Microplastics for Breakfast

The 2nd meeting of Slovenian micro- and nanoplastics researchers:

Connecting science with industry

Book of abstracts and event highlights

MICROPLASTICS FOR BREAKFAST

2026

May 2026

Microplastics for breakfast –
The 2nd meeting of Slovenian micro- and nanoplastics researchers: Connecting science with industry

Book of abstracts and event highlights

This book compiles the abstracts and selected event materials prepared for Microplastics for Breakfast Slovenia 2026 – Connecting Science with Industry, held on 7 May 2026 at the Chamber of Commerce and Industry of Slovenia in Ljubljana. The abstracts and submitted descriptions are reproduced as provided by the authors, with only minor editorial adjustments for consistency, formatting and readability.

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The event was co-organised in cooperation with the Chamber of Commerce and Industry of Slovenia, the RTIT project, and the National Institute of Chemistry, with contributions from the projects REMEDIES, REMEDIES 5.0 and UPSTREAM.

Contact List: A list of participants and contributors, including institutional affiliations and contact information, is included at the end of this book to encourage networking and further collaboration.

Contact for More Information: info@microplasticsforbreakfast.com

C O N T E N T

WELCOME NOTE

Dear colleagues!

Welcome to the abstract book of our *Microplastics for Breakfast 2026* – the 2nd meeting of Slovenian micro- and nanoplastics researchers: connecting science with industry, held on 7 May 2026 at the Chamber of Commerce and Industry of Slovenia.

Three years after the first meeting of Slovenian micro- and nanoplastics researchers, we pushed the bar higher and organised an event that specifically targeted industry and policy representatives, with the aim of connecting them more closely with the research community. We strongly believe that this emerging boundary structure in Slovenia can become one of the first concrete and specific science–policy–industry collaboration templates for addressing micro- and nanoplastics pollution in our environment.

The response confirmed that such a space was needed. The meeting brought together more than 120 researchers, companies, public institutions, policy representatives, NGOs, media and other stakeholders. The private sector was strongly represented, with 29 participants from around 18 companies and private-sector organisations present at the meeting. Through keynote and invited lectures, short pitches, posters, equipment demonstrations and an interactive workshop, the event created a broad overview of current knowledge, capacities, needs and opportunities in Slovenia and the wider region.

Solutions should be sought through collaboration. This is why we build bridges between actors and people who share a strong commitment to excellence, dedication and results in their fields of work. We want to see Slovenia as a healthy and efficient country, with a strong economy, a respected research community and well-connected policy-level organisations.

Microplastics for Breakfast has grown from a networking initiative into a regional platform for dialogue, cooperation and knowledge exchange. This Slovenian meeting placed special emphasis on the connection between science and industry, and on the practical question of how research, regulation, analytical capacities and technological solutions can better support each other.

This book includes the received abstracts, short profiles of participating organisations, selected presentation descriptions, a concise record of the programme and a brief reflection on the interactive workshop. It is intended as a simple working document and a record of the meeting, useful for participants, partners and anyone who wishes to better understand who is active in the Slovenian micro- and nanoplastics community.

We are grateful to all supporters, partners and participants who helped create this space for knowledge exchange and collaboration. We believe that bringing researchers, public institutions, industry and solution providers together is essential for the next steps in environmental protection, and that collaboration is the future of micro- and nanoplastics research and solutions.

Andreja Palatinus
Founder, Microplastics for Breakfast

Gregor Kovač, Director of OMEGA d.o.o. from Slovenia, addressed the participants during the opening session of Microplastics for Breakfast Slovenia 2026 – The 2nd Meeting of Slovenian Micro- and Nanoplastics Researchers: Connecting Science with Industry.

The event was held at the Chamber of Commerce and Industry of Slovenia in Ljubljana, with OMEGA d.o.o. with PerkinElmer as the main sponsor of the gathering.

MEET OUR SPEAKERS

The following pages are intended for the biographies of keynote and invited speakers, workshop facilitators and selected contributors whose presentations made an important contribution to Microplastics for Breakfast Slovenia 2026. Their expertise, dedication and diverse perspectives on micro- and nanoplastics added depth and practical relevance to the discussions throughout the event.

KEYNOTE AND INVITED SPEAKERS

Keynote Speaker

Assoc. Prof. Dr. Gabriela Kalčíková

University of Ljubljana, Faculty of Chemistry and Chemical Technology

Dr Gabriela Kalčíková obtained her master's degree from Brno University of Technology in the Czech Republic and her PhD from the Faculty of Chemistry and Chemical Technology, University of Ljubljana, where she is currently employed as an Associate Professor and researcher. She leads the PLANTERASTICS microplastics research group. Her work focuses on the preparation and characterization of environmentally relevant microplastics, the study of their ageing in the environment, their ecotoxicological effects, and the development of solutions to prevent the release of microplastics into the environment.

She has led several national and international research projects addressing the environmental challenges of microplastics and collaborates with numerous institutions in Slovenia and abroad. In 2024 and 2025, she was listed among the top 2% most cited scientists worldwide according to the Stanford/Elsevier ranking, confirming her international scientific impact. Her work makes an important contribution to understanding microplastic pollution and to bridging the gap between fundamental research and practical environmental solutions.

Dr Gabriela Kalčíková contributed to the event as keynote speaker and fireside chat participant, while her PLANTERASTICS research group presented two additional contributions in the pitching session.

Note: On 24 June 2026, Dr Gabriela Kalčíková was appointed Full Professor at the University of Ljubljana.

ORCID • **Contact:** Linkedin Profile

Invited speaker -
Analytical Technologies for Microplastics Detection

Roberto Ferrero Guerra

PerkinElmer, Inc.

Roberto Ferrero is a Field Application Specialist at PerkinElmer for the Materials Characterization product lines, including FTIR, UV/VIS spectroscopy, thermal analysis and fluorescence. Based in Madrid, Spain, he covers Spain and Eastern Europe. He has more than 20 years of experience at PerkinElmer as a Technical Specialist and Field Application Specialist. His expertise includes applied analytical support across different sectors, with a particular focus on microplastics analysis by FTIR microscopy, pharmaceutical procedures and complex database environments.

At the event, Roberto Ferrero presented PerkinElmer's analytical approaches and FTIR microscopy solutions for microplastics analysis.

Contact: Linkedin Profile

Dr. Helmut Ernstberger

PerkinElmer, Inc.

Helmut Ernsteberger is a Field Application Specialist at PerkinElmer for inorganic product lines, covering Eastern Europe, the CIS region and Israel. Based in Milan, Italy, he has more than 30 years of experience in instrumental analysis, gained in both industry and academia. He joined PerkinElmer as an Application Scientist and moved into his current customer-focused role nine years ago. His work combines strong technical expertise with practical application support for analytical instrumentation across a broad international region.

Helmut Ernsteberger presented the potential and limitations of single-particle ICP-MS (SP-ICP-MS) for microplastics measurements, moving from established approaches for metallic nanoparticles to the specific challenges of analysing organic plastic particles.

Contact: Linkedin Profile

Timon Huybrighs, MSc

PerkinElmer, Inc.

Timon Huybrighs is a Sales Specialist at PerkinElmer for chromatography product lines, covering Eastern Europe, the CIS region and Israel. Based in Córdoba, Spain, he has more than 25 years of experience in instrumental analysis, gained in both industry and academia. He joined PerkinElmer in 2000 as a Product Specialist in Belgium and transitioned to his current role two years ago. His work focuses on chromatography solutions and their application to complex analytical challenges across different sectors.

Timon Huybrighs presented sample introduction techniques for polymer analysis, with a particular focus on pyrolysis-GC/MS for the identification and quantification of microplastics.

Contact: Linkedin Profile

Invited speaker – Funding and European Research Opportunities

Anamarija Lukenda

Ministry of Higher Education, Science and Innovation, Directorate for Science and Innovation, Science Sector

Anamarija Lukenda holds a degree in Political Science and is currently pursuing a Master's degree in Cognitive Science. She works at the Ministry of Higher Education, Science and Innovation as the National Contact Point for the EU Missions and as a national delegate in the Horizon Europe Programme Committee for Cluster 5. Her work focuses on supporting Slovenian stakeholders in European initiatives and developing strategic partnerships, particularly in the fields of climate, energy, mobility, artificial intelligence and quantum technologies. Before joining the Ministry, she worked in youth policy and EU programmes, including Erasmus+, gaining experience in project management and partnership development.

Anamarija Lukenda presented Horizon Europe funding opportunities and the role of EU Missions in addressing societal and environmental challenges, with a focus on interdisciplinary partnerships, cooperation with the private sector and practical guidance for successful project applications.

Contact: Linkedin Profile

Invited speakers - policy and regulation

Janja Kreitmayer McKenzie, MSc

Republic of Slovenia Ministry of the Environment, Climate and Energy / INC Plastic / UNEP Focal Point Global Plastic Treaty negotiations

Janja Kreitmayer McKenzie is an expert in circular economy with extensive experience in international cooperation and the integration of cross-cutting policy areas. Since 2014, she has worked on Slovenia's transition towards a green and circular economy and has represented Slovenia in several working bodies of the European Union, UNECE, the United Nations and OECD. She is a member of the Intergovernmental Negotiating Committee developing a new global agreement to end plastic pollution, where she acts as Slovenia's lead negotiator. She has been following the field of plastics since 2019 and holds a master's degree in urban development from Columbia University in New York.

Janja Kreitmayer McKenzie presented a short policy brief on the Global Plastic Treaty and Slovenia's role in the international negotiation process.

Contact: Linkedin Profile

Dr. Nataša Sovič

Slovenian Environment Agency
Director, Office for the State of the Environment

Dr Nataša Sovič is Director of the Office for the State of the Environment at the Slovenian Environment Agency, where she leads national environmental monitoring programmes for soil, surface water, groundwater and air quality. She began her career at the Institute of Public Health Maribor, working on consumer product testing, waste assessment and water monitoring. In 2016, she obtained her PhD in chemometric methods applied to groundwater, and until 2021 her work focused mainly on national drinking water monitoring and compliance assessment. Since 2025, she has also been involved in monitoring macro- and microlitter in the marine environment.

Dr Nataša Sovič presented the regulatory framework and current state of macro- and microlitter monitoring in Slovenia, with a focus on marine monitoring under the Marine Strategy Framework Directive and future obligations for microplastics monitoring in surface, groundwater and drinking water.

