International Networking Event

Horizon Europe – Missions

RESTORE OUR OCEAN AND WATERS & A SOIL DEAL FOR EUROPE

This project is co-financed by the European Union and the Republic of Turkey

Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Dr. Roman Lehner

roman@sailandexlore.com

Committed to marine conservation by combining sailing, science and education

REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY AND TECHNOLOGY

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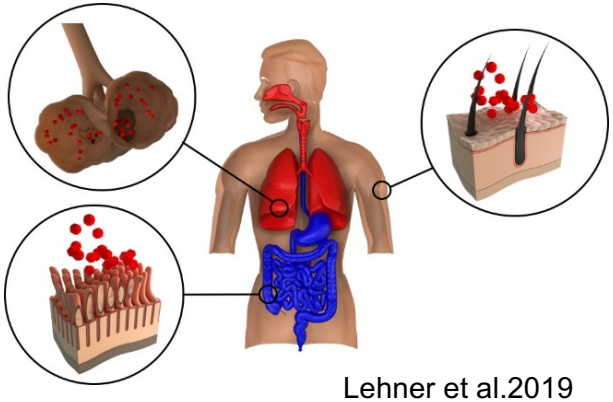
Sail & Explore Association

UNIQUE EUROPEAN NON-PROFIT MARINE CONSERVATION ORGANIZATION

MICROPLASTIC SAMPLING & TECHNOLOGY INNOVATION

CITIZEN SCIENCE & LOCAL COLLABORATION WITH UNIVERSITIES

SCIENTIFIC PUBLICATIONS



Lehner et al.2019

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Microplastic study grounds

roman@sailandexplore.com

Our current partners

EPFL

ETH zürich

adolphe merkle institute
excellence in pure and applied nanoscience

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RED SEA PROJECT

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Recent Scientific Publications

Contents lists available at ScienceDirect

Marine Pollution Bulletin

journal homepage: www.elsevier.com/locate/marpolbul

Spatial and temporal analysis of meso- and microplastic pollution in the Ligurian and Tyrrhenian Seas

Jessica Caldwell[a], Livius F. Muff[a], Christopher K. Pham[b], Alke Petri-Fink[a], Barbara Rothen-Rutishauser[a], Roman Lehner[a,c,*]

[a] Adolphe Merkle Institute, Université de Fribourg, Chemin de Verdiers 4, 1700 Fribourg, Switzerland
[b] IMAR/OKEANOS - Universidade dos Açores, Departamento de Oceanografia e Pescas, 9901-862 Horta, Portugal
[c] Sail and Explore Association, Kirchweg 42, 8755 Ennenda, Switzerland

Contents lists available at ScienceDirect

Chemosphere

journal homepage: www.elsevier.com/locate/chemosphere

The micro-, submicron-, and nanoplastic hunt: A review of detection methods for plastic particles

Jessica Caldwell [a], Patricia Taladriz-Blanco [a,b], Roman Lehner [a,c], Andriy Lubskyy [a], Roberto Diego Ortuso [a], Barbara Rothen-Rutishauser [a], Alke Petri-Fink [a,d,*]

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[b] Water Quality Group, International Iberian Nanotechnology Laboratory (INL), A v. Mestre José Veiga s/n, 4715-330, Braga, Portugal
[c] Sail & Explore Association, Kramgasse 18, 3011, Bern, Switzerland
[d] Department of Chemistry, University of Fribourg, Chemin du Musée 9, 1700, Fribourg, Switzerland

Environmental Science Nano

ROYAL SOCIETY OF CHEMISTRY

PAPER

View Article Online
View Journal

Check for updates

Cite this: DOI: 10.1039/d0en00944j

Fluorescent plastic nanoparticles to track their interaction and fate in physiological environments†

Jessica Caldwell, [a] Roman Lehner, [a] Sandor Balog, [a] Christian Rhême,[b] Xin Gao,[b] Dedy Septiadi, [a] Christoph Weder, *[a] Alke Petri-Fink [a] and Barbara Rothen-Rutishauser *[a]

Environmental Science & Technology

Critical Review

Cite This: Environ. Sci. Technol. 2019, 53, 1748−1765

pubs.acs.org/est

Emergence of Nanoplastic in the Environment and Possible Impact on Human Health

Roman Lehner,[†] Christoph Weder,[†] Alke Petri-Fink,[†,‡] and Barbara Rothen-Rutishauser*[,†]

[†]Adolphe Merkle Institute, University of Fribourg, Chemin des Verdiers 4, 1700 Fribourg, Switzerland
[‡]Chemistry Department, University of Fribourg, Chemin du Musée 9, 1700 Fribourg, Switzerland

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Monitoring microplastics of < 200 micron within the Mediterranean Sea

Aim:

We would like to collect (for the very first time) microplastics < 200 µm around and within the Mediterranean Sea.

Objectives:

- To assess the concentration, characteristics and size distribution of smaller sized microplastics (<200µm) in the Mediterranean Sea
- Empowering and activate citizens to take action against plastic litter

Expected results:

- Assessment of the quantity, shape, material type and size distribution of plastics below <200µm
- Contribution to an increasing understanding about the effectiveness of citizen science for participatory research, on citizens' behaviour and knowledge and their relation with the ocean and waters

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Consortium - required partners

Expertise	Country	Role in the project
Micro/Nanoplastic Analytics	All EU	• Sample processing including filtration and digestion • Sample characterisation including microscopy, spectroscopy
Nanoplastic detection	All EU	• Testing of nanoplastic detection in aquatic environments
Scientific vessels	All EU	• Offering scientific vessels to collect water samples

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