



ESCCA NEWSLETTER

April 2026

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Present and future of Measurable Residual Disease (MRD) assessment by Flow Cytometry

The value of flow cytometry to evaluate treatment response on hematologic malignancies has been well established for several decades now. Nonetheless, we have all witnessed the extraordinary progress that MRD detection by flow cytometry has observed in the more recent years, driven by the increased knowledge of targeted diseases and technological advances in the field. Notably, this progress has not happened spontaneously; it is the consequence of the sustained commitment of many colleagues who have worked tirelessly to refine methodologies, standardize/harmonize approaches, and push the discipline forward. Their contributions are positioning flow cytometry exactly where it deserves to be: at the centre of informed, timely, and precise patient management.

Recent international efforts have, once again, highlighted the essential role that flow-MRD cytometry plays in modern clinical decision-making. The freshly-published work by the ELN-DAVID Working Party, brings much-needed clarity to how flow-MRD should be valued across different clinical situations on AML patients. We have a clear and helpful summary in this Newsletter by one of its authors from the Belgian Society for Advancement of Cytometry (BSAC). These kinds of initiatives emphasize a critical point: the powerful contribution of flow-MRD when interpreted within its specific clinical context. In diseases like AML, the heterogeneity of presentation, treatment pathways, and biological behaviour mean that MRD results are not a single, uniform marker but part of a more nuanced framework. This remarkable work highlights the context-driven value, guiding clinicians on when MRD is most informative, how it should influence decisions, and what level of confidence can be placed in the result depending on timing and disease characteristics.

In contrast, in other scenarios, MRD by flow has already achieved a broader and more universal clinical role. In BCP-ALL, CLL or multiple myeloma, where different approaches are established, flow-MRD is routinely used across essentially all treated patients, used and understood as a more independent biomarker.

Irrespective of the approach used, the trend is clear Flow-MRD is progressively becoming more sensitive, reproducible and, therefore more reliable, to function as a high-value prognostic marker.

Thus, across all these scenarios, the message is consistent: MRD by flow cytometry plays a critical role for clinical decision-making. It informs therapy adaptation, identifies early signs of treatment failure, guides transplant decisions, and enables timely intervention before overt relapse appears. Its role goes from a complementary value to a solid alternative to other available methodologies.

At this point, we must ask ourselves what remains to be done. Among other thoughts, the answer points toward reducing dependence on user expertise. Expertise will not be replaced, expert judgement will always hold value, but the next major step for our field involves moving towards approaches that are less reliant on subjective interpretation. Automated analytical tools, AI-supported workflows represent a natural evolution and are already undergoing, making MRD assessment more accessible across centres and countries. allowing high-quality Flow-MRD assessment to become a universal reality rather than a local privilege.

The future of MRD assessment is full of promise, and it is being shaped by the collective work of our community. I invite you all to remain engaged, contribute your expertise, and be part of this ongoing transformation.

A handwritten signature in black ink, appearing to read 'Juan Flores-Montero', with a stylized flourish at the end.

Juan Flores-Montero, ESCCA President



Programme

The programme planning for ESCCA 2026 has been completed. The speakers have been added to the 'Programme at a glance' which can be downloaded from the [Conference website](https://www.escca.eu/escca2026). The online day-by-day programme will be available by the end of April.

On Wednesday morning 9 September, five pre-conference workshops will be organised:

1. Practical AML MRD Pediatric vs Adult Approaches
2. Good laboratory practices in a flow cytometry lab, do's and don'ts
3. CAR-T cell monitoring, why and how
4. Spectral Flow cytometry, design of 50+ markers
5. Flow diagnosis of Innate errors of immunity

The number of places is limited, so don't forget to register as soon as you can; the workshops are always fully booked in no-time. Registration opens on 1 May.

The Conference will start at 14:00 on the same day with the first keynote lecture, *Flow cytometry in evidence-based and personalized medicine*, delivered by Michael Dworzak. The programme features eight parallel sessions alongside three joint sessions. The ESCCA/ICCS and ESCCA/Austrian Cytometry Society sessions will focus on MRD detection in AML and novel tools for flow MRD, while the ESCCA/ESID session will address PID and CVID.

The conference will also include three plenary interactive case presentations in both Haematology and Immunology. Following the positive feedback received after last year's conference, a third interactive case presentation session has been added. A second keynote lecture, *Immunotherapies in pediatric ALL*, will be delivered by Barbara Buldini on Saturday, 12 September. Selected best abstracts will be presented during two dedicated sessions. Posters may be viewed during the breaks, alongside the exhibition stands in the hall.

Call for abstracts

The Scientific Committee welcomes the submission of abstracts for original research papers for oral or poster presentation. The 8 best oral abstracts will be selected for presentation in two plenary Best Oral Abstract Presentations session. One of the presenters of the selected best abstracts sessions will be eligible for the **ESCCA Best Oral Abstract Presentation Award**, whilst the **ESCCA Best Poster Award** will be selected from the posters on display. The winners will be entitled to a free registration for the 2027 ESCCA Conference.