Contact: Urad za stanje okolja

Simona Fajfar

Chemicals Office of the Republic of Slovenia

Simona Fajfar is a university graduate chemist with many years of experience in chemical safety. She graduated in Chemistry from the Faculty of Natural Sciences and Technology, University of Ljubljana, and has worked at the Chemicals Office of the Republic of Slovenia since its establishment. Her work focuses on the implementation of European chemicals legislation, particularly the REACH Regulation, in which she was already involved during its development. She actively cooperates with the European Commission and the European Chemicals Agency (ECHA), contributes to the adoption of legislative proposals complementing REACH, and supports the practical implementation of chemicals legislation, including through the REACH helpdesk.

Simona Fajfar presented the role of the Chemicals Office of the Republic of Slovenia in chemical safety management, with a focus on current regulatory aspects of microplastics under the REACH Regulation and the practical challenges of implementation.

Contact: Urad za kemikalije

Dr. Viviana Golja

National Institute of Public Health

Dr Viviana Golja is a chemist with long-standing experience in consumer product safety, chemical safety and health risk assessment. Since 2013, she has worked as a health researcher at the National Institute of Public Health, contributing to projects related to the safety of food contact materials and materials and chemicals in contact with water. She obtained her Master's degree in Chemistry from the University of Ljubljana and completed her PhD in Nanosciences at the Jožef Stefan International Postgraduate School. She is also a member of the EFSA Scientific Network for Nanotechnologies in Food and Feed.

Dr Viviana Golja presented a public health and chemical safety perspective on micro- and nanoplastics, focusing on potential exposure pathways, particle properties relevant for health effects, and current knowledge gaps in health risk assessment.

Contact: Linkedin Profile

Simona Rataj, MSc

University of Ljubljana Knowledge Transfer Office

Simona Rataj works at the Knowledge Transfer Office of the University of Ljubljana, where she is active in the strategic marketing of intellectual property and the transfer of knowledge and technologies into practice. Her work focuses on connecting researchers and companies, assessing research results, identifying suitable pathways for their further use, and supporting the development of innovation presentations for potential industry partners. Through her work, she helps bridge academic knowledge with the development and business goals of companies and contributes to a collaborative innovation environment.

Simona Rataj presented good practices and common challenges in cooperation between universities and industry, with a focus on knowledge transfer, intellectual property, and building effective research and development partnerships.

Contact: Linkedin Profile

Invited speaker –
Workshop »A menu for Change:
a workshop to co-design solutions
with science and industry«

Dr. João Frias

Atlantic Technological University, Ireland

Dr João Frias is a Senior Researcher and Research Project Manager at the Marine and Freshwater Research Centre, Atlantic Technological University, Ireland. He has worked on marine litter and microplastic pollution since 2008, and on ocean literacy since 2013. His work combines environmental research, social sciences and science communication, with a focus on supporting positive behavioural change. He is the author of more than 40 peer-reviewed scientific publications and has also collaborated with science and art museums to communicate ocean pollution topics to wider audiences.

Dr João Frias led the workshop "A Menu for Change: a workshop to co-design solutions with science and industry", guiding participants in connecting scientific knowledge, industrial perspectives and practical action.

ORCID • **Contact:** Linkedin Profile

Fireside chat

**Connecting Science with Industry:
What Works in Practice and Where It Gets Stuck**

Guests:

Dr. Gabriela Kalčíková,
University of Ljubljana, Faculty of Chemistry and Chemical Technology

Dr. Dušan Materić,
Helmholtz Centre for Environmental Research – UFZ, Germany

Mojca Zupan, PlanetCare, Slovenia

Moderator:
Dr. Ajda Marič, Microplastics for Breakfast

ABSTRACTS (speakers & pitches)

Part 1 : INVITED LECTURES

Microplastics: From Laboratory Research to Sustainable Solutions

Assoc. Prof. Dr. Gabriela Kalčíková
University of Ljubljana, Faculty of Chemistry and Chemical Technology

Gabriela.Kalcikova@fkkt.uni-lj.si

Abstract:

Microplastics have been detected in all environmental matrices, from marine and freshwater systems to soil and air. Research initially focused mainly on their effects on marine animals, but over the past decade it has expanded to different ecosystems, as well as to effects on plants, microorganisms, and the ways in which microplastics change environmental properties. Today, the focus is increasingly on the processes of transport, transformation and interactions of microplastics with environmental factors and organisms. Significant progress has been made in the development of analytical methods for the detection and characterization of microplastics in various complex matrices. Nevertheless, key methodological challenges remain, particularly in the reliable detection of particles smaller than 1 µm.

Nanoplastics, which are extremely difficult to detect and quantify, may pose even greater risks to the environment and human health due to their size and reactivity. In addition to the physical effects of microplastics, increasing attention is being paid to chemicals released from plastics into the environment, as many of them show harmful effects on organisms and humans. The use of biodegradable plastics has emerged as one of the possible solutions; however, these materials often do not fully degrade under natural conditions and may still have negative environmental impacts. Effective management of the problem will require reducing plastic use, improving recycling systems, and developing new materials and additives with lower impacts on the environment and health, while recognizing that plastics cannot be completely abandoned in modern society.

Presentation

Improving FTIR microplastic detection with high-quality visible imaging and reflective filters

Roberto Ferrero Guerra
PerkinElmer

Roberto.Ferrero@perkinelmer.com

Abstract:

The presentation introduced FTIR spectroscopy and infrared microscopy as key analytical techniques for the detection and identification of microplastics in environmental samples. It focused on how high-quality visible imaging and reflective filters can improve microplastic workflows by supporting better particle visualisation, polymer identification and more reliable analysis.

The lecture also addressed practical aspects of FTIR microplastic analysis, including sample preparation, imaging, measurement approaches and interpretation of results.

Presentation

Single Particle ICP-MS and its application to microplastics measurements

Helmut Ernstberger
PerkinElmer

Helmut.Ernstberger@perkinelmer.com

Abstract:

This presentation reviews the role of SP-ICP-MS for microplastics measurements. After setting out the instrumental and experimental parameters of importance for analysis of metallic nanoparticles, the specific requirements and limitations for measurement of organic particles are discussed. Example measurements of microplastics by SP-ICP-MS are presented. A discussion of the challenges to measure various size scales of plastic particles concludes the presentation.

Presentation

Sampling techniques for polymers in GCMS analysis: a microplastics

Timon Huybrighs
Faculty of Chemistry and Chemical Technology
University of Ljubljana, Slovenia

Timon.Huybrighs@perkinelmer.com

Abstract:

When considering the gas chromatography analysis of non-volatile materials such as polymers, the sample introduction technique becomes a critical part for successful analysis. Depending on the goal of the analysis, different sampling techniques can be considered, including headspace for analysis of volatile compounds, thermal desorption for outgassing experiments, hyphenated techniques like TGA-GCMS for the analysis of evolved gases during thermal weight loss, and more. Specifically for the analysis of microplastics, the sample introduction technique of pyrolysis provides a convenient way for both the identification and quantification of various polymer matrices. This is reflected also in the recent release of standardized methods, for example ASTM D8401-24 and ISO 16094-3. This presentation provides an introduction to polymer analysis sample introduction techniques and discusses in more detail the specific analysis of microplastics with Pyrolysis and GCMS.

Presentation

Funding and cooperation: how to build successful projects

Anamarija Lukenda
Ministry of Higher Education, Science and Innovation

anamarija.lukenda@gov.si

Abstract:

The presentation addressed current challenges in funding projects that respond to societal and environmental issues and presented opportunities offered by the Horizon Europe programme, with particular attention to the EU Missions. It highlighted the role of the National Contact Point for EU Missions in supporting Slovenian organisations through information, partner search, cooperation and guidance in the preparation of project proposals.

The contribution presented examples of successful projects based on interdisciplinary cooperation and partnerships between research organisations, companies and the public sector. It also outlined calls and initiatives encouraging cooperation with the private sector and strategic partnerships, and provided practical guidance for preparing successful project applications, building interdisciplinary teams and increasing the long-term impact of projects.

Presentation

Monitoring microplastics in the environment

Dr. Nataša Sovič
Slovenian Environment Agency

natasa.sovic@gov.si

Abstract:

The presentation outlined the regulatory framework for monitoring macro- and microlitter in the Slovenian marine environment under the Marine Strategy Framework Directive and Commission Decision (EU) 2017/848. It presented Slovenia's national implementation framework, the role of the Slovenian Environment Agency and the Institute for Water of the Republic of Slovenia, and the current status of monitoring for criteria D10C1 and D10C2. The contribution also highlighted the availability of marine litter data since 2019, the lack of systematically collected data for rivers, and future obligations for monitoring microplastics in surface waters, groundwater and drinking water under revised EU water legislation.

Presentation

REACH regulation

Simona Fajfar
Chemicals Office of the Republic of Slovenia

simona.fajfar@gov.si

Abstract:

The presentation outlined the role of the Chemicals Office of the Republic of Slovenia in chemical safety management and its position within the broader European regulatory framework. It focused on current legislative developments related to microplastics, particularly in the context of the REACH Regulation (Regulation (EC) No 1907/2006).

The contribution highlighted key requirements for companies and other stakeholders, as well as practical challenges in implementation, including the interpretation of legislation, ensuring compliance and translating regulatory requirements into practice. It also provided a brief insight into future directions and open questions in the regulation of microplastics.

Presentation

Effects of micro- and nanoplastics on human health

Dr. Viviana Golja
National Institute of Public Health

viviana.golja@nijz.si

Abstract:

The presentation addressed micro- and nanoplastics as widespread contaminants in both outdoor and indoor environments, originating from sources such as tyres, road markings, coatings, agricultural plastics, household items, textiles, packaging and food contact materials. It explained how plastic materials wear down during use and continue to degrade after entering the waste stream, creating particles that can enter the human body through food, drinking water and air.
The contribution highlighted the diversity of micro- and nanoplastic particles, including differences in chemical composition, additives, degradation products, size, shape, surface charge and adsorbed substances. It also emphasized that these properties are relevant for potential health effects, while actual health risk depends on exposure. The presentation concluded that current knowledge is still insufficient to reliably assess the health risks of microplastics, and especially nanoplastics.

Presentation

From laboratory to market: no shortcuts, only lessons learned

Simona Rataj, MSc
Knowledge Transfer Office, University of Ljubljana

Simona.Rataj@uni-lj.si

Abstract:

The presentation discussed collaboration between universities and companies as an important mechanism for promoting research, development and innovation, transferring knowledge into practice, and addressing complex societal challenges. It presented examples of both successful and less successful cooperation between academia and industry, based on concrete experience from development and research projects.

