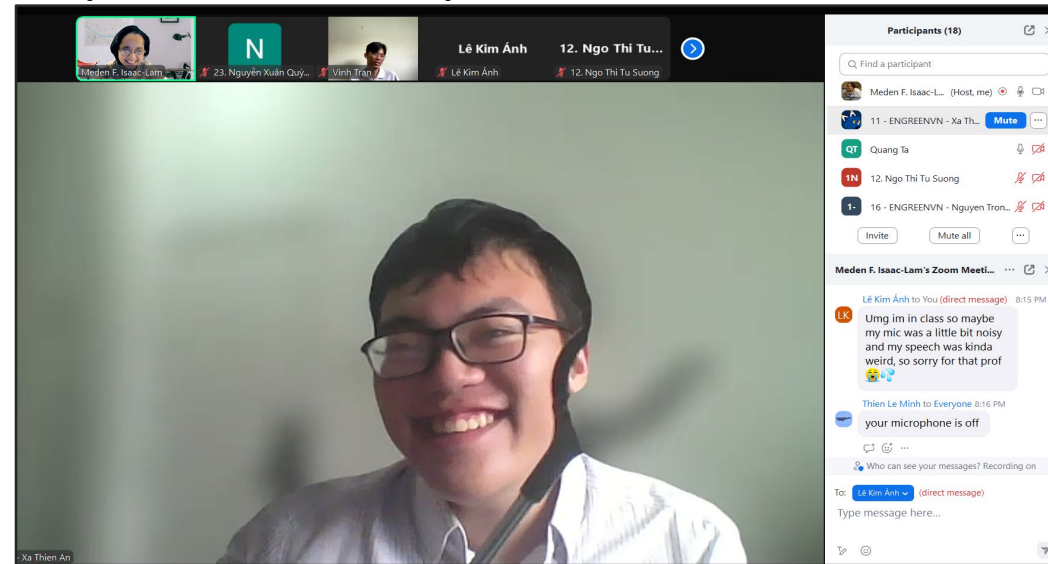
POST-IN-PERSON ONLINE ACTIVITIES FOR PARTICIPANTS

Meeting Agenda for the Zoom Meeting:

- Feedback update on what you have accomplished since our in-person Culminating Activities at TTU on August 10, 2024. Please provide a short description in writing about any activities you have engaged in regarding plastic pollution in your community, at work or at your institution.
- Please write a short comment about these 2 news articles:
 - <https://www.latimes.com/environment/story/2024-10-31/l-a-county-sues-pepsi-and-coca-cola-over-plastic-pollution>
 - <https://www.scientificamerican.com/article/chemistry-nobel-2024/>

POST-IN-PERSON ONLINE ACTIVITIES

During the virtual meeting, Xà Thiên Ân shared with the group his experience, after the project. He mentioned that it brought him to a better place. For about 2 weeks, he spent 1-2 hrs/day in the local park and started picking up trash. It had some desired effects because the kids saw him, and they joined him for a while. But then after 2 weeks, Xà Thiên Ân got busy again with school work. Eventually, he might go back to this community service. During the virtual conversation, Project Leader 1 showed Thiên Ân a garbage grabber tool which he actually used to pick up trash in the park!



Xà Thiên Ân
MD Student, School of Medicine
Tan Tao University

FEEDBACK FORM PARTICIPANTS

Lê Minh Thiện (BS Environmental Science, Nong Lam University): Submitted 11/13/2024

- Participating in the "Scientific English Immersion with Hands-on Experimentation on Microbial Plastic Degradation in Vietnam" project has been an incredibly valuable experience. It deepened my understanding of how certain microorganisms can break down plastic polymers, the environmental conditions that facilitate this process, and the latest research on microbial enzymes that target plastic waste. Additionally, I enhanced my ability to communicate complex scientific concepts in English, which has allowed me to share these insights within my community and professional networks more effectively. This has been essential in raising awareness about microbial solutions to plastic pollution.
- More recently, I had the chance to join my center in an educational project focused on raising children's awareness of marine biodiversity protection. The project was conducted at four primary and elementary schools in Can Gio District, Ho Chi Minh City. It aimed to educate students about the significant issue of ocean plastic waste and its harmful effects on marine ecosystems worldwide.
- Throughout the project, we worked to help students understand how plastic waste in the ocean negatively impacts marine life and disrupts biodiversity. The program included interactive lessons on the origins of plastic pollution, its persistence in the environment, and the specific threats it poses to marine species. Students were also encouraged to think about ways they could reduce plastic consumption and support ocean conservation. By engaging young minds in this way, the project sought to instill a strong sense of environmental responsibility and inspire sustainable practices that will help protect our oceans for future generations.

