**Institute:** Institute of Environmental Sciences

**Topic:** Science communication in environmental governance: a new paradigm for addressing plastic reduction

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# **Background information:**

Despite the fact that single-use plastic (SUP) products are by far the most harmful to the natural environment and public health, its' generation has been constantly growing. Previous initiatives and policies have failed to halt the plastic production increase and there is a need for new environmental governance instruments to address this problem. Consequently, the EU Parliament has undertaken the Plastics Strategy aiming at SUP items prevention and reduction over the European Member States. Recently, science communication (SC) paradigm has been promoted as a way to improve public understanding, awareness and action as well as decision making regarding harmful materials, especially maintaining reduction of SUP. Despite growing interest SC tools, SC remains relatively poorly integrated in education channels and environmental decision-making. A knowledge gap persists in how to improve implementation and foster sharing responsibility for the environment by means of science communication.

## The main questions to be addressed in the project:

This PhD research project will investigate public opinion and attitudes towards the harm of plastic to the environment and health, using concept of science communication, including general public and various stakeholders at local and regional governance levels in Poland. Particularly, the concept's integration into existing education, communication and policies, public, stakeholders' understanding and acceptance of it, good practices and challenges of SC implementation, as well as the potential effect of SC on public awareness, attitudes and behavior towards plastic as a harm to the environment will be examined.

#### Special requirements from the student:

A potential candidate should possess knowledge and experience in designing and conducting interdisciplinary research and working in interdisciplinary research teams. Excellent written and oral skills in Polish language are required. A job experience in practical nature conservation (also non-research sector) would be of advantage.

## Place/name of potential foreign collaborator:

- Prof. Marco Neudecker (Hochschule Hannover University of Applied Sciences and Arts, Institute of Bioplastics and Biocomposites, Mechanical and Bioprocess Engineering. Haisterberhalle 10A, 30453, Hannover)
- 2. Dr. Heather Leslie (Univeristy of Amsterdam, Faculty of Science, Science Park 904, 1090 GE Amsterdam)

### **References:**

- [1] Ali, Y., Razi, M., De Felice, F., Sabir, M., & Petrillo, A. (2019). A VIKOR based approach for assessing the social, environmental and economic effects of "smog" on human health. *Science of The Total Environment*, 650, 2897–2905. https://doi.org/10.1016/j.scitotenv.2018.10.041
- [2] Hamilton, L. A., Feit, S., Muffett, C., Kelso, M., Rubright, S. M., Bernhardt, C., Schaeffer, E., Moon, D., Morris, J., & Labbé-Bellas, R. (2019). Plastic & Climate: The Hidden Costs of a Plastic Planet. Center for International Environmental Law (CIEL).
- [3] Leslie, H., van Velzen, M., Brandsma, S., Vethaak, A., Garcia-Vallejo, J., & Lamoree, M. (2022). Discovery and quantification of plastic particle pollution in human blood. *Environment International*, 107199. doi: 10.1016/j.envint.2022.107199