The contribution highlighted common points of misalignment between partners, including different time horizons, different understandings of the problem, the maturity level of research results and technologies, and expectations related to intellectual property. It also presented the added value that universities can bring to companies' development projects and provided practical recommendations for establishing more effective, structured and sustainable research and development partnerships.

Presentation

Part 2 : COMMUNITY ABSTRACTS

University of Montenegro / National Institute of Chemistry:

Microplastics in the aquatic ecosystems

TEAM MEMBERS & CONTACTS:

Neda Bošković • University of Montenegro, Cetinjski put b.b. 81000 Podgorica, Montenegro; National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia, *nedaboskovic93@gmail.com*
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Ivan Jerman • National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia, *ivan.jerman@ki.si*
Željko Jaćimović • Faculty of Technology, University of Montenegro, Cetinjski put b.b. 81000 Podgorica, Montenegro, *zeljkoj@ucg.ac.me*
Danijela Joksimović • Institute of Marine Biology, University of Montenegro, Put I Bokeljške brigade 68, Kotor 85330, Montenegro, *danijela.j@ucg.ac.me*

TEAM INTRODUCTION: Our multidisciplinary team focuses on the analysis of microplastics in the environment. The team brings together experts from fields such as environmental science, chemistry, and biology, contributing through field research, laboratory analysis, and data processing. Through collaborative work, we aim to advance scientific knowledge and support environmental protection.

RESEARCH AND EQUIPMENT: the presence of microplastics was analyzed in: sediment, fish and shellfish from the montenegrin coast, sediments of rivers and lakes in montenegro. The following equipment was used: lyophilizer (alpha 2-4 ld plus, christ, hagen, germany), oven (dryscn43), olympus szx16 imaging microscope (with dp-soft software), professional stebd optical microscope, micro fourier-transformer infrared (μ-ftir) spectroscopy (perkin elmer spotlight 200i) with attenuated total reflectance (atr) ftir spectrum, hyperion 3000 ftir microscope with a germanium atr crystal and a mercury cadmium telluride (mct) detector, witec alpha 300 ra confocal raman microscope.

KEY PROJECTS AND RESULTS: Research program of Slovenian Research Agency (P1–0237), PROMIS project by the Ministry of Education, Science, Culture and Sports of Montenegro (No 3173), UNESCO Man and the Biosphere (MAB) program (No. 101, 507712).

COLLABORATIONS AND PUBLICATIONS:

1. **Bošković, N.** et al. (2026) Tributaries as reservoirs and vectors of microplastic pollution within a fluvial network: ecological implications for the Morača river basin. Environmental Geochemistry and Health, 48:198. **https://doi.org/10.1007/s10653-026-03097-9**
2. **Bošković, N.** et al. (2025) Protected natural areas are not protected from plastic pollution and its ecological risks: The case of Tara River in Montenegro, protected by UNESCO. Journal of Environmental Chemical Engineering, 13:117726. **https://doi.org/10.1016/j.jece.2025.117726**
3. **Bošković, N.** et al. (2023) Microplastic pollution in rivers which belong to the Adriatic Sea basin in Montenegro: Impact on pollution of the Montenegrin coastline. Science of the Total Environment, 905: 167206. **https://doi.org/10.1016/j.scitotenv.2023.167206**
4. **Bošković, N.** et al. (2023) Microplastics in mussels from the Boka Kotorska Bay (Adriatic Sea) and impact on human health. Food and Chemical Toxicology, 173: 113641. **https://doi.org/10.1016/j.fct.2023.113641**
5. **Bošković, N.** et al. (2022) Microplastics in fish and sediments from the Montenegrin coast (Adriatic Sea): similarities in accumulation. Science of the Total Environment, 850: 158074. **http://dx.doi.org/10.1016/j.scitotenv.2022.158074**

Geological Survey of Slovenia, Department of Groundwater – Hydrogeology

Development of in-house equipment and standardisation of a protocol for sampling microplastic particles in drinking water and groundwater

TEAM MEMBERS & CONTACTS:

Dr. Nina Mali[1], **dr. Manca Kovač Viršek**[2], **dr. Martin Gaberšek**[1], **Nejc Bizjak**[1], **Elvira Colmenarejo Calero**[1], **Tina Hribljan**[1], **Tinkara Kepic**[1], **Aljaž Ciglar**[1]

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2: National Institute of Biology, Večna pot 121,1000 Ljubljana (*manca.kovac.virsek@nib.si*)

TEAM INTRODUCTION:

Dr. Nina Mali (GeoZS) – leads research and market-oriented projects on microplastics within the Department of Groundwater – Hydrogeology.
Dr. Manca Kovač Viršek (NIB in GeoZS) - an expert in the sampling and analysis of microplastics in environmental samples.
Dr. Martin Gaberšek (GeoZS) – leads the CityDUST project.
Nejc Bizjak (GeoZS) - responsible for the development and technical solutions related to the construction and use of sampling equipment, as well as field sampling of microplastics.
Elvira Colmenarejo Calero (GeoZS) – carries out field sampling, microscopic analysis of microplastics in the laboratory, and develops methods for understanding the transport of microplastics in soil.
Tina Hribljan (GeoZS), **Tinkara Kepic** (GeoZS), **Aljaž Ciglar** (GeoZS) - contribute to field sampling and microplastic analysis.

RESEARCH AND EQUIPMENT: The team specialises in the collection and analysis of microplastic samples in drinking water and groundwater, including boreholes, pumping stations and springs, using in-house equipment. The equipment was developed internally and complies with Commission Delegated Decision (EU) 2024/1441, adopted on 11 March 2024. Microplastic analysis is performed in well-equipped laboratories using FTIR and Raman microscopy, as well as scanning electron microscopy.

PROJECTS AND RESULTS: GWMicroPlast – an ongoing project focused on sampling at 20 locations under two different hydrological conditions. Elvira Colmenarejo Calero's doctoral research - The Occurrence and Transport of Microplastics in Groundwater; includes sampling at 10 locations across Slovenia and is currently ongoing.

Jožef Stefan Institute, Department for Nanostructured Materials:

Microplastic Remediation and Detection Technologies

TEAM MEMBERS & CONTACTS:

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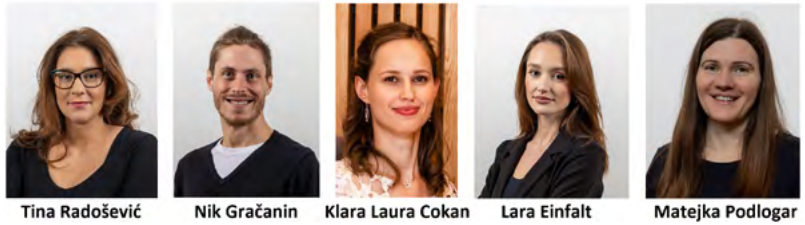

Tina Radošević | Nik Gračanin | Klara Laura Cokan | Lara Einfalt | Matejka Podlogar

TEAM INTRODUCTION: Our team focuses on nanostructured materials for environmental applications, combining synthesis, microscopy-based characterization and functional evaluation. We share expertise in electron microscopy, sample preparation and imaging, structural and chemical analysis, and photocatalysis, with a common goal of linking material structure to performance.

RESEARCH AND EQUIPMENT: Our research addresses micro- and nanoplastics through correlative microscopy and spectroscopy, as well as the development of photocatalytic remediation strategies. SEM, ESEM, TEM and FIB-SEM with EDS/EDXS are used to study morphology, structure and elemental composition from the micro- to nanoscale. Raman spectroscopy and SERS provide chemical identification and nanoscale detection. In parallel, we develop ZnO- and TiO_2-based photocatalysts in powder and film form and use degradation reactors to evaluate their performance.

KEY PROJECTS AND RESULTS: Our team has contributed to micro- and nanoplastic research through selected case studies in complex matrices. We identified fibrous microplastics in giant hailstones and evaluated their spatial distribution within atmospheric ice samples. In biological matrices, microscopy supported the detection and interpretation of polystyrene nanoplastics in tomato tissues by assessing particle morphology, aggregation and sample-preparation-induced changes. We also demonstrated the detection of 100 nm polystyrene particles using SERS-active vertical plasmonic substrates, highlighting their potential for ultra-small nanoplastic identification. In parallel, we have synthesized ZnO- and TiO_2-based semiconductor photocatalysts in powder and immobilized film form and successfully applied them in degradation studies of model organic pollutants, providing a basis for further development of photocatalytic strategies for micro- and nanoplastic remediation.

COLLABORATIONS AND PUBLICATIONS: We collaborate with academic, industrial and public-sector institutions on micro- and nanoplastics research, materials characterization and photocatalytic water-treatment approaches. We offer expertise in correlative microscopy, spectroscopy and photocatalysis, and welcome collaborations involving real environmental samples, complementary analytical methods, applied research and scale-up toward practical remediation solutions.

**Department of Environmental Sciences,
Jožef Stefan Institute:**

Specialists in Micro- and Nanoplastic Detection by Advanced Mass Spectrometry

TEAM MEMBERS & CONTACTS:

Janja Vidmar: *janja.vidmar@ijs.si*
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TEAM INTRODUCTION: The Research group for trace elements speciation at the Department of Environmental Sciences focuses on the development and application of advanced analytical methods for the detection of micro- and nanoplastics (MNPs) in complex environmental and biological samples. The team consists of an asst. prof. dr. Janja Vidmar, a research associate currently coordinating two projects related to MNP research, Dr. Majda Nikezić, a postdoctoral researcher, and Pia Leban, a PhD student.

RESEARCH AND EQUIPMENT: We investigate the occurrence, concentration, and effects of MNPs in environmental systems, with a particular focus on agricultural soils and food chains, by studying their uptake and translocation into different plant species (tomatoes, strawberries, grapevines). For this purpose, we employ advanced mass spectrometry–based analytical approaches, in particular single particle inductively coupled plasma mass spectrometry (spICP-MS), for the quantitative analysis of small microplastics (< 20 µm) and nanoplastics via detection of carbon signals or associated metallic tracers used for particle labelling or present as inorganic additives. This technique provides information on particle number concentration, mass, and size (when particle composition is known). In this context, recently acquired spICP-time-of-flight-MS enables multi-element fingerprinting of individual plastic particles. In addition, pyrolysis GC-MS, to be acquired this year, will provide complementary information on polymer identity and total mass concentration of MNPs, independent of particle size.

