

HORIZON EUROPE | SYNTHEMA SYMPOSIUM

SYNTHETIC GENERATION OF HAEMATOLOGICAL DATA
OVER FEDERATED COMPUTING FRAMEWORKS

Building on Real-World Data: Federated Learning, Synthetic Data And the Future of Data-driven Medicine

November 3rd 2026

09:00 – 17:00

Palazzo della Salute – MUSME

Via S.Francesco 94
Padova, Italia



PROGRAMME

09:00 – 09:30 | Registration and Welcome Coffee

09:30 – 09:50 | Opening and Institutional Welcome

SESSION I – Setting the Scene: From Rare-Disease Data to Federated Research

Chairs: Raffaella Colombatti and Anna Rizzo

09:50 – 10:15 | Rare Haematological Diseases in Europe: Networks, Registries and the Challenge of Data Sharing, *María del Mar Mañú Pereira*

10:15 – 10:35 | SYNTHEMA: Connecting Data, Centres and Expertise across Europe, *Federico Álvarez*

10:35 – 10:50 | Discussion

10:50 – 11:10 | Coffee Break

SESSION II – From Distributed Real-World Data to Synthetic Data Generation

Chairs: Renzo Manara and Alessandro Cellini

11:10 – 11:30 | Acute Myeloid Leukaemia in SYNTHEMA: From Federated Real-World Data to Synthetic Cohorts, *Matteo Della Porta*

11:30 – 11:50 | Sickle Cell Disease in SYNTHEMA: From Federated Real-World Data to Synthetic Cohorts, *Raffaella Colombatti*

11:50 – 12:10 | From Federated Tabular Data to Synthetic Patient Cohorts, *Andoni Beristain and Imanol Isasa Reinoso*

12:10 – 12:30 | From Federated Imaging Data to Synthetic MRI in Sickle Cell Disease, *Riccardo Biondi and Silvia Valeggia*

12:30 – 12:50 | From Data Collection to Clinical Validation in a Multicentre Study, *Eleonora Iascone and Sara Reidel*

12:50 – 13:05 | Discussion

13:05 – 14:00 | Lunch

KEYNOTE LECTURE

14:00 – 14:25 | Trust, Responsibility and Human Values in the Age of Artificial Intelligence, *Patrizia Ecker*

SESSION III – Making Distributed Computation Work

Chairs: Barbara Di Camillo and Elisabetta Mezzalana

14:25 – 14:45 | The SYNTHEMA Federated Platform: Architecture, Privacy-Preserving Computing and Implementation, *Petros-Sozon Dimitrakopoulos*

14:45 – 15:05 | Building a Local Federated Node at the University of Padua: Lessons Learned, *Giacomo Baruzzo and Sandro Savino*

15:05 – 15:25 | Discussion

15:25 – 15:40 | Coffee Break

SESSION IV – Responsible Health Data-Driven Research

Chairs: Federico Álvarez and Raffaella Colombatti

15:40 – 16:00 | Privacy Preservation in Health Data: De-identification, Synthetic Data Generation and Privacy Testing, *Rudolf Mayer and Daniela Martinez Duarte*

16:00 – 16:20 | Trust, Governance and Responsibility in Data-driven Health Research, *Nathan Lea*

16:20 – 16:45 | Panel Discussion – Can We Trust Synthetic Data?

Gastone Castellani, Rudolf Mayer, Nathan Lea

CLOSING SESSION

16:45 – 17:00 | Medicine, Engineering and AI: Building the Next Generation of Collaborative Research at the University of Padua
Raffaella Colombatti, María del Mar Mañú Pereira, Federico Álvarez



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REGIONE DEL VENETO
**Azienda
Ospedale
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Speakers and Chairs

Patricia Alonso de Apellániz – *Signal Processing Applications Group (GAPS), Universidad Politécnica de Madrid (UPM), Spain*

Federico Álvarez García – *Universidad Politécnica de Madrid (UPM), Spain; SYNTHEMA Coordinator*

Giacomo Baruzzo – *Department of Information Engineering, University of Padua, Italy*

Andoni Beristain Iraola – *Vicomtech, Spain*

Riccardo Biondi – *Department of Physics and Astronomy "Augusto Righi", University of Bologna, Italy*

Gastone Castellani – *Department of Medical and Surgical Sciences, University of Bologna, Italy*

Alessandro Cellini – *Department of Medicine (DIMED), University of Padua, Italy*

Raffaella Colombatti – *Department of Women's and Children's Health, University of Padua, Italy*

Matteo Della Porta – *Humanitas University and Humanitas Research Hospital, Rozzano/Milan, Italy*

Barbara Di Camillo – *Department of Information Engineering, University of Padua, Italy*

Petros-Sozon Dimitrakopoulos – *Netcompany (INTRA), Greece*

Patrizia Ecker – *Institute of History and Ethics in Medicine, School of Medicine and Health, Technical University of Munich (TUM), Germany*

Eleonora Iascone – *IRCCS Istituto Clinico Humanitas / Humanitas Research Hospital, Rozzano, Italy*

Imanol Isasa Reinoso – *Vicomtech, Spain*

Nathan Lea – *European Institute for Innovation through Health Data (i~HD), Belgium*

Renzo Manara – *Department of Neuroscience, University of Padua, Italy*

María del Mar Mañú Pereira – *Vall d'Hebron University Hospital / Vall d'Hebron Research Institute (VHIR), Barcelona, Spain; ERN-EuroBloodNet Co-Coordinator*

Daniela Martinez Duarte – *SBA Research, Austria*

Rudolf Mayer – *SBA Research, Austria*

Elisabetta Mezzalana – *Department of Women's and Children's Health, University of Padua, Italy*

Sara Reidel – *Vall d'Hebron University Hospital / Vall d'Hebron Research Institute (VHIR), Barcelona, Spain*

Anna Rizzo – *Datawizard, Italy*

Sandro Savino – *Department of Medicine (DIMED), University of Padua, Italy*

Silvia Vallengia – *Department of Neuroscience, University of Padua, Italy*

Register here



Synthetic generation of hematological data over federated computing frameworks, synthema.eu