[Abstract submission](#) will already open on 1 May. **Make sure to submit your abstract before the deadline of 15 June!** Only on-time abstracts will be considered for oral presentation.

Social programme

The **Welcome Reception** will be held on Wednesday afternoon in the Exhibition area. It will be the perfect opportunity to renew old friendships, build new ones and meet with the exhibitors, while enjoying some local delicacies.

On Thursday evening 10 September **the Mayor of the City of Salzburg and the Governor of the Province** will offer ESCCA participants a **Chamber Concert** in the Mirabell Palace, located at 3 minutes walking distance from the congress centre. The concert will take place in the baroque [Marble Hall](#), which is considered one of the most beautiful and historically significant concert halls in Salzburg and the world. Once upon a time, the Mozart family made music here for the archbishops of Salzburg.

For more information (times, programme, dress code etc.), please see the [social programme page](#). You can reserve your place via the online conference registration form (*limited capacity – places will be confirmed on a first come, first served basis!*).



The **Conference Dinner** will take place in St. Peter Stiftskulinarium, Europe's oldest restaurant, on Friday 11 September. It is situated in the heart of Salzburg old town, in the monastery complex of the Benedictine archabbey of St. Peter. In the year 803, the St. Peter "abbey cellar" was mentioned in the records for the first time by Alcuin of York, a courtier of Charlemagne. [Read more](#) about it's fascinating history.

How to get to Salzburg?

Salzburg W. A. Mozart Airport is the second-largest airport in Austria and served by several different airlines. From the rest of Europe, direct daily flights to Salzburg are available from Düsseldorf, Hamburg, Frankfurt, Istanbul, Palma de Mallorca and London Gatwick. From Amsterdam, Transavia services Salzburg but only 3 times per week.

If you cannot find a direct flight, the best way would be a direct high speed train from Vienna. This train stops in the airport and provides a comfortable ride to Salzburg, with light and spacious carriages with cushy seats, generous luggage space and big panoramic windows. The ride takes about 3 hours and there are up to 27 daily departures, and is much more comfortable and not that much longer than taking the train from Munich. Please see the [Travel page](#) for more information.

Hotel rooms

Room blocks in [several hotels](#) have been arranged, but we only managed to get a small number of rooms. You are advised to reserve your room as soon as possible! Salzburg is a highly popular tourist destination.

Key dates

1 May 2026	Opening of registration and abstract submission
15 June 2026	Deadline for abstract submission
Before 10 July 2026	Notifications of acceptance
20 July 2026	Deadline early registration fee
25 August 2026	Deadline regular registration fee
9-12 September 2026	ESCCA 2026

Call for Volunteers

We are looking for enthusiastic and dedicated volunteers to assist the organisers during the Conference. Volunteering is a great way to meet new people, get connected and network. The tasks are, among others, assisting in the meeting rooms (badge control, handing over the discussion microphones) and in the poster area (help presenters finding their poster board on the first day) and crowd flow (giving directions and information to the participants). Volunteers receive a free registration. Interested? Please contact the conference organiser, Babette Schmidt, b.schmidt@yourconferencesupport.com.

ESCCA 2026 main sponsors

ESCCA would like to express their gratitude for the below main sponsors for their support.

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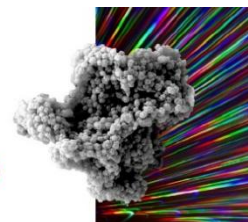
Stay up to date with the recent advancements in MRD research and discover our growing portfolio of molecular and cellular flow cytometry based kits.

In AML MRD research, time is critical—and so is sensitivity.

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We look forward to meeting you in beautiful Salzburg.

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You may notice that the BD logo is not included among the primary ESCCA sponsors this year, as in previous editions. This reflects our ongoing transition related to the integration with Waters. Our participation remains fully active and engaged — we will be present under the Waters Biosciences identity.

Waters Completes Combination with BD's Biosciences & Diagnostic Solutions Businesses, February 9, 2026

MILFORD, Mass., Feb. 9, 2026 /PRNewswire/ -- Waters Corporation (NYSE: WAT) ("Waters") today announced it has completed the previously announced combination with the Biosciences & Diagnostic Solutions businesses of Becton, Dickinson and Company (NYSE: BDX) ("BD"). The transaction forms a global life sciences and diagnostics leader, equipped with best-in-class technologies, and an industry-leading financial outlook.