KEY PROJECTS AND RESULTS: Within the UPTAKE project (ARIS L7-4422, 2022–2025), we investigated the uptake of metal-doped polystyrene NPs in tomatoes and their effects on elemental uptake, in collaboration with the Department for Nanostructured Materials (JSI) and the Biotechnical Faculty, Department of Agronomy (UL). The highest accumulation of NPs was observed in roots[1], accompanied by reduced uptake and translocation of lead and chromium, as well as changes in the plant's nutritional composition.
In the EU Horizon Twinning project InPlasTwin (2024–2027), we study the uptake and impact of MNPs released from mulching film degradation in strawberries, while strengthening our expertise in sample preparation and advanced methods for the analysis of MNPs through collaboration with leading European institutions, including the Technical University of Denmark, Flemish Institute for Technological Research (Belgium), Institute of Marine Research (Norway), Agricultural University of Athens, and Foodscale Hub (Serbia).
The recently launched project PLASTVINE (ARIS J1-70041, 2026–2029) focuses on the full life cycle of MNPs in grapevines, from their sources to quantitative uptake, using spICP-MS to track intrinsic metal fingerprints, and assessing their effects under realistic environmental conditions. Key collaborators include the University of Nova Gorica (Wine Research Centre) and the National Institute of Biology (Department of Biotechnology and Systems Biology).

[1] **Sahai, H.** et al. (2026) Critical evaluation of enzymatic extraction for quantification of europium-doped polystyrene nanoplastics in tomato tissues by single particle ICP-MS, Ecotoxicology and Environmental Safety, 311. **https://doi.org/10.1016/j.ecoenv.2026.119873**.

PLANTERASTICS:

Understanding microplastic pollution for environmental protection and sustainable solutions

TEAM MEMBERS & CONTACTS:

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TEAM INTRODUCTION: Dr. Gabriela Kalčíková leads the PLANTERASTICS research group and is an expert in microplastics, with particular focus on their ecotoxicity, aging processes, and interactions with other pollutants. Dr. Ula Rozman is a postdoctoral researcher specializing in the behaviour and interactions of microplastics in aquatic environments. Dr. Tina Skalar, a materials scientist, contributes expertise in the characterization of microplastics, while Dr. Gregor Marolt, an analytical chemist, focuses on advanced methods for microplastic analysis. The team is further strengthened by PhD candidate Barbara Klun, who investigates the transport of microplastics through sediments, and researcher Janja Novak, who is responsible for the execution of a range of microplastic-related laboratory activities.

RESEARCH AND EQUIPMENT: Our research focuses on the preparation and characterization of environmentally relevant microplastics, as well as the application of advanced analytical methods for their detection and characterization in freshwater systems. We investigate the aging processes of microplastics in the environment and study their interactions with organisms and co-occurring pollutants. In addition, we are actively engaged in developing strategies for the removal of microplastics from the environment and in designing sustainable solutions to reduce and prevent pollution.

Our laboratory is equipped with state-of-the-art instrumentation, including an FTIR microscope (Bruker LUMOS II FTIR Microscope), field-emission scanning electron microscope (ThermoScientific Apreo 2), laser diffraction analyser (Microtrac S3500 Bluewave), equipment for specific surface area measurement (Micromeritics ASAP 2020), an ultracentrifugal mill (Retsch ZM 300), a ball mill (Retsch CryoMill), and a total organic carbon analyser (Analytik Jena multi N/C 3100), along with a range of equipment used for microplastic research.

KEY PROJECTS AND RESULTS: An overview of all our projects and publications is available on our website: **https://planterastics.fkkt.uni-lj.si/**

Biotechnical Faculty, University of Ljubljana:

Advanced Imaging and Characterization of Microplastics and Next-Generation Materials

TEAM MEMBERS & CONTACTS:

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The Nanobiology and Nanotoxicology Group, Biotechnical Faculty, University of Ljubljana, Ljubljana, Slovenia

TEAM INTRODUCTION: Team introduction: The Nanobiology and Nanotoxicology Group at the Biotechnical Faculty, University of Ljubljana investigates interactions between nano- and advanced materials and biological systems, with emphasis on environmental and health impacts. The team integrates expertise in nanotoxicology and advanced microscopy and is actively involved in European projects and international research infrastructures.

RESEARCH AND EQUIPMENT: The team specializes in sample preparation and imaging of micro- and nanoplastics, both as isolated materials and within biological matrices. Core expertise includes preparation of biological and soft materials for advanced electron microscopy, particularly Focused Ion Beam/Scanning Electron Microscopy (FIB/SEM), enabling high-resolution imaging, internal structure analysis, and 3D reconstruction at micro- and nanoscale.

KEY PROJECTS AND RESULTS: The group coordinates the Horizon Europe project ACCORDs, focused on developing an imaging-based, correlative characterization framework for the safety profiling and sustainable use of advanced materials, bringing together leading European institutions in microscopy and advanced materials analysis. Key outcomes include the development of advanced methodologies for material characterization, nano–bio interaction studies, and safety profiling.

COLLABORATIONS: Coordination of Horizon Europe projects: ACCORDs (*https://accordsproject.com/*), partner in NOVA (*https://nova-project.eu/*), and REPOXYBLE (*https://repoxyble.eu/*); collaboration within SiMBION (*https://www.simbion.si/*) and Euro-BioImaging (*https://www.eurobio-imaging.eu/*) research infrastructures.

PUBLICATIONS:

1. **Michelini, S., Mawas, S., Kurešepi, E., Šimunović, K., Repar, N., Šetina, B., Mandić-Mulec, I., Erman, A., Drobne, D.,** et al. (2025). Pulmonary hazards of nanoplastic particles: A study using polystyrene in in vitro models of the alveolar and bronchial epithelium. Journal of Nanobiotechnology, 23, 388. **https://doi.org/10.1186/s12951-025-03419-6**
2. **Drobne, D., Novak, S., Erman, A., & Dražić, G.** (2019). New opportunities for FIB/SEM EDX in nanomedicine: Cancerogenesis research. In R. A. Fleck & B. M. Humbel (Eds.), Biological field emission scanning electron microscopy (pp. 533–543). Wiley. **https://doi.org/10.1002/9781118663233.ch25**

University of Ljubljana, Faculty of Mechanical Engineering:

Computer Vision for Wear Diagnostics and Microplastic Particle Characterization UL FME – Chair of Design and Transport Systems | LECAD Laboratory

TEAM MEMBERS & CONTACTS:

List the names of team members. For those who consent, include either their professional email, phone or a link to their contact page on the institution's website.

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TEAM INTRODUCTION: Aleš Durjava is 2nd-year PhD student and researcher at LECAD Laboratory, Faculty of Mechanical Engineering, UL, supervised by Assoc. Prof. Dr. Nikola Vukašinović. Attending on behalf of the Faculty as partial employer; Aleš's personal background includes involvement in 3rd-generation family led injection moulding business, bringing an industrial polymer processing perspective to this research community.

RESEARCH AND EQUIPMENT: Research focus is the characterization of solid microparticles generated by wear in polymer composite systems. Core equipment: climate chamber, plastic gear test rig, optical microscope combined with an automated particle segmentation algorithm (capturing ~70% of the microplastic size range at 50x magnification) and a scanning electron microscope (SEM) for sub-micrometer resolution. Key measured parameters include particle size, parameter distributions, circularity, aspect ratio and intensity.

KEY PROJECTS AND RESULTS: Computer vision methodology for wear diagnostics in polymer composite gears (published in Q1 Wear, 2026). Particle morphology (circularity, aspect ratio) was found to correlate with distinct wear stages, while particle size remained largely independent of applied torque. Approximately 80% of worn volume is consistently represented by 10–50 µm microplastic particles. The methodology enables non-destructive, continuous sampling and automated analysis, offering clear advantages over conventional methods such as weight loss measurements and pin-on-disk testing.

COLLABORATIONS AND PUBLICATIONS:

1. **Durjava, A., Mojškerc, B., Bergant, Z., Vukašinović, N.** (2026) 'Image-based monitoring of material emissions for wear characterization of laminated polymer composite gears', Wear, 590, 206563. doi: *https://doi.org/10.1016/j.wear.2026.206563*.

Faculty of Chemical engineering and technology:

Thorough Analytical Approaches to Microplastics Detection and Characterization

TEAM MEMBERS & CONTACTS:

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TEAM INTRODUCTION: We are a team of young researchers with expertise in polymer and materials science, specializing in advanced analytical methods, polymer synthesis, and formulation engineering. Our work includes developing polymers for electrical energy production, fuel and lubricant additives, and extended-release pharmaceutical systems, alongside routine industrial analyses and biodegradation studies. In collaboration with the Faculty of Veterinary Medicine, University of Zagreb, we have identified microplastics in animal tissues. Our team includes Assoc. Prof. Fabio Faraguna (expertise in polymer synthesis, characterization as well as expertise in fuels, lubricants, biodiesel), Assoc. Prof. Dajana Kučić Grgić (expertise in enviromental science, biodegradation, biopolymer synthesis), Rafael Anelić (expertise in polymer synthesis, characterization), and Petra Pongrac (expertise in polymer synthesis, characterization).

The team from the University of Zagreb Faculty of Chemical Engineering and Technology were awarded a Gold Medal at INOVA 2025, recognizing excellence in innovation for the development of advanced drug delivery systems.

RESEARCH AND EQUIPMENT: The team employs a holistic analytical approach to microplastic detection and characterization using complementary instrumental techniques. Optical microscopy (bright-field, dark-field, polarized light) and SEM-EDS are used for morphological and elemental analysis, while FTIR microscopy enables polymer identification. Additional characterization includes particle size distribution (DLS), molar mass distribution (SEC), and thermal properties via DSC and TGA. This multi-technique workflow ensures that microplastics are not only detected but fully characterized in terms of structure, composition, and properties.

KEY PROJECTS AND RESULTS: The team is involved in multiple interdisciplinary projects, including the detection of microplastics in animal tissues, chemical recycling of PET. Additional research includes biodegradable polymer systems for drug delivery (InInject, NPOO.C3.2.R3-I1.04.0126), functional polymer materials (Razvoj potopljenog agregata za male hidroelektrane s niskim padom vode, KK.011.1.02.0017; PAzMiN, KK.01.1.1.07.0015; NanFun), and polymer additives for diesel fuel (FunBioFA, UIP-2019-04-5242). Through these projects, the team contributes to the development of analytical methodologies and provides insight into microplastic behavior, environmental distribution, and potential biological interactions.

