ESH EUROPEAN SCHOOL OF HAEMATOLOGY

1st Scientific Workshop
How data science and AI transform research and care in haematology
September 17-19, 2026 – Malahide (Dublin), Ireland
Chairs: Claudia Haferlach, Franziska Michor, Kimmo Porkka, Thorsten Zenz

Thursday, September 17, 2026

14:30-14:40	**Welcome**	Conference chairpersons

SESSION I – The role of AI in haematology
Chairs: Claudia Haferlach (Munich), Franziska Michor (Boston)

14:40-15:00	The evolution of AI: from historical roots to modern days	Silvana Quaglini (Pavia)
15:00-15:05	*Discussion*	
15:05-15:25	Applications of AI in haematology and the roadblocks to routine use	Carsten Utoft Niemann (Copenhagen)
15:25-15:30	*Discussion*	
15:30-15:50	The future of AI in medicine: emerging trends “Machine learning or AI”	Franziska Michor (Boston)
15:50-15:55	*Discussion*	
15:55-16:05	Selected brief oral communication Locally-hosted large language models for drafting targeted NGS diagnostic reports in haematological malignancies: a feasibility study	Alex Wong (Sydney)
16:05-16:10	*Discussion*	
16:10-16:40	*Panel discussion*	
16:40-17:10	***Coffee Break***	

SESSION II – Modern statistics and AI methods in haematology
Chairs: Wolfgang Huber (Heidelberg), Thorsten Zenz (Zurich)

17:10-17:30	Latent factor models, virtual cells, and quantitative molecular geometry of tissues	Wolfgang Huber (Heidelberg)
17:30-17:35	*Discussion*	
17:35-17:55	Introduction to AI methods: from supervised and unsupervised learning to generative and agentic AI	Aziz Nazha (Philadelphia)
17:55-18:00	*Discussion*	
18:00-18:20	Multimodal Agentic AI for Immunotherapy	Moritz Schaefer (Stanford)
18:20-18:25	*Discussion*	

18:25-18:35	Selected brief oral communication Pre-trained foundation model embeddings capture transcriptional signatures of teclistamab response in multiple myeloma	Emmanuel Sleiman (Toulouse)
18:35-18:40	*Discussion*	

18:40-19:10 *Panel discussion*

19:20-21:00 Poster Walks and Welcome Get-Together buffet
Data science/AI Poster Walks Leaders: Carsten Marr (Munich), Judith Zaugg (Basel); Franziska Michor (Boston), Jan Moritz Middeke (Dresden)
Clinical/Diagnostic & Biology Poster Walk Leaders: Uri Ilan (Utrecht), Carsten Utoft Niemann (Copenhagen)

Friday, September 18, 2026

09:00-10:00 4 Simultaneous Meet the Expert sessions (clinical/research in parallel)

1.	Data journey: Examples of workflows SC data & spatial data	Jani Huuhtanen (New York)
2.	Data analysis: Multi-omics factor analysis and more	Wolfgang Huber (Heidelberg)
3.	Data analysis: From Omics profiling to disease mechanisms	Judith Zaugg (Basel)
4.	Data sharing: Why and how	Kimmo Porkka (Helsinki)

10:00-10:30 Coffee break

SESSION III – Big data integration, networking and federation
Chairs: Kimmo Porkka (Helsinki), Thorsten Zenz (Zurich)

10:30-10:50	Big data networking and federation: why and how	Kimmo Porkka (Helsinki)
10:50-10:55	*Discussion*	
10:55-11:15	Swarm learning	Joachim Schultze (Bonn)
11:15-11:20	*Discussion*	
11:20-11:40	Data integration in the BEAT AML network	Jeffrey Tyner (Portland)
11:40-11:45	*Discussion*	
11:45-11:55	Selected brief oral communication Deep molecular inquiry by artificial intelligence algorithms unveils the high diagnostic informative yield of srsf2, ras and chips allelic burden	Micol Caccia (Alessandria)
11:55-12:00	*Discussion*	

12:00-12:30 *Panel discussion*

12:30-13:45 Lunch

SESSION IV – Big data and AI for improved diagnosis and prognostication in haematology
Chairs: Claudia Haferlach (Munich), Carsten Marr (Munich)