"Our combination with BD's Biosciences and Diagnostic Solutions businesses marks a pivotal moment for Waters, bringing together world-class scientific expertise across chemistry, physics, and biology, with rich histories of innovation," said Udit Batra, Ph.D., President and Chief Executive Officer, Waters. *"As we enter this next chapter, our focus is clear: address our customers' unmet needs, deliver long-term value for our shareholders, and provide solutions that advance global health. Through our category-defining products and shared culture of innovation, I am confident that together we will accelerate the benefits of pioneering science."*

With the transaction now closed, Waters has established four divisions that reflect the Company's continued focus on high-volume testing in regulated applications and its decisive expansion into high-growth adjacent markets. The divisions bring together leading scientific teams to support the development and manufacturing of large and small molecule therapeutics and food and environmental testing, and to advance specialty diagnostics in attractive molecular, microbiology, and multiplex applications.

Read more: [Waters Completes Combination with BD's Biosciences & Diagnostic Solutions Businesses - Waters](#)

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V-ESCCA was started in 2024 under the umbrella of ESCCA. Its mission is to facilitate the use of cytometry for the analysis of extracellular vesicles (EVs) across the broad community of ESCCA members, affiliated societies and beyond. The aim is to establish protocols to help users understand the capacities and limitations of their existing platforms so that they can meaningfully use nano cytometry for EVs in a clinical context.

The V-ESCCA group is collaborating with other EV societies and working to complement existing activities with a clinical focus. There is no competition with existing societies and working groups. Membership of V-ESCCA is currently free.

For more information about the group, and links to other societies and groups of interest, relevant journals and publications, educational resources etc., visit <https://escca.eu/education/v-escca>

Contribution from the BSAC - Belgian Society for Advancement of Cytometry

Brief report on the 2025 update on MRD in AML: the must-knows for flows

Barbara Depreter^{1,2}

¹Department of Laboratory Medicine, AZ Delta General Hospital, Roeselare, Belgium

²Department of Biomedical Sciences, Vrije Universiteit Brussel (VUB), Brussels, Belgium.

Over the past years, measurable residual disease (MRD) assessment has evolved into an indispensable cornerstone in the management of acute leukemia and multiple myeloma. In acute myeloid leukemia (AML), MRD following morphological remission has emerged as the most important post-therapeutic prognostic factor, with a clear association between MRD positivity and an increased risk of relapse and mortality. The international consensus document of the ELN–DAVID MRD Working Party proposes a coordinated MRD-based clinical framework for AML across genetic subgroups, and was published online on the 15th of December 2025 (1).

The 2025 guidelines on MRD in AML provide a comprehensive update of the 2021 guidelines (2) and aligns MRD assessment explicitly with the ELN 2022 genetic risk classification (3), moving beyond methodological standardisation and provides actionable guidance for daily practice and diverse treatment contexts. This includes detailed technical specifications for multicolour flowcytometry

(MFC), quantitative PCR (qPCR) and ultra-high sensitive next-generation sequencing (UHS-NGS) while emphasising on harmonisation. A total of 15 recommendations have been formulated on MFC-MRD. MRD detection can be performed by MFC, regardless of the ELN 2022 risk stratification. Bone marrow (BM) remains the sample matrix of choice. Clinicians may only rely on MFC-MRD if resulting from state-of-the-art MRD analysis as described for example in the technical publication by Tettero et al. (4), and if interpreted by an experienced flow analyst. The 2025 update provides a selection on the most appropriate markers, preferably 10 - 16 colours, for conducting MFC-MRD. Patients should be monitored using the leukemia-associated immunophenotype (LAIP) and the different-from-normal (DfN) approach, which allows tracking of diagnostic and emergent leukemic cell populations (5, 6). MFC-MRD results should be reported as the percentage of LAIP/DfN positive cells divided by all white blood cells (WBC). Knowledge of the (ab)normal immunophenotypic expression patterns is pivotal. Aberrant phenotypic expressions on myeloid progenitor cells can be observed during treatment and regenerating haematopoiesis or in low risk MDS and clonal haematopoiesis of indeterminate potential (CHIP) (7). Such non-disease specific, disturbed maturation profiles are at risk for being confused with genuine leukemic events and could lead false-positive MRD conclusions.

Automated analysis is less affected by expert-dependent subjective gating but has not yet been established in routine practice. In contrast to the 2021 guidelines, a minimal detection limit (LOD) of 10^{-4} is now required to support negative MRD. Standardised reporting of the MRD results is pivotal for unambiguous interpretation; supplemental Table S2 of the 2025 update provides guidance to MFC-MRD performing laboratories. A key innovation of the 2025 update is that MFC-MRD reporting should consist out of a three-tiered answer: the MRD% (sum of LAIP and DfN events/WBC events), the MRD burden and a qualitative MRD response.