(OPTIONAL) COLLABORATIONS AND PUBLICATIONS:

1. **ŠTEKOVIĆ, M.** et al. (2026) Development of a Microwave-Assisted Digestion Procedure for Microplastics Extraction from Different Food Matrices with Subsequent Analysis Using Raman Microspectroscopy. Microplastics, 5, 45. *https://doi.org/10.3390/microplastics5010045*

National Institute of Chemistry
Department of Polymer Chemistry and Technology

From Environment to Laboratory: Extraction and Degradation of Microplastics

TEAM MEMBERS & CONTACTS:

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TEAM INTRODUCTION: The team focuses on environmental degradation and the fate of microplastics, including polymer aging mechanisms, interactions with pollutants, and changes in physical and chemical properties under environmental stressors. The research also covers the extraction and characterization of microplastics from various environmental matrices, including water, sediment, soil, compost etc. In addition, the team's work explores remediation strategies for microplastic pollution, such as magnetic extraction, density-driven separation, and process-based approaches for removing microplastics from environmental and wastewater systems, with strong links to industry-relevant questions.

RESEARCH AND EQUIPMENT:

- Modular photorheometer-dynamic mechanical analyzer (DMA) coupled to infrared (IR) spectroscopy - Anton Paar MCR 702e MultiDrive
- TGA-MS: Thermogravimetric analyzer with mass selective detector (Mettler Toledo)
- NMR (solution and solid state): 300, 600 and 800 MHz (Agilent Technologies)
- DSC: Differential scanning calorimeter DSC 1 (Mettler Toledo)
- SEM and STEM: FE-SEM SUPRA 35 (Oxford Instruments)
- High resolution Transmission Electron Microscope (Jeol)
- Stand-alone FTIR microscope LUMOS (Leica, Bruker)
- FTIR spectrometer Spectrum Two (Perkin Elmer)
- Suntest Xenon arc Weathering chamber (Atlas)
- Optical Microscope (Leica DMS1000)
- Pyr-GC/MS

KEY PROJECTS AND RESULTS:

- Road marking paints and tire wear particles: degradation and concentration in road dust Z1 – 70010
- TETHYS4ADRION Enhancing Cross-Border Cooperation for Riverine Plastic Litter Reduction in the Adriatic and Ionian Seas
- STOPP project Strategies to prevent and reduce plastic packaging pollution from the food system

University of Ljubljana, Faculty of Chemistry and Chemical Technology, Laboratory for Thermal Analysis and Calorimetry:

Thermal Analysis for Comprehensive (Micro)plastics Characterisation

TEAM MEMBERS & CONTACTS

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TEAM INTRODUCTION: The team conducts advanced thermoanalytical research on the thermal decomposition pathways of newly synthesised products, quantitative analysis, thin films, biomass, biocomposites, fire-resistant materials, polymers, (micro)plastics, and the determination of the heat capacity of various materials.

RESEARCH AND EQUIPMENT: Thermoanalysers Mettler Toledo TGA/DSC1 and TGA/DSC3+ enable simultaneous measurement of mass loss and enthalpy over a wide temperature range (25–1600 °C) in controlled atmospheres (Ar, N2, air, O2, He, CO2, Ar/H2, CH4), allowing detailed evaluation of thermal stability and composition. The TGA/DSC3+ is equipped with an ultra-micro balance XP5U, covering a range from 0.17 mg to 5 g with 0.1 µg resolution. Automated sample exchange in both instruments (34 positions) ensures high throughput and reproducibility. Coupling TGA/DSC with MS and FTIR enables evolved gas analysis for reliable polymer identification. The TGA/DSC3+-IST16-GC-MS system allows time-resolved trapping in a heated IST16 interface with 16 loops of 250 µL and detailed identification of volatile degradation products by GC-MS (m/z = 250). The DSC5+ operates from –150 °C to 700 °C and provides high-sensitivity detection of thermal transitions using power compensation and heat flux modes. The system is robotised with a sample chamber (96 samples, 7 references) purged with inert gas to minimise environmental effects. Thermo-optical measurements are conducted with the DSC1 equipped with an Olympus SC30 microscope, while the HP DSC827e is equipped with a PCO Imaging SensiCam CCD camera for the detection of oxidative or light-induced effects, i.e. chemiluminescence.

KEY PROJECTS AND RESULTS: The team develops thermal methods for researching microplastics from recycling systems and environment. It supports the PLANTERASTICS group at UL FKKT.

COLLABORATIONS AND PUBLICATIONS:

1. **Klun, B.** et al. (2025) 'Biofilm formation on polyethylene and polylactic acid microplastics in freshwater: influence of environmental factors', Journal of Environmental Chemical Engineering, vol. 13, Issue 5, p. 1–11. doi: **https://doi.org/10.1016/j.jece.2025.118689**.
2. **Miklasová, M.** et al. (2025) 'Short- and long-term influences of rutile and anatase nanoparticles on soil organic matter structure, ageing and moisture', Journal of Thermal Analysis and Calorimetry, vol. 150, Issue 19, p. 15103–15116. doi: **https://doi.org/10.1007/s10973-025-14741-4**.
3. **Putar, U.** et al. (2021) 'An extensive characterization of various environmentally relevant microplastics - material properties, leaching and ecotoxicity testing', Science of the total environment, vol. 773, p. 1–10. doi: **https://doi.org/10.1016/j.scitotenv.2021.145576**.
4. **Potočnik, M.** et al. (2026) 'In search of the detection limit for PET microplastics using the TGA-IST16-GC-MS measurement system' In: Kalčíková, G (ed.) et al. MICROPLASTICdays: Beyond boundaries in microplastic research: book of abstracts, Ljubljana: Faculty of Chemistry and Chemical Technology, p. 111. **https://microplasticdays.fkkt.uni-lj.si/wp-content/uploads/2026/02/MICROPLASTICdays2026_Book-of-abstracts-1.pdf**.

Slovenian National Building and Civil Engineering Institute (ZAG) Section for Functional Materials:

Researching Microplastics in Construction and the Built Environment

TEAM MEMBERS & CONTACTS

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TEAM INTRODUCTION: Our team combines established expertise and emerging research to address microplastics as an often overlooked but increasingly important environmental challenge in the construction sector. The work covers the formation, transformation, and impacts of microplastics from construction materials, including UV-induced accelerated ageing processes and environmental interactions. Our research focuses on environmentally benign polymer materials and advanced recycling strategies aimed at reducing oil-based microplastics and enabling a circular economy. In parallel, we collaborate with leading Slovenian research institutions and actively promote awareness of microplastics in construction, connecting scientific research with broader societal impact.

RESEARCH AND EQUIPMENT: We investigate microplastic release from construction materials across different life cycle stages through controlled simulations and laboratory experiments. Our work includes the preparation of microplastic samples using a horizontal vibrational mill, accelerated laboratory ageing in specialized chambers, and comprehensive material characterization. A range of advanced analytical techniques, including TG/DTA, DSC, FTIR, SEM, BET, and XRD, is applied to examine physical, chemical, and structural properties, enabling a deeper understanding of microplastic in the built environment.

KEY PROJECTS AND RESULTS: We contribute to national and international collaborative research on the characterization of microplastics and artificial ageing, including changes in material properties induced by UV radiation. Examples of collaborative research include *Impact of environmentally relevant nano- and microplastics on soil invertebrates* (J1-2482) and *Effects of biodegradable microplastics on freshwater and terrestrial organisms* (MicroBIOplast, J1-50014). Alongside this, a doctoral project (Young Researcher funding 59559) focuses on the formation of microplastics from fibre-reinforced cement and their biological impacts.

COLLABORATIONS AND PUBLICATIONS:

1. **Turk, K.** et al. (2025) 'From plastic use in the construction and built environment to state-of-the-art circular economy solutions to combat microplastic pollution', Environmental Sciences Europe, 37. doi: **https://doi.org/10.1186/s12302-025-01228-0**.
2. **Dolar, A.** et al. (2025) 'Microplastics from cigarette filters: comparative effects on selected terrestrial and aquatic invertebrates', Environmental Pollution, 374, p. 126199. doi: **https://doi.org/10.1016/j.envpol.2025.126199**
3. **Mušič, B.** et al. (2023) 'Influence of weathering on the degradation of cellulose acetate microplastics obtained from used cigarette butts', Polymers, 15(12), p. 2751. doi: **https://doi.org/10.3390/polym15122751**

Immobilised ZnO photocatalyst for the degradation of emerging contaminants

TEAM MEMBERS & CONTACTS

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Emerging contaminants, including microplastics and pharmaceutical residues, often persist in treated effluents because they are not completely removed by conventional wastewater treatment technologies [1, 2]. Heterogeneous photocatalysis using zinc oxide (ZnO) represents a promising alternative, particularly when the catalyst is immobilised on a substrate, which enhances its stability and facilitates practical application [2].

In this work, vertically aligned ZnO nanorod arrays were grown directly onto glass substrates using a two-step procedure. First, a ZnO seed layer was deposited by spin coating, which served as a template for the oriented growth of nanorods under low-temperature hydrothermal treatment.

Detailed physicochemical characterisation of the synthesised photocatalyst confirmed the formation of vertically aligned ZnO nanorod arrays and revealed how synthesis conditions affect their properties. A photocatalytic activity test using caffeine as a model contaminant demonstrated high efficiency of the ZnO nanorod arrays under simulated sunlight, achieving near-complete caffeine degradation that was maintained over multiple consecutive cycles. This reusability confirms that ZnO with a controlled defect structure is a viable material for removing emerging contaminants from water. The stability of the ZnO nanorod arrays, their adaptability to further modifications, and suitability for integration into a flow reactor make them attractive building blocks for advanced wastewater treatment systems. Combined with catalyst immobilisation, which removes the need for separation from the treated water, the approach offers the potential use of natural sunlight as the energy source, further improving its environmental sustainability.

REFERENCES:

1. Nishmitha, P. S., et al. (2025) 'Understanding emerging contaminants in water and wastewater: A comprehensive review on detection, impacts, and solutions', Journal of Hazardous Materials Advances, Issue 18, p. 100755. doi: **https://doi.org/10.1016/j.hazadv.2025.100755**.

2. Li, Y., et al. (2025) 'A novel approach for immobilizing Ag/ZnO nanorods on a glass substrate: Application in solar light-driven degradation of micropollutants in water', Water Research, Issue 268, p. 122736. doi: **https://doi.org/10.1016/j.watres.2024.122736**.

