

CNIO - CaixaResearch Foundation Frontiers Meeting
Transforming Oncology through Artificial Intelligence
November 16th- 18th, 2026

Venue:

Spanish National Cancer Research Centre – CNIO Auditorium, Madrid, Spain

Organizing committee:

Fátima Al-Shahrour, Spanish National Cancer Research Centre (CNIO), Spain
Marcos Díaz-Gay, Spanish National Cancer Research Centre (CNIO), Spain
Geoff Macintyre, Spanish National Cancer Research Centre (CNIO), Spain
Nuria Malats, Spanish National Cancer Research Centre (CNIO), Spain
Solip Park, Spanish National Cancer Research Centre (CNIO), Spain
Raúl Rabadán, Columbia University, US

Transforming Oncology through Artificial Intelligence

Rationale:

This meeting will explore the transformative impact of artificial intelligence (AI) and machine learning (ML) on cancer research, diagnostics, and treatment. Bringing together world-leading scientists, clinicians, and AI innovators, this meeting will highlight the latest advances in computational oncology—from large-scale data integration and imaging analysis to AI-driven drug discovery and clinical decision support. With a focus on interdisciplinary collaboration and translational impact, the meeting aims to foster dialogue and spark innovation at the intersection of cancer biology and data science.

Speakers

Dr. Hana Aliee, CRUK Cambridge Institute, University of Cambridge, UK
Dr. Patrick Aloy, Institute for Research in Biomedicine (IRB), Spain
Dr. Hakim Benkirane, Université Paris-Saclay, France (tbc)
Dr. Leonor Cerdá-Alberich, La Fe Health Research Institute, Spain
Dr. Edwin Cuppen, Hartwig Medical Foundation; UMC Utrecht, The Netherlands
Dr. James DeGregori, University of Colorado Anschutz, US
Dr. Miquel Duran Frigola, Ersilia Open Source Initiative, Spain
Dr. Noelia Ferruz, Centre for Genomic Regulation (CRG), Spain
Dr. Jessie Gommers, Radboud University, The Netherlands
Dr. Patrick Kemmeren, Princess Máxima Center, The Netherlands
Dr. Faisal Mahmood, Brigham and Women's Hospital, Harvard Medical School, US
Dr. Aidan Meade, Technological University Dublin, Ireland
Dr. Chirag J. Patel, Blavatnik Institute, Harvard Medical School, US
Dr. Raúl Rabadán, Columbia University, US
Dr. María Rodríguez, Yale School of Medicine, US
Dr. Julio Sáez-Rodríguez, European Bioinformatics Institute (EMBL-EBI), UK
Dr. Giovanni Tonon, Centre for Omics Sciences; Vita-Salute San Raffaele University, Italy
Dr. Alfonso Valencia, Barcelona Supercomputing Center (BSC), Spain
Dr. Haiyuan Yu, Tisch University, US
Dr. Georg Zeller, Leiden University Medical Center, The Netherlands

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Monday November 16th, 2026

08:30-09:15 *Registration - main hall*

09:15-09:30 *Welcome address*

09:30-12:30 **Session 1. Imaging and AI: Revolutionizing Precision Oncology**

09:30 – 10:00 **Faisal Mahmood**, Brigham and Women's Hospital, Harvard Medical School, US

10:00 – 10:15 *short talk*

10:15 – 10:45 **Jessie Gommers**, Radboud University, Netherlands

10:45-11:15 *Poster session - coffee break – cafeteria*

11:15 – 11:45 Seeing cancer differently with AI and medical imaging

Leonor Cerdá-Alberich, La Fe Health Research Institute, Spain

11:45 – 12:00 *short talk*

12:00 – 12:30 Beyond the visible - stain free, quantitative all digital pathological workflows

Aidan Meade, Technological University Dublin, Ireland

12:30-13:45 *Lunch break – cafeteria*

13:45-16:30 **Session 2. Foundation Models: Next Frontier in AI for Oncology**

13:45 – 14:15 **Hana Aliee**, CRUK Cambridge Institute, University of Cambridge, UK

14:15 – 14:30 *short talk*

14:30 – 15:00 **Hakim Benkirane**, Université Paris-Saclay, France

15:00 – 15:15 *short talk*

15:15-15:45 *Poster session - coffee break – cafeteria*

15:45 – 16:00 *short talk*

16:00 – 16:30 Benchmarking Foundation Models

Julio Sáez-Rodríguez, European Bioinformatics Institute (EMBL-EBI), UK

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Tuesday November 17th, 2026

09:30-12:30 **Session 3. AI for Drug Design and Personalized Therapies**

09:30 – 10:00 **Noelia Ferruz**, Centre for Genomic Regulation (CRG), Spain

10:00 – 10:15 *short talk*

10:15 – 10:45 Blending biology, chemistry and AI to enable (personalized) systems pharmacology
Patrick Aloy, Institute for Research in Biomedicine (IRB), Spain

10:45-11:30 Group picture CNIO main entrance / poster session & coffee break – cafeteria

11:30 – 12:00 **Haiyuan Yu**, Tisch University, US

12:00 – 12:15 *short talk*

12:15 – 12:45 Open Source AI for Drug Discovery in the Global South
Miquel Duran Frigola, Ersilia Open-Source Initiative, Spain

12:45-14:00 Lunch break – Canteen

14:00-17:45 **Session 4. Decoding Cancer with Big Data and AI**

14:00 – 14:30 Data and AI to treat cancer patients

Giovanni Tonon, Centre for Omics Sciences; Vita-Salute San Raffaele University, Italy

14:30 – 14:45 *short talk*

14:45 – 15:15 **Georg Zeller**, Leiden University Medical Center, The Netherlands

15:15 – 15:30 *short talk*

15:30 – 16:00 Determining the architecture of the exposome on complex disease with AI approaches
Chirag J. Patel, Blavatnik Institute, Harvard Medical School, US

16:00-16:30 Poster session - coffee break – cafeteria

16:30 – 17:00 Machine learning–driven modeling of B- and T-cell receptors

María Rodriguez, Yale School of Medicine, US

17:00 – 17:15 *short talk*

17:15 – 17:45 How epigenetic and mutational landscapes in normal tissues change with age and exposures – consequences for tissue function and disease risk
James DeGregori, University of Colorado Anschutz, US

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Wednesday, November 18th, 2026

09:30-12:30 **Session 5. Trustworthy Oncology AI: Infrastructure, Explainability, and Clinical Translation**

09:30 – 10:00 Whole genome sequencing for routine cancer diagnostics: opportunity or need for AI?
Edwin Cuppen, Hartwig Medical Foundation; UMC Utrecht, The Netherlands

10:00 – 10:15 *short talk*

10:15 – 10:30 *short talk*

10:30 – 11:00 Trustworthy data-driven precision oncology for children with cancer in a shared care and research environment
Patrick Kemmeren, Princess Máxima Center, Netherlands

11:00-11:30 *Poster session - coffee break – cafeteria*

11:30 – 12:00 **Raúl Rabadán**, Columbia University, US

12:00 – 12:30 Digital twins at the cellular level and the AI impact
Alfonso Valencia, Barcelona Supercomputing Center (BSC), Spain

12:30 *Poster/talk prizes*

Wrap up and closing