



UNIVERSITÀ
DEGLI STUDI
DI MILANO

POLYTECHNIQUE
MONTREAL



The 6th Global Public Health Conference (GLOBEHEAL 2023)

We Create the Sustainable Future!!

Photocatalysis challenges the obstacles to sustainability:
advanced floating materials for wastewater remediation



Angelina Lika,¹ Melissa G. Galloni,^{1,2} Elena Ferrara,^{1,2} Nila Davari,³ Daria C. Boffito,³ Ermelinda Falletta,^{1,2} Claudia L. Bianchi^{1,2}

¹ Dipartimento di Chimica, Università degli Studi di Milano, Via Golgi 19, 20133 Milano, Italy

² Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (INSTM), Via Giusti 9, 50121 Firenze, Italy

³ Polytechnique Montréal – Génie Chimique 2900 Boul, Edouard Montpetit – H3T 1J4, Montréal, QC.

Background and Objectives



WATER CRISIS

842,000 people die every year from diarrhea due to unsafe drinking water consumption.

80% illnesses in developing countries result from unhealthy water.



1 out of 4 deaths of children under the age of five are the result of water-related illnesses

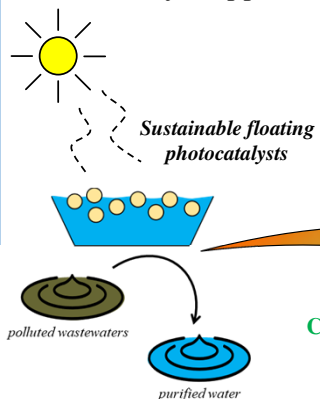
OUR MISSION

Clean water for everyone according to

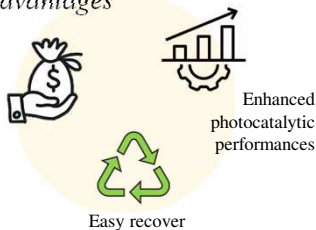


SUSTAINABLE DEVELOPMENT GOALS

Our successful approach

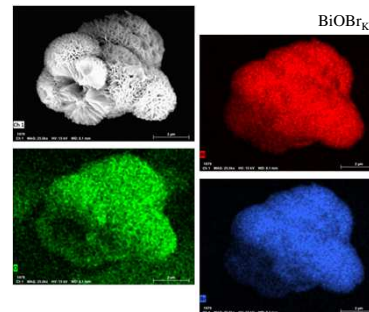
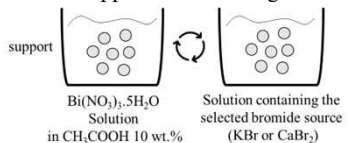


Advantages



Methods and Results

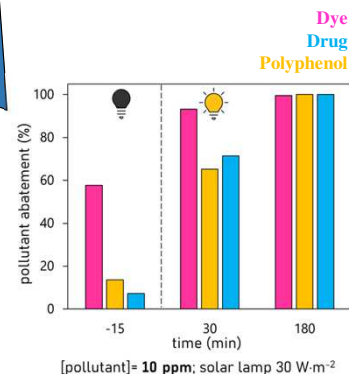
BiOBr supported on floating device



CHARACTERIZATION

TESTS OF POLLUTANTS ABATEMENT

Floating device	Pollutant class		
	Dyes	Drugs	Polyphenols
ALGINATE	✓	✓	✓
LECA	✓	✓	✓



Conclusions



TAKE ADVANTAGE OF THE
POWER OF THE SUN

References

- <https://www.who.int/>
- <https://www.sunfloat.unimi.it/>
- Galloni, M.G., Ferrara, E., Falletta, E., Bianchi, C.L., Catalysts 2022, 12(8), 923
- E. Falletta, M.G. Galloni, E. Ferrara, C.L. Bianchi, Alla scoperta di materiali avanzati innovativi per la bonifica di acque reflue, "INSTM al servizio del Sistema produttivo e della società", https://vimeo.com/757929388?embedded=true&source=vimeo_logo&wmer=7074465

Acknowledgements

VELUX STIFTUNG