National Institute of Chemistry:

BioBased Materials in Skin Care Products

TEAM MEMBERS & CONTACTS

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TEAM INTRODUCTION: Uroš Novak leads the team focused on developing bio-based materials as eco-friendly alternatives to fossil-based plastics, on zero-waste technologies, and on designing circular economy concepts for the food, cosmetics, and biomedical industries. More recently, Ondrej Panák's research activities expanded to bio-based polymers, with a focus on the characterisation and applications of nanocellulose.

RESEARCH AND EQUIPMENT: Various competences rely on research into the characterisation, modification, and implementation of biobased nanomaterials. For their characterisation, the National Institute of Chemistry has analytical and spectroscopic methods (such as NMR, FTIR), imaging methods (SEM, AFM), and surface area characterisation (BET), among others. The materials have been evaluated under the Safe and Sustainable by Design (SSbD) framework, giving the team practical familiarity with its principles. The team also has experience in stakeholder engagement across research, industry, and policy.

KEY PROJECTS AND RESULTS: SSbD4CheM – Safe and Sustainable by Design framework for the next generation of Chemicals and Materials, *https://www.ssbd4chem.eu/*, *nanocellulose is used as an additive balancing safety, sustainability, and product performance.*

REMEDIES – Co-creating smart, cost-effective and innovative REmediation solutions to reduce plastic pathways and microplastics Mitigation from European Seas, *https://remedies-for-ocean.eu/*, *raising awareness through testing the DIY seaweed zero-waste coating method and collecting citizen-generated data.*

Faculty of Environmental Protection:

Microplastics Education and Youth Engagement

TEAM MEMBERS & CONTACTS

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TEAM INTRODUCTION: We are a small interdisciplinary team from the Faculty of Environmental Protection in Velenje, an independent higher education institution focused on environmental sciences. Our team includes a Master's degree holder in Nature Conservation, a PhD in Biochemistry, and a graduate in Journalism. By combining our expertise, we strengthen awareness, scientific literacy, and responsible environmental behavior regarding microplastics among youth. Our main focus is on engaging youth through practical, accessible, and experience-based learning approaches.

Figure 1: Our team at the Faculty of Enviromental Protection

RESEARCH AND EQUIPMENT: Our work is primarily focused on the Micro(µ)School educational program, developed through several Erasmus+ projects. The program addresses microplastic pollution through hands-on workshops, field activities, and digital learning tools. We work closely with schools and educators, adapting content to different age groups across primary, secondary, and tertiary education. Activities are supported by tailored teaching materials and basic field equipment used in workshops and outdoor sessions. We emphasize experiential learning and linking scientific concepts to everyday contexts. While education is our main focus, we also explore approaches to microplastic monitoring in freshwater environments within the Interreg Europe PLASTIX project.

KEY PROJECTS AND RESULTS: We have been involved in several Erasmus+ projects addressing microplastics, the circular economy, and sustainable consumption. In MicPlaPROB, we developed e-courses and educational materials for secondary school students, supported by a creative video competition and broad dissemination activities. GreenGate and GreenGate2 address harmful substances in cosmetics through e-learning and hands-on activities, while EDU4PlastiCircular focuses on plastics in the circular economy. Across these initiatives, we have engaged more than 1,000 youth over the past three years. In the context of applied research, we developed µPlastiTrap I, a portable sampler model for monitoring microplastics in shallow streams in the SAŠA region.

Institute of nutrition (Inštitut za nutricionistiko, NUTRIS):

Expertise in nutrition research and dietary exposure assessment

TEAM MEMBERS & CONTACTS

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TEAM INTRODUCTION: NUTRIS is a Slovenian research institute active in nutrition and public health research. The team brings together expertise in nutritional epidemiology, dietary assessment, food composition data, body composition, biomarkers, and statistical analysis. It conducts national and applied studies in different population groups and develops data resources relevant for food and health research. In the field of microplastics, the team is interested in dietary exposure assessment and interpretation of findings in the context of nutrition and public health.

RESEARCH AND EQUIPMENT: Our team is interested in developing future research on dietary exposure to microplastics through food, particularly by linking analytical data with food consumption patterns and food market data. We can contribute expertise in dietary intake assessment, food databases, exposure assessment design, and interpretation in the context of nutrition and public health. We do not currently have dedicated analytical equipment for microplastic detection and therefore seek collaboration with partners who have laboratory capacity and analytical infrastructure for the quantification and characterization of microplastics in foods.

KEY PROJECTS AND RESULTS: NUTRIS leads and participates in national and applied nutrition research projects focused on food intake, nutritional status, biomarkers, and food market monitoring in Slovenia. Relevant resources include national dietary datasets and the CLAS database on prepacked foods available on the Slovenian market. These capacities provide a strong basis for future work on estimating dietary exposure to microplastics, identifying key food sources, and supporting risk-oriented public health research and collaborative pilot studies.

COLLABORATIONS AND PUBLICATIONS: Leader of National research program Nutrition and Public Health (NUTRIS, NIJZ, University Medical Centre Ljubljana, University of Ljubljana, Biotechnical Faculty, VIST). NUTRIS has extensive experience in national nutrition and public health research relevant to future microplastics exposure assessment through food. This includes the national dietary survey SI.Menu, the NUTRIHEALTH project on nutrition and health risks in adults, and the SI.Health pilot study, which further strengthens national capacity for assessing diet, nutritional status and health indicators. An important resource is also the CLAS database, providing structured data on prepacked foods on the Slovenian market. Together, these projects provide a strong basis for future studies linking food consumption, food market data and dietary exposure assessment.

REFERENCES:

1. **Gregorič M, Hristov H, Blaznik U, Koroušić Seljak B, Delfar N, Pravst I.** Dietary Intakes of Slovenian Adults and Elderly: Design and Results of the National Dietary Study SI.Menu 2017/18. Nutrients. 2022;14(17):3618. Published 2022 Sep 1. doi: **10.3390/nu14173618**
2. **Poličnik R, Hristov H, Lavriša Ž**, et al. Dietary Intake of Adolescents and Alignment with Recommendations for Healthy and Sustainable Diets: Results of the SI.Menu Study. Nutrients. 2024;16(12):1912. Published 2024 Jun 17. doi: **10.3390/nu16121912**
3. **Lavriša, Ž., Hristov, H., Hribar, M., Koroušić Seljak, B., Gregorič, M., Blažnik, U., Zaletel, K., Oblak, A., Osredkar, J., Kušar, A., Žmitek, K., Lainščak, M. and Pravst**, I. (2022) 'Dietary Iron Intake and Biomarkers of Iron Status in Slovenian Population: Results of SI.Menu/Nutrihealth Study', Nutrients, 14(23), 5144. doi: **10.3390/nu14235144**.
4. **Pravst I, Hribar M, Žmitek K, Blažica B, Koroušić Seljak B, Kušar A.** Branded Foods Databases as a Tool to Support Nutrition Research and Monitoring of the Food Supply: Insights From the Slovenian Composition and Labeling Information System. Front Nutr. 2022;8:798576. Published 2022 Jan 4. doi: **10.3389/fnut.2021.798576**

National Laboratory of Health, Environment and Food (NLZOH):

Development of Analytical Capacity for Microplastics Monitoring

REPRESENTATIVE(S) & CONTACTS

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INSTITUTIONAL ROLE / MANDATE: The National Laboratory of Health, Environment and Food (NLZOH) is Slovenia's central public health laboratory, providing expert support in environmental protection, public health, and food safety. In the field of micro- and nanoplastics, our role is to develop, validate, and implement robust analytical approaches for the identification and quantification of microplastics in environmental and other relevant matrices. By integrating analytical expertise, environmental monitoring, and health-related assessments, NLZOH supports regulatory compliance, environmental management, and evidence-based decision-making. In the longer term, our activities will expand towards food matrices and human exposure assessment within a One Health framework.

KEY ACTIVITIES / AREAS OF WORK: NLZOH is developing and implementing analytical methodologies for microplastics analysis in water and environmental samples in line with emerging European legislative requirements. Current capabilities include FTIR spectroscopy for polymer identification, microscopic particle selection and characterization, and the development of sample preparation protocols. Through collaboration between analytical and environmental health experts, we contribute to monitoring activities and methodological advancement. Planned investments in automated analytical systems will further improve throughput, accuracy, standardization, and comparability of results, supporting the transition from method development to validated routine laboratory procedures.

KEY CHALLENGES: The main challenges include the lack of harmonized analytical methodologies, limited availability of certified reference materials, and the need for validated routine methods suitable for regulatory monitoring. Continuous adaptation to evolving legislation and technical requirements requires sustained investment in expertise, infrastructure, and quality assurance. Additional challenges include achieving inter-laboratory comparability, ensuring representative sampling strategies, and translating research-based methods into accredited routine applications that can support long-term monitoring and risk assessment activities.

COLLABORATIONS AND PUBLICATIONS:
NLZOH actively seeks collaboration with research institutions, industry partners, and public authorities to advance the development and implementation of microplastics analytics. We offer accredited laboratory infrastructure, analytical expertise, method development, pilot studies, and support for environmental monitoring programmes. We are interested in joint research and innovation projects, method validation studies, access to representative samples and datasets, and partnerships that facilitate the development of practical, scientifically sound, and regulatory-compliant solutions. Particular opportunities exist in collaborative projects addressing environmental monitoring, food safety, human exposure, and risk assessment of microplastics.

LINKS / REFERENCES:

https://www.nlzoh.si
https://environment.ec.europa.eu/topics/plastics/microplastics_en
https://eur-lex.europa.eu/eli/dir/2020/2184/oj

Ministry for the Environment, Climate and Energy, Slovenian Environment Agency

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INSTITUTIONAL ROLE / MANDATE:
Nataša Sovič PhD: Director of the State of the Environment office Slovenian Environment Agency is a body of the Ministry for the Environment, Climate and Energy.
State of the Environment office provides soil, air and water monitoring including monitoring of litter and micro-litter in the marine environment. It also fulfills or participates in the implementation of the Republic of Slovenia's international obligations and carries out international data exchange on the status and pressures of soil, water and air. As director, I am responsible for fulfilling the tasks of the office. I actively participate in the implementation of litter and micro-litter monitoring in the marine environment.

KEY ACTIVITIES / AREAS OF WORK: The scope of microlitter monitoring is in accordance with MSFD Com Dec: D10C2: micro-litter is monitored in the surface layer of the water column, in the seabed sediment and on the coastline. The contractor was selected based on a public procurement procedure in 2025. As an environment agency, we are committed to collecting and verifying data on waste and micro-litter in waters. We also report environmental data to European institutions.

KEY CHALLENGES: The main challenges are securing funding, defining the methodology and collecting data. In the future, it will be necessary to provide an appropriate information system for collecting data on micro-waste.