The MRD burden is a newly introduced categoric variable based on the MRD% quantitative result and categorizes MFC-MRD as negative (MRD% $<0.01\%$ or $<LOD$), low-level positive (MRD-LL, MRD% $\geq 0.01\%$ to $<0.1\%$ AND $>LOD$) or positive ($\geq 0.1\%$). In the ELN 2021 document, the category MRD-LL was only applicable for NPM1-mutated (mutNPM1) AML with molecular MRD detectable at low level in PB and/or BM, defined as qPCR cDNA $<2\%$ or UHS-NGS gDNA $<0.1\%$. This MRD-LL category has been more broadly introduced in the 2025 update and is now also applicable in MFC-MRD monitored AML patients. Although it is assumed that lowering the threshold for reporting (low-level) MRD positivity leads to a more early intervention and hence improved outcome relative to waiting for overt relapse, the MRD-LL category has some reservations. First, in-depth tacit knowledge of the 2025 update is required to convey its clinical relevance, as this MRD burden may hold a different qualitative MRD response depending on the sampling timepoint. Second, there are situations in which the observed MRD-LL burden is not disease-specific and therefore false-positive. DfN-type maturation abnormalities,

such as loss of CD33 and upregulation of CD15, CD11b and CD22 (5), may also be observed in regenerating BM or in the setting of underlying CHIP/MDS, and are therefore not AML-related. Ongoing and future studies are expected to further clarify the clinical significance of MRD-LL levels as well as its feasibility in routine practice.

The qualitative MRD response allows interpreting results contextually rather than as binary positive/negative outcomes. An "optimal" response indicates low relapse risk both during and after therapy, allowing patients to continue planned therapy according to their ELN risk group. A "warning" response is often compatible with MRD-LL burden. However, at early timepoints, more frank positive MRD results can also be compatible with "warning" as there is still time to obtain sufficient disease eradication. During follow-up, a "warning" result prompts closer monitoring with repeat testing every four weeks, as kinetics mirrors relapse risk. Responses in the "high risk of treatment failure" category during therapy or "MRD relapse" during follow-up trigger urgent intervention, such as early chemotherapy intensification, pre-emptive anti-leukemic therapy, or prioritisation of allogeneic haematopoietic cell transplantation (alloHCT). Based on new evidence, MFC-MRD assessment is now recommended only during the first year of follow-up. "MRD relapse" is defined by the conversion from undetectable to detectable MRD combined with a MRD% $\geq 0.1\%$. MRD relapse, after achieving prior MRD- CR or CR-MRD-LL, should be promptly (≤ 4 weeks) confirmed by a second consecutive BM sample unless cases with a high diagnostic LAIP/DfN certainty. Repeat sampling within 2–4 weeks is also advised when immunophenotypic abnormalities are observed that may represent transient features of regenerating or "stressed" haematopoiesis.

In summary, well-validated cut-offs, together with the newly introduced MRD burden and qualitative MRD response, are proposed to standardize MFC-MRD reporting. The 2025 update on MRD in AML underscores the level of expertise required from the flow analyst to ensure accurate MRD interpretation. Full publication is online available at <https://doi.org/10.1182/blood.2025031480>. An clinical guide app has been developed with free access: ELN 2025 AML MRD Guidelines App.

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4. Tettero JM, Freeman S, Buecklein V, Venditti A, Maurillo L, Kern W, et al. Technical Aspects of Flow Cytometry-based Measurable Residual Disease Quantification in Acute Myeloid Leukemia: Experience of the European LeukemiaNet MRD Working Party. *HemaSphere*. 2022;6(1):e676.
5. Ngai LL, Hanekamp D, Kelder A, et al. The Laip-Based-Dfn Approach Is Superior in Terms of Useful MRD Results As Compared to the Laip Approach after Cycle II in Acute Myeloid Leukemia. *Blood*. 2023;142(Supplement 1):1572–1572.
6. Wood BL. Acute Myeloid Leukemia Minimal Residual Disease Detection: The Difference from Normal Approach. *Current protocols in cytometry / editorial board, J Paul Robinson, managing editor [et al]*. 2020;93(1):e73.
7. Kern W, Westers TM, Bellos F, Bene MC, Bettelheim P, Brodersen LE, et al. Multicenter prospective evaluation of diagnostic potential of flow cytometric aberrancies in myelodysplastic syndromes by the ELN iMDS flow working group. *Cytometry Part B, Clinical cytometry*. 2023;104(1):51-65.

Meeting calendar

9 April 2026	ISCCA in ESCCA - webinar
9-12 September 2026	ESCCA 2026 Conference, Salzburg, Austria
27 September-1 October 2026	Mediterranean school of flow cytometry for immunology, Rhodes Island, Greece
19-22 October 2026	XIII. Virtual Prague School On Flow Cytometry
25-27 November 2026	1st Mediterranean Meeting on Flow Cytometry, Granada, Spain
8-11 September 2027	ESCCA 2027 Conference

More details at <https://www.escca.eu/meetings>

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