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Press Release

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Expert interview for analytica 2026

Microplastics detection between claim and reality

- **Imaging and spectroscopy: ideal combination for plastics analysis**
- **analytica conference: microplastics in environmental samples and foodstuffs**
- **From GC-MS to Raman microscopy: all major manufacturers represented in Munich**

Microplastics can now be found everywhere, but detecting the tiny plastic particles is still a challenge. At analytica, which will open its doors in Munich from March 24 to 27, 2026, scientists, equipment manufacturers and users will be looking for solutions together. An interview with Prof. Stephan Wagner, Professor of Environmental Analysis at Fresenius University of Applied Sciences in Idstein and head of an analytica conference session on plastics analysis.

Professor Wagner, how advanced is the analysis of microplastics?
With the right reference materials, it works quite well in drinking water, although low concentrations are definitely a challenge. It's more difficult in wastewater because it contains all kinds of particles, not just plastic. It's even more complicated for soil and air samples. The concentrations in soil are usually lower, while the particles in the air are extremely small. However, air measurements are important, especially if you consider tire wear particles. They can be so small that they are possibly respirable.

What methods are used to detect microplastics?
The number of particles – as well as their shape, size and chemical composition – are easy to determine using optical microscopy in combination with FTIR or Raman spectroscopy. It's then called FTIR or Raman microscopy.

Complementary methods like these, which also include the combination of electron microscopy and X-ray spectroscopy, are becoming increasingly popular. There are also mass-based methods, with pyrolysis GC-MS being the gold standard. The sample is pyrolyzed at high temperatures, the gaseous pyrolysis products are separated by gas chromatography and identified by mass spectrometry. However, there is interference depending on the matrix. This is a common problem with mass-based processes. And with small particles, even if there are many of them, the mass can be so small that the detector does not respond.

Will your analytica conference session highlight the different methods?
Yes, but in the session, we don’t want to just talk about microplastics in environmental samples. Before the material ends up in nature, it may be cheese packaging or a drinks bottle. It’s therefore also about product quality and how microplastics can be controlled and reduced in packaged or industrially processed food in general.

What are your expectations for analytica?
For me, analytica is the leading trade fair par excellence because it brings together people from science, the equipment industry and application. We discuss certain topics in the sessions at the analytica conference and then go over to the exhibition halls where we see the corresponding analysis systems and application notes. Equipment manufacturers also sometimes take part in the discussion in the sessions. This proximity to application and the exchange are important. It’s a great help to us in the research lab when a manufacturer presents a new method or device that can solve our problems.

Thank you for your time.

The session “Challenges and Solutions for Analyzing Plastics Throughout Their Life Cycle – Detecting Plastics Where They Don't Belong”, led by Stephan Wagner, will take place on March 25 from 09:30 to 11:30 in the ICM (Room 3).

Solutions relating to plastics analysis

Modern systems that characterize plastics are indispensable not only in environmental analysis but also in the development of more sustainable materials and in industrial production and quality control. analytica leaves no aspect out and provides information on all facets of plastics analysis. Information on FTIR and Raman microscopy will be available at the stands of attocube, Bruker, Horiba, Jasco, Keyence, Malvern Panalytical, Nikon, Oxford Instruments, PerkinElmer, Renishaw and Thermo Fisher Scientific, among others. Leading manufacturers of optical microscopes, in the shape of Carl Zeiss Microscopy, Evident, Leica Microsystems and Nikon, and high-tech suppliers from the electron microscopy segment, namely Thermo Fisher Scientific, Jeol and Hitachi, will be there. Equipment for pyrolysis GC-MS can be found in the portfolios of analytica exhibitors such as Agilent, Gerstel, Shimadzu, SIM and Thermo Fisher Scientific.

Please find this press release including pictures to download at analytica.de/en/munich/press/press-releases/

About analytica

analytica is the world's leading trade fair for the laboratory technology, analysis and biotechnology industries and their users in research and business. The trade fair will be complemented by the analytica conference, where the international scientific elite meet for discussion of current topics in chemistry, biochemistry and laboratory medicine. Since 1968, analytica has been held biannually in Munich. The next event will take place from March 24–27, 2026.

analytica worldwide

Messe München is the world's leading trade fair organizer for laboratory technology, analysis and biotechnology: The analytica network comprises – in addition to the world's leading trade fair analytica – analytica China, analytica Anacon India with India Lab Expo, analytica Vietnam, analytica Lab Africa and analytica USA.

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