COLLABORATIONS AND PUBLICATIONS:
Cooperation between countries in implementing monitoring should be further strengthened. Monitoring must be carried out in a financially sustainable manner while ensuring reliable data. International cooperation can be helpful in this regard, as Slovenia shares the northern Adriatic Sea with other countries.

(OPTIONAL) LINKS / REFERENCES:
https://www.gov.si/teme/nacrt-upravljanje-z-morskim-okoljem/
https://blues.helcom.fi/wp-content/uploads/2023/08/HELCOM-BLUES-A3.2_Main-report-on-microlitter.pdf

Chemicals Office of the Republic of Slovenia

Involved in regulating area of intentionally added microplastics at EU level and implementation of EU regulation 2023/2055 as regards synthetic polymeric microparticles and enforcement of this regulation

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Urad za kemikalije | **Chemicals Office of the Republic of Slovenia**

Ministry of Health- Chemicals Office of the Republic of Slovenia,
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INSTITUTIONAL ROLE / MANDATE: Chemicals Office of the Republic of Slovenia is responsible for implementation of different pieces of chemicals legislation including biocides. It is also a competent authority for the implementation of REACH legislation, and it is involved in adoption of new regulations as part of amendment of Annex XVII REACH. Among them there is also Commission regulation (EU) 2023/2055 of 25 September 2023 as regards synthetic polymer microparticles. Within Chemicals office there is also Chemicals inspection involved among others also in enforcement of was involved in the work of the Committee at European Commission and also in a group which worked on Explanatory Guide. I am responsible for the area of REACH. I am contact point for ECHA

KEY ACTIVITIES / AREAS OF WORK: Currently Chemicals Office is focusing on enforcement activities of this regulation and HelpDesk activities.

KEY CHALLENGES: The main challenges are analytical methods for different matrixes in relation to different products which are in the scope of this regulation.

COLLABORATIONS AND PUBLICATIONS:
We have an interest to find the laboratories for the purpose of checking if products are in compliance with the regulation. We are interested if there are any services for the companies which need to be in compliance with REACH. For example how to make IUCLID 6 dossier for reporting.

National Institute of Public Health:

Keeping track of research and developments related to micro- and nanoplastics

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INSTITUTIONAL ROLE / MANDATE: The National Institute of Public Health monitors emerging environmental factors that may affect human health, including micro- and nanoplastics (MNP). Our activities focus on reviewing scientific evidence related to human exposure and potential health effects of MNP originating from food, drinking water, air and consumer products. The institute contributes to public health protection through scientific evaluation, knowledge dissemination and participation in interdisciplinary discussions related to environmental health risks.

KEY ACTIVITIES / AREAS OF WORK: Our current work focuses on monitoring scientific developments relating to human exposure to MNP and their potential health effects. We review clinical, epidemiological and experimental studies on the occurrence of MNP in human tissues and any possible associations with adverse health outcomes. Attention is given to exposure pathways through food, water and air, as well as to methodological challenges associated with the detection and quantification of MNP in biological samples.

KEY CHALLENGES: Major challenges include the lack of standardised analytical methods for the detection and characterisation of MNP in tissues and environmental samples. Human exposure assessment remains uncertain, making reliable risk assessment impossible. In addition, currently available clinical studies often involve small study populations and insufficient exposure characterisation. The complexity and heterogeneity of MNP particles further complicate the interpretation of toxicological and epidemiological findings.

COLLABORATIONS AND PUBLICATIONS: We are interested in collaboration with research institutions, public health organisations and analytical laboratories working on exposure assessment, analytical methodologies and health impact studies related to MNP. We see strong potential for interdisciplinary cooperation in the development of harmonised methods, exchange of scientific data and support for future epidemiological studies aimed at improving understanding of long-term health effects of MNP exposure.

University of Ljubljana:

Research and knowledge transfer

REPRESENTATIVE(S) & CONTACTS:

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INSTITUTIONAL ROLE / MANDATE: The University of Ljubljana (UL) plays a strategic role in **technology and knowledge** transfer by translating research (also on micro- and nanoplastics) into practical, societal, and economic value. Through its Knowledge Transfer Office and faculty-level initiatives, UL supports intellectual property management, licensing, and spin-off creation, while fostering collaboration with industry, public authorities, and civil society. UL researchers actively contribute scientific evidence, analytical methods, and assessment tools to EU projects, policy processes, and professional training, ensuring that cutting-edge knowledge informs regulation, innovation, and sustainable solutions.

KEY ACTIVITIES / AREAS OF WORK: The Knowledge Transfer Office (KTO) of the University of Ljubljana supports the **transfer of research results into practice** by managing intellectual property, supporting patenting and licensing, and facilitating the creation of spin-offs. It promotes collaboration between researchers, industry, public institutions, and society through contract research, consultancy, and joint projects. The KTO operates within **national legislation, EU frameworks, and the university's IP policy**, ensuring compliance, responsible innovation, and alignment with open science, sustainability, and societal impact principles.

KEY CHALLENGES: The University of Ljubljana faces several challenges in advancing technology and knowledge transfer. These include **limited incentives and time for researchers** to engage in commercialisation alongside academic duties, and **uneven awareness of IP and entrepreneurship** across faculties. Connecting research outputs with market and public-sector needs remains complex, particularly for early-stage or interdisciplinary innovations. Additional challenges involve **fragmented funding for proof-of-concept activities**, regulatory complexity, and ensuring that knowledge transfer aligns with open science, societal responsibility, and public-interest missions.

COLLABORATIONS AND PUBLICATIONS: The University of Ljubljana seeks **long-term, trust-based collaborations** with industry, public authorities, research organisations, and civil society. It is particularly interested in partnerships that enable **co-creation**, applied research, and real-world testing of innovations, from early proof-of-concept to deployment. UL welcomes strategic alliances in EU and international projects, contract research, living labs, and policy-oriented initiatives. Strong emphasis is placed on **interdisciplinary, socially responsible, and sustainability-driven partnerships** that generate mutual value, strengthen innovation ecosystems, and address complex societal and environmental challenges.

Okolys:

Environment and data

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COMPANY INTRODUCTION: Okolys is an environmental consultancy specialising in data management across the European Union. We bridge the gap between raw environmental measurements and the policy decisions that protect Europe's environmental resources, particularly water.

Our multidisciplinary team combines expertise in geography, environmental informatics, GIS, and EU policy frameworks. The experts are involved in the activities and task groups of the EU institutions, national water authorities, and environmental agencies to ensure data-driven decision making.

Based in Slovenia, we operate with data of all EU Member States plus 11 Eionet countries, supporting the implementation of environmental policies on national and local levels.

SOLUTIONS / TECHNOLOGIES / SERVICES: The essence of work is environmental data – throughout their full lifecycle: from data collection and database management to the organisation and transformation of data into structured final products. With its objective to bridge the gap between environmental monitoring on the ground and policy decisions that follow from it, Okolys functions as a specialist technical partner to local, national and international institutions.

With their expertise on the nexus of environmental management and data, our experts have been managing several data sets of the EU on marine litter (including microplastics) and uptaking them to data dashboards, interactive maps, and meaningful statistics.

KEY PROJECTS / APPLICATIONS / CLIENTS: Among a series of environmental data processes and products (e.g., annual European Bathing Water Quality report[1]) designed, developed, or co-managed by Okolys, those related to marine litter aim to support the EU environmental policies in decreasing the pollution and its effects. For the European Environment Agency, our experts have been leading tasks on *Marine data and data products* as well as *Marine Litter Watch*[2,3], and collaborating on the collection of *WISE – State of Water raw monitoring data*[4] on water quality from across Europe.

COLLABORATION INTERESTS / CHALLENGES: Okolys is open to collaboration in projects implementing the established technologies of data collection, quality-control, processing, storage, and publishing; as well as to support research projects from the area of environmental science. For the latter, our experts are experienced in standardising the existing data and filling gaps where data do not exist.

REFERENCES / LINKS:

1. EEA (2025) European bathing water quality in 2024. **https://www.eea.europa.eu/en/analysis/publications/european-bathing-water-quality-in-2024**.
2. Marine Litter Watch 2024 digital report, Marine Water Information System for Europe (WISE Marine). **https://water.europa.eu/marine/resources/other-marine-policies-data-tools/marine-litter-watch**.
3. Šubelj, G., Mira Veiga, J. (2024) 'Marine Litter Watch – Europe's Beach Litter Assessment', European Topic Centre Biodiversity and Ecosystems. **https://www.eionet.europa.eu/etcs/etc-be/products/etc-be-products/marine-litter-watch-2013-europe2019s-beach-litter-assessment**.
4. EEA (2025) Waterbase – Water Quality ICM database. **https://www.eea.europa.eu/en/datahub/datahubitem-view/fbf3717c-cd7b-4785-933a-d0cf510542e1**.

LOTRIČ Certification Ltd.:

Accredited Testing Services for Materials and Products

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COMPANY INTRODUCTION: Company introduction: LOTRIČ Certification Ltd. is an accredited testing organization within the LOTRIČ Metrology Group. The company provides independent testing, analysis and conformity assessment services for materials and products. Its mission is to deliver reliable, traceable and internationally recognized test results that support quality, safety and compliance across manufacturing sectors, particularly automotive, plastics, rubber, metal processing and related industries.

