Special Issue

State of the Art and Challenges in the Analysis of Volatile Organic Compounds

Message from the Guest Editors

The analysis of Volatile Organic Compounds (VOCs) is pivotal in numerous fields. Without claiming to be exhaustive, we can mention perfumery and cosmetics, air quality control, odour assessment, volatolomics, renewable energy with biogazes or non-fossile fuels, food quality, and non-invasive medical diagnostics. Key techniques include one-dimensional (GC) and two-dimensional gas chromatography (GCxGC), often coupled with mass spectrometry (MS). Sampling and injection methods are critical for accurate VOC analysis. Liquid injection, headspace techniques, and solid-phase micro-extraction (SPME) and its variants are commonly employed to capture these compounds. High-resolution mass spectrometry (HRMS) offers additionnal insights in identifying and quantifying VOCs. The data analysis and visualisation of results for complex sets are integral parts of VOC analysis, where chemometric tools are used to process and interpret the complex data generated. These tools facilitate pattern recognition and component identification, leading to the improved discimination of complex samples and the potential indentification of specific markers.

Guest Editors

Prof. Dr. Jérôme Vial

Unité Mixte de Recherche Chimie Biologie Innovation (UMR CBI), Laboratoire des Sciences Analytiques, Bioanalytiques et Miniaturisation, Ecole Supérieure de Physique et de Chimie Industrielle de la ville de Paris (ESPCI Paris), PSL Research University, 10 rue Vauquelin, 75005 Paris, France

Dr. Sylvain Antoniotti

CNRS, Institut de Chimie de Nice, Université Cote d'Azur. Parc Valrose, 06108 Nice CEDEX 2, France

Deadline for manuscript submissions

10 November 2025

Separations

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 4.5

mdpi.com/si/233250

Separations
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
separations@mdpi.com

mdpi.com/journal/separations

Separations

an Open Access Journal by MDPI

Impact Factor 2.7
CiteScore 4.5

mdpi.com/journal/separations

MDPI

About the Journal

Message from the Editor-in-Chief

Separations offers the scientific community a high-quality, open-access journal option with rapid time-to-publication without any sacrifice of a rigorous peer-review process. We invite contributions ranging from fundamental characterization and instrumentation development through application of techniques to shed light on a broad spectrum of separation science needs. Since inception, *Separations*, has become unique in its combination of rapid publication and thorough scientific content. We invite you to consider us for your next contribution.

Editor-in-Chief

Prof. Dr. Frank L. Dorman
Department of Chemistry, Dartmouth College, Hanover, NH 03755, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, and other databases.

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.3 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).

Recognition of Reviewers:

reviewers who provide timely, thorough peer-review reports receive vouchers entitling them to a discount on the APC of their next publication in any MDPI journal, in appreciation of the work done.