FEEDBACK FROM PARTICIPANTS

Nguyễn Trọng Nhân (BS Chemical Engineering, Ho Chi Minh City University of Technology):
Submitted 11/18/2024

- It is my honor to be in ENGREEN and I have learned many knowledge and connected with wonderful mentors and friends.
- The ENGREEN project has always been a guiding light for me since we last met in the summer.
- Currently, I am in my final year at HCMUT and I have an opportunity to do my bachelor's thesis relating to Chemical Engineering's field. Fortunately, I have joined Prof. Tran Thuy Tuyet Mai's research group to study the photocatalytic degradation of plastics by harnessing UV or visible light radiations using semiconductor materials. My focus is on graphitic carbon nitride (g-C₃N₄). Recently, I successfully synthesized and characterized g-C₃N₄. In the coming weeks, I will conduct more experiments on the degradation of plastic using this prospective material.
- I hope that the experiments will run smoothly. If you are interested, and I know you will, I will share the results with you.

FEEDBACK FROM PARTICIPANTS

Trịnh Lai Loi (PhD Student, Biotechnology, HUTECH University): Submitted 11/19/2024

- I would like to share my recent activities related to addressing plastic pollution. Being part of your project has inspired me with many new ideas, and I am eager to contribute more effectively. To tackle environmental challenges caused by plastic waste, I have learned about identifying bacteria or fungi capable of degrading plastic pollutants.

Trần Nhật Mai (BS Biotechnology, Nong Lam University): Submitted 11/19/2024

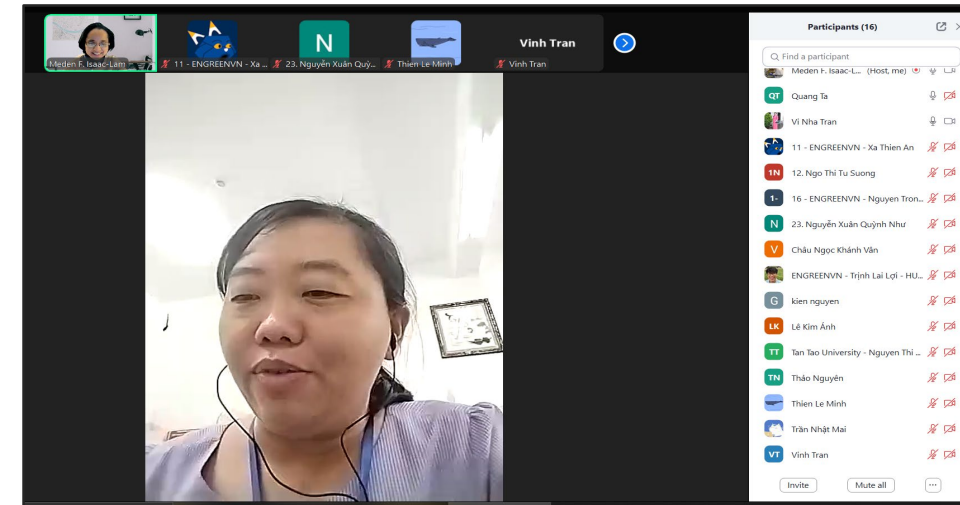
- Since our in-person Culminating Activities at TTU, I have actively engaged in several initiatives related to plastic pollution in my community and institution. My main focus has been raising awareness and implementing small-scale interventions to reduce single-use plastic consumption and promote sustainable practices.
- At my lab, I collaborated with peers to launch a "Plastic-Free Week. " We set up collection bins specifically for plastic waste, encouraging the campus community to segregate and recycle properly. Additionally, I joined a local environmental group to participate in monthly clean-up events, significantly decreasing the visible plastic waste in our area.

FEEDBACK FROM PARTICIPANTS

Vi Nha Tran (Lecturer, Chemical Technology, Can Tho University):

Since the in-person Culminating Activities at TTU on August 10, 2024, I have actively engaged in initiatives to address plastic pollution in my community and workplace. Below are the key actions I have undertaken:

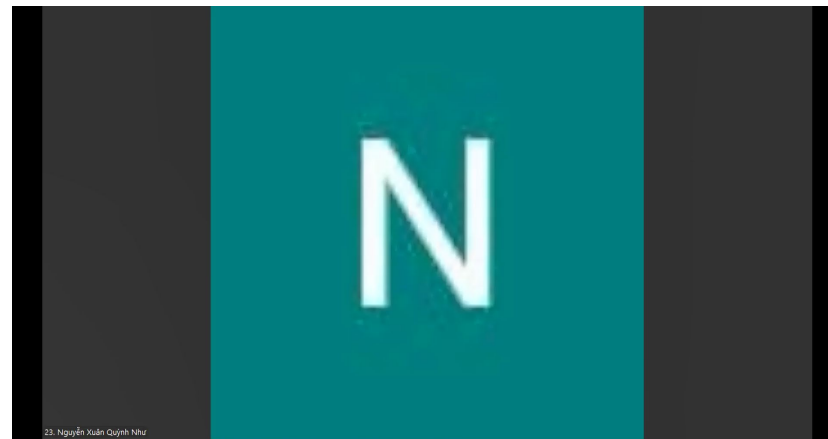
- **Community Awareness Campaigns:** Organized educational workshops in my neighborhood to inform residents about the harmful effects of plastic pollution and how to reduce single-use plastics. This included distributing informational materials and promoting sustainable alternatives.
- **Workplace Policy Change:** Advocated for and successfully implemented a reduction of plastic usage in my workplace. This included replacing disposable plastic items in communal spaces with biodegradable or reusable alternatives and encouraging colleagues to adopt eco-friendly practices.
- These activities have been instrumental in raising awareness and fostering a culture of sustainability in the spaces I influence.



FEEDBACK FROM PARTICIPANTS

Nguyễn Xuân Quỳnh Như (BS Biotechnology, Nong Lam University): Submitted 11/22/2024

- After participating in the project at TTU in August, I realized that recycling and treating plastic waste has not been thoroughly handled, it is also a costly and time-consuming process, so the first priority we can do is to reduce the amount of plastic used and plastic waste released into the environment.
- First of all, I limit buying food outside, instead I cook for myself and use lunchboxes, I also reuse cloth bags when shopping to hold lunchboxes. At my workplace, people also encourage the use of personal cups to drink water instead of disposable plastic bottles and cups. In addition, there is also a recycling bin at the workplace, and it will be collected periodically to be taken to the recycling site.
- In addition, I have recently paid more attention to news about methods to recycle and use plastic. Then, I talk about the bad things that plastic can make to my big family and courage them to limit the plastic they use.



POST-IN-PERSON ONLINE ACTIVITIES

CDAF Project Finale

- Participants expressed optimism and productive feedback moving forward.
- The CDAF project, though conducted in a very short time, provided the participants information and knowledge in English, science, chemistry, biology, business and AI as these various aspects overlap with environmental protection.
- Participants gained a vision and a mission on how they can improve regarding their career goals and how they can contribute in making Vietnam cleaner and more sustainable in the years ahead.

ZOOM MEETING ATTENDANCE (11/22/2024)

No.	Name	School/ University	Attended	Written Feedback
1	Lê Nguyễn Bình	Can Tho University of Technology	N	Y
2	Phan Thảo Nguyên	Can Tho University of Technology	N	Y
3	Đỗ Thanh Tuấn	Can Tho University of Technology	N	N
4	Nguyễn Minh Ánh	Can Tho University of Technology	N	N
5	Nguyễn Văn Tô Hữu	Can Tho University of Technology	Y	Y
6	Vi Nha Tran	Can Tho University of Technology	Y	Y
7	Phạm Nguyễn Phương Ngọc	HCM University of Industry and Trade	N	N
8	Trần Minh Man	HCM University of Industry and Trade	N	N
9	Nguyễn Thị Ngọc	HCM University of Industry and Trade	N	N
10	Lê Kim Ánh	Mac Dinh Chi high school	Y	N
11	Xà Thiên Ân	Tan Tao University	Y	N
12	Ngô Thị Tú Sương	Tan Tao University	Y	Y
13	Nguyễn Thị Huỳnh Như	Tan Tao University	Y	Y
14	Võ Thị Minh Thảo	Biotechnology Center of Ho Chi Minh City	Y	N
15	Lương Thị Mỹ An	Golden Gate University	N	N
16	Nguyễn Trọng Nhân	HCM City University of Technology	Y	Y
17	Luu Pham Yen Khanh	HCM City University of Technology	N	N
18	Trịnh Lai Loi	HUTECH University	Y	Y
19	Lê Minh Thiện	Nong Lam University	Y	Y
20	Nguyễn Thị Vân Ánh	Nong Lam University	N	N
21	Nguyễn Văn Hải	Nong Lam University	N	N
22	Trần Nhật Mai	Nong Lam University	Y	Y
23	Nguyễn Xuân Quỳnh Như	Nong Lam University	Y	Y
24	Trần Minh Hiền	Nong Lam University	N	N
25	Trần Thị Thu Hà	Nong Lam University	N	N
26	Lê Huỳnh Minh Chi	Ton Duc Thang University	N	N
27	Vũ Hoàng Việt	Nong Lam University	Y	Y
28	Nguyễn Gia Kiên	Tan Tao Talented High School	Y	N
29	Châu Ngọc Khánh Vân	UEH-International School of Business	Y	Y
30	Nguyễn Thảo Trang	Univ. of Social Sciences and Humanities	Y	N
31	Bùi Nư Ngọc Yên	Nong Lam University	N	N