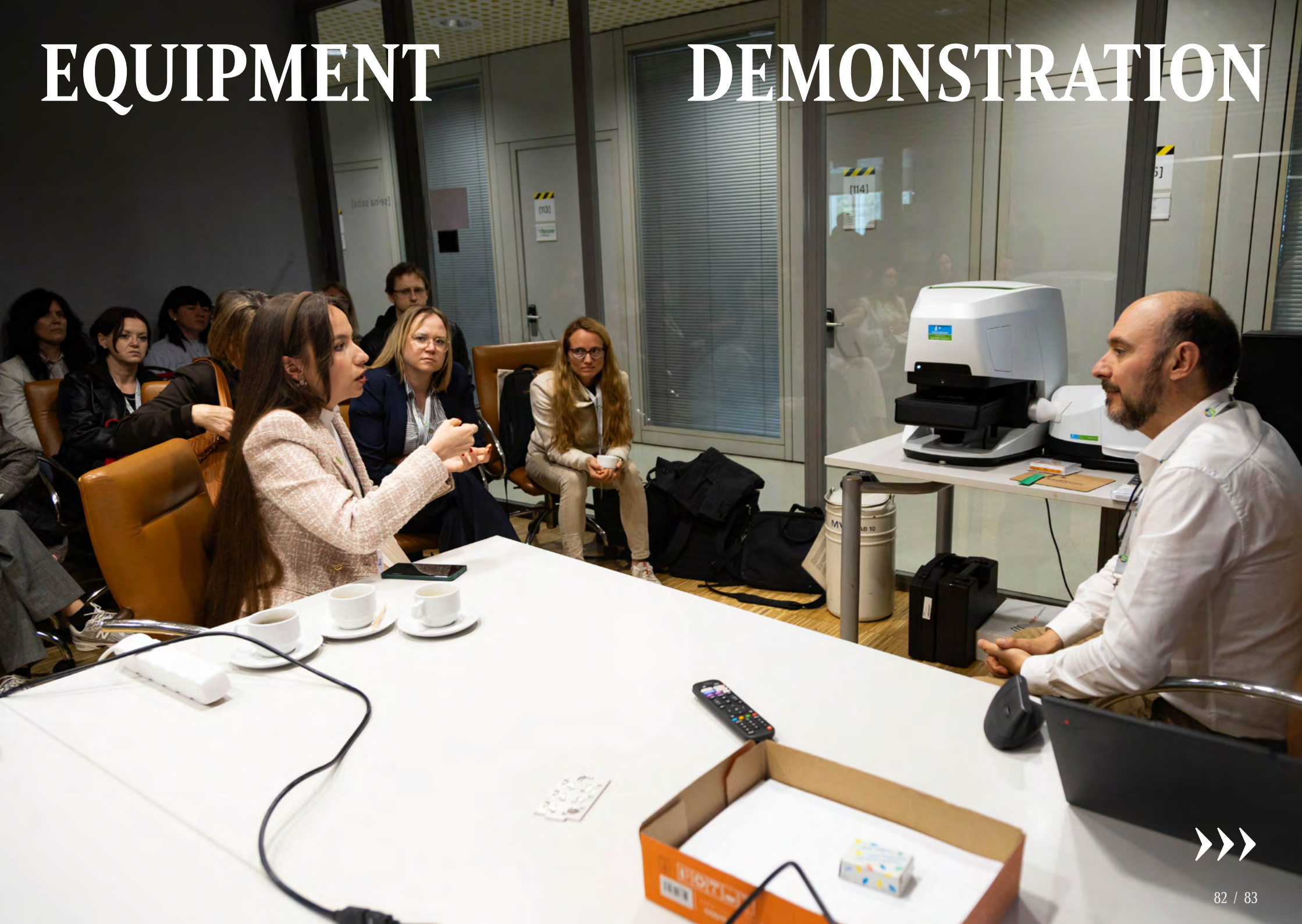
SOLUTIONS / TECHNOLOGIES / SERVICES: Laboratory performs mechanical, chemical and environmental testing of materials and products throughout their life cycle, from raw materials to finished products. Its services include polymer and metal characterization, surface protection testing, technical cleanliness assessments, microscopy, materials analysis and product testing according to customer and industry-specific requirements. Accredited laboratory procedures and advanced testing capabilities help customers validate performance, improve quality and meet demanding market standards.

KEY PROJECTS / APPLICATIONS / CLIENTS: LOTRIČ Certification Ltd supports manufacturers and suppliers in the automotive, plastics, rubber and metal industries. The laboratory conducts testing according to international and customer-specific standards and has been recognized by leading industrial partners. Its testing services are used for product development, qualification, troubleshooting, warranty support and compliance verification. LC's expertise helps customers accelerate innovation while ensuring reliable and documented product performance. In response to evolving market demands, the laboratory is broadening its activities to other fields where its advanced equipment, expertise, and experience can provide valuable support to customers and partners.

COLLABORATION INTERESTS / CHALLENGES: Laboratory is looking for collaboration opportunities with organizations that require microplastics characterization and environmental exposure testing. Using its advanced analytical equipment and testing expertise, the laboratory can support particle identification, material characterization and exposure studies simulating real environmental conditions such as temperature, humidity or other ageing methods. LC welcomes partnerships in research, method development and projects addressing material performance, sustainability and the environmental impact of microplastics.

REFERENCES / LINKS:
https://www.lotric.si/en/service/services/testing/
https://www.lotric.si/en/about-us/our-compaines/lotric-certification/

EQUIPMENT DEMONSTRATION



ADVANCED SPECTROSCOPY FOR POLYMER IDENTIFICATION IN ENVIRONMENTAL SAMPLES

Spotlight Aurora IR Microscope Demonstration

As part of the parallel programme of Microplastics for Breakfast Slovenia 2026, participants had the opportunity to attend a live demonstration of the Spotlight Aurora, PerkinElmer's automated IR microscope designed for advanced visible and infrared microscopy.

The instrument combines high-resolution visible imaging with infrared microscopy, automated sample positioning, autofocus, image correction and automatic switching between transmission and reflection modes. Its improved visible image quality, larger field of view, advanced illumination options and 3D imaging capabilities support efficient inspection and analysis of complex environmental samples.

For microplastics analysis, the Spotlight Aurora software enables routine workflows that provide information on particle identification, particle size, surface area, polymer composition and particle count. The demonstration offered participants practical insight into how advanced spectroscopy and automated IR microscopy can support more reliable and reproducible polymer identification in environmental samples.

PRESENTED BY:

Roberto Ferrero, PerkinElmer
Field application specialist, PerkinElmer
Contact: LinkedIn

OUR SPONSOR AND PARTNERS

GENERAL SPONSOR

OMEGA d.o.o.

Founded in 1989, Omega d.o.o. has been the official representative of PerkinElmer in Slovenia since 1996. For more than 30 years, the company has provided analytical solutions for chemistry, environmental science, pharmacy, molecular biology, forensics and related fields, representing leading manufacturers of analytical equipment, including PerkinElmer, Revvity, Sciex and Thermo Fisher Scientific.

The mission of Omega d.o.o. is to introduce advanced technologies in chemical analysis and molecular biology to the Slovenian market. The company supports customers in selecting suitable technologies, delivering and installing equipment, providing training and application support, and ensuring service, preventive maintenance and validation throughout the lifetime of instruments.

Omega d.o.o. also has the status of a research organisation and is involved in several projects. Its facilities include high-technology equipment such as genetic analysers, Real-Time PCR systems, robotic DNA extraction systems, and UV-Vis and FT-IR spectrometers.

At Microplastics for Breakfast Slovenia 2026, Omega d.o.o. played an important role as the Slovenian representative of PerkinElmer and as a key partner supporting the presentation of advanced analytical technologies for microplastics research. Its contribution helped bring practical insight, expert knowledge and equipment demonstrations closer to the Slovenian research and professional community.

Omega d.o.o. – analytical and laboratory solutions

www.omega.si

omega

PerkinElmer
Science with Purpose

GOLD SPONSOR

CO NOT

Centre of Excellence for Low-Carbon Technologies is a non-profit institute dedicated to supporting the development of advanced technologies and accelerating Slovenia's transition towards a low-carbon society. By connecting knowledge, innovation and strategic development, CO NOT contributes to the creation of solutions that support a more sustainable and resilient future.

At Microplastics for Breakfast Slovenia 2026, CO NOT supported the event as Gold Sponsor and contributed to strengthening the connection between environmental research, technological development and the broader transition towards sustainable solutions.

www.conot.si

SILVER SPONSOR

Infordata Sistemi

Infordata Sistemi is an Italian company with long-standing experience in ICT, automatic identification, access control, digital solutions and customized management systems. Through its work in European projects and technological innovation, the company also contributes to the development of digital and sensor-based solutions supporting environmental monitoring and sustainability.

At Microplastics for Breakfast Slovenia 2026, Infordata Sistemi supported the event as Silver Sponsor and contributed to the broader dialogue on technological solutions, digital tools and innovation in the field of microplastics research and pollution prevention.

www.infordata.pro

CO - ORGANIZERS

Chamber of Commerce and Industry of Slovenia / RTIT project

The Chamber of Commerce and Industry of Slovenia co-organized Microplastics for Breakfast Slovenia 2026 through the RTIT project, implemented within the Interreg Danube Region Programme. Through the involvement of the RTIT project, coordinated at GZS by Žiga Lampe, the event strengthened its connection with the business sector and its role as a platform for knowledge transfer, innovation and cooperation between research and industry.

National Institute of Chemistry / REMEDIES, REMEDIES 5.0 and UPSTREAM projects

The National Institute of Chemistry co-organized Microplastics for Breakfast Slovenia 2026 through the REMEDIES, REMEDIES 5.0 and UPSTREAM projects, led by dr. Uroš Novak. These projects contributed scientific expertise, European project experience and a strong focus on practical solutions for reducing plastic, microplastic and nanoplastic pollution.

MICROPLASTICS FOR BREAKFAST

Our Goal

Microplastics for Breakfast is an Adriatic regional platform dedicated to strengthening collaboration, knowledge exchange and practical action on micro- and nanoplastics pollution. What began as a meeting point for researchers has grown into a space where science, industry, policy, public institutions and civil society can meet, exchange perspectives and work towards solutions.

Our goal is to make scientific knowledge more visible, understandable and useful. We aim to support evidence-based dialogue, address misconceptions, and help bridge the gap between research, regulation and real-world implementation. Through events, workshops, publications and cross-border networking, we connect experts and stakeholders across Slovenia, Croatia, Serbia, Montenegro, Bosnia and Herzegovina and the wider Adriatic region.

As micro- and nanoplastics continue to receive increasing scientific, regulatory and public attention, Microplastics for Breakfast provides a space for asking difficult questions, sharing data and experience, building trust between sectors, and developing future cooperation. Above all, we strive to create a community where people working on this complex challenge can meet, learn, collaborate — and enjoy the process.

Our founder

ANDREJA PALATINUS

Andreja Palatinus is a pioneering microplastics researcher in the Adriatic Sea and an environmental professional with almost two decades of experience in marine litter, microplastics and stakeholder cooperation. After several years in research and project-based work, she moved into leadership, coordination and independent advisory roles, focusing on connecting science with policy, industry and practice.

In 2023, she founded the Slovenian Microplastics Researchers Community and launched the Microplastics for Breakfast initiative, which has since grown into a regional platform for cooperation on micro- and nanoplastics in the Adriatic and Western Balkan region. Through events, workshops, publications and cross-border networking, she works to make scientific knowledge more visible, accessible and useful for real-world action.

Contact: LinkedIn

Palatinus.
POSLOVNO SVETOVANJE
Andreja Palatinus s.p.

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