13:45-14:05	AI to optimize diagnostics in haematology – the data scientist's perspective	Carsten Marr (Munich)

14:05-14:10	*Discussion*	
14:10-14:30	AI to optimize diagnostics in haematology – the diagnostic perspective	Christian Pohlkamp (Munich)
14:30-14:35	*Discussion*	
14:35-14:55	Leveraging big data and data science to understand disease mechanisms	Judith Zaugg (Basel)
14:55-15:00	*Discussion*	
15:00-15:10	Selected brief oral communication Marvin: a deep generative model for flow cytometry analysis informed by biological assumption	Adrien De Voeght (Liege)
15:10-15:15	*Discussion*	
15:15-15:45	*Panel discussion: Enhancing diagnostic and prognostic accuracy through big data*	
15:45-16:15	***Coffee break***	

SESSION V – Big data and synthetic data
Chairs: Jan-Niklas Eckardt (Dresden), Matteo Della Porta (Milan)

16:15-16:35	Synthetic data and the potential in haematology	Jan-Niklas Eckardt (Dresden)
16:35-16:40	*Discussion*	
16:40-17:00	Personalized treatment in haematology through big data analysis	Uri Ilan (Utrecht)
17:00-17:05	*Discussion*	
17:05-17:25	AI agents in tumorboards	Fabio Steffen (Zurich)
17:25-17:30	*Discussion*	
17:30-17:40	Selected brief oral communication Multimodal integration of bone marrow cell morphology and clinical variables for overall survival prediction in newly diagnosed multiple myeloma	Runhai He (Helsinki)
17:40-17:45	*Discussion*	
17:45-18:15	*Panel discussion: Translating research into practice - overcoming hurdles in integrating cutting-edge personalized medicine into clinical routine*	

Saturday, September 19, 2026

08:00-09:00 4 Simultaneous Breakfast Meet the Expert Sessions (clinical)

1.	Automating research routines with AI agents	Moritz Schaefer (Stanford)
2.	How to plan an AI project	Matthias Heinig (Munich)
3.	How to integrate and validate AI tools into clinical routine	Uri Ilan (Utrecht)
4.	How to use AI tools for designing illustrations	Aziz Nazha (Philadelphia)

SESSION VI – AI in haematology: successes, setbacks, and the path to standardization
Chairs: Christian Pohlkamp (Munich), Jan Moritz Middeke (Dresden)

09:10-09:30	Revolutionizing haematological disease diagnosis with AI: a success story	Isolde Summerer (Munich)
09:30-09:35	*Discussion*	
09:35-09:55	Navigating the Pitfalls: what we can learn from an AI Project that required a second approach	Jan Moritz Middeke (Dresden)
09:55-10:00	*Discussion*	
10:00-10:20	Ensuring reproducibility and reliability in haematological data	Junyan Lu (Heidelberg)
10:20-10:25	*Discussion*	
10:25 -10:35	Selected brief oral communication A patient-anchored dual-arm flow-cytometric MRD algorithm for AML -- frozen four-tier validation and a predictive skill score that rewards beating the obvious, in a transparent human--AI framework	Georgios Paterakis (Athens)
10:35-10:40	*Discussion*	
10:40-11:10	*Panel discussion*	
11:10-11:40	***Coffee break***	

SESSION VII – Infrastructure, security and collaboration in the age of digital haematology
Chairs: Matthias Heinig (Munich), Moritz Schaefer (Stanford)

11:40-12:00	Data security and privacy in haematology: best practices and challenges	Matteo Della Porta (Milan)
12:00-12:05	*Discussion*	
12:05-12:25	Fostering collaboration: the human cell atlas	Matthias Heinig (Munich)
12:25-12:30	*Discussion*	
12:30-12:40	Selected brief oral communication Federated explainable bayesian networks for organ toxicity prediction after allo-HCT	Alexander Angleitner (Göttingen)
12:40-12:45	*Discussion*	
12:45-13:15	*Panel discussion: Securing the digital future of haematology - strategies and solutions*	
13:15-13:50	***Final discussion on the benefits and challenges due to AI in haematology and Closing Remarks***	Conference chairpersons

MEETING CLOSURE