SOUTHEAST ASIA-EUROPE
JOINT FUNDING SCHEME FOR
RESEARCH AND INNOVATION

Topic 1: Wastewater treatment and reuse (industrial & municipal)

CONTROL OF MICROPLASTICS IN URBAN WASTEWATER

Ms. Thu Hang DUONG
Dr. Environmental Engineering
Hanoi University of Civil Engineering
Vietnam

Brokerage Event – 9th Call

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Name:	**Thu Hang Duong**
Unit:	Faculty of Environmental Engeering
Organisation:	Hanoi University of Civil Engineering
City:	Hanoi
Country:	Viet Nam
E-Mail:	hangdt@huce.edu.vn

Eng. In Water supply and sanitation, HUCE, Vietnam

MSc. In Environmental Engineering, Ghent University, Belgium

PhD in Environmental Technology, Wageningen University and Research, the Netherlands

My area of expertise

1. **Pollutant control in water systems**

2. **Environmental technology driven to circular economy**

→ Deep technology for productions of biomaterials and green energy from wastewater

→ Pretreatment processes of waste streams

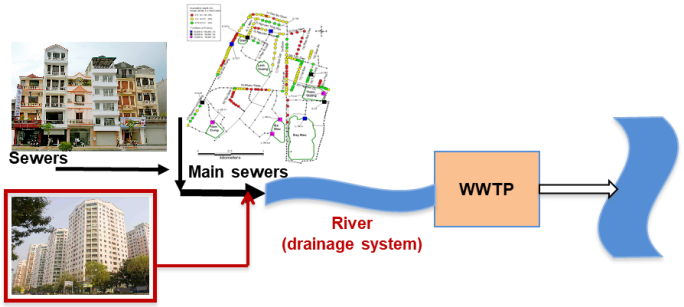
3. **Natural-based water treatment technology**

Research Idea for the 9th JFS Call

Topic 1: Wastewater treatment and reuse (industrial & municipal)

Vietnam:

- Total amount of wastewater generation: 960.000 m^3/d;
- Total capacity of WWTPs: 276.300 m^3/d (28,8%),
- Up to 2030: 1.471.500 m^3/d



➢ Microplastics: 2.3 particles/m^3 in the Red River; 2,522 particles/m^3 in the To Lich River (Strady et. al, 2020).

Research Question:

Distribution, Impact and Control of Emerging pollutants, i.e, microplastics in wastewater systems and water environment in Vietnam and other countries ?

→ Wastewater treatment plants need to play a role in removing microplastics in wastewater before being discharged to water system

My proposed Research Idea for the 9th JFS Call

Proposed Project Activity: CONTROL OF MICROPLASTICS IN URBAN WASTEWATER

Assess the level of microplastic pollution in wastewater systems and solutions to manage and minimize the impact of microplastic pollution in water environment, aiming to protect the environment and ecosystem and community

Proposed Research Activity:

- Content 1: Evaluation off microplastic pollution in urban water systems in the world, in the region and in Vietnam.
- Content 2: Evaluate the existence and path of microplastics in wastewater and urban drainage systems in selected study areas.

  Case studies in some large coastal cities in Vietnam such as Hanoi, Hai Phong, or Da Nang.
- Content 3: Evaluate the effectiveness of microplastic treatment in wastewater through treatment works at municipal and industrial wastewater treatment plants in Vietnam.

Project Consortium

My organisation: HUCE

Expertise: Environmental Technology

Role:

- → Investigate distribution of microplastics in wastewater and urban drainage systems;
- → Develop solutions to manage and minimize the impact of microplastic pollution in water environment

We are seeking partners for our project consortium:

Partner 1: Center for the Environment and Climate Change (PRMSU), The Philippines (in discussion)

Partner 2: Southeast Asia or Europe (we are seeking)

Partner 3: Southeast Asia or Europe (we are seeking)