

Artificial Intelligence in Cancer Research

June 13-17, 2025 | Ionian Academy | Corfu | Greece

Scientific Program

Friday, June 13

17:00 – 17:30 Registrations

17:30 – 19:30 **Opening Ceremony**

Welcome Addresses from Officials

KEYNOTE LECTURES

Chairs: **Arsela Prelaj**, **Helena Linardou**, **Nikolaos Korfiatis**

The Impact of Artificial Intelligence on Medicine and Oncology:
Transforming Healthcare

Keynote Speakers: **Luis Marti Bonmati**, (*European Federation for
Cancer Images; EUCAIM*)

Heather Wakelee (*Stanford University, USA*)

George Nounesis (*NCSR Demokritos, Greece*)

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Saturday, June 14

09:00-10:30 **SESSION 1 - OVERVIEW OF AI METHODOLOGIES FOR CLINICAL RESEARCH**

Coordinators: **P. Vlamos (Ionian Uni), A. Chatzidimitriou (INAB/CERTH)**

09:00 Principles of Machine Learning

From Neural networks deep to reinforcement learning

Principles of Explainable AI and trustworthy AI

Data Science

Speakers: N. Korfiatis, A. Vrahatis (Ionian Uni), P. Natsiavas (INAB/CERTH)

10:30-11:00 **Coffee Break**

11:00-12:45 **SESSION 2 - AI APPLICATIONS IN IMAGING**

Coordinators: **K. Varaki, A. Dimopoulos (Metropolitan, Athens), C. Proto (INT, Milan)**

11:00 Radiomics and their use in diagnostics and screening.
Sylvia Plevritis, Stanford (USA)

11:45 Radiomics and their use in the clinic and for precision medicine
Raquel Perez-Lopez, VHIO (Spain)

12:30 Summary of the morning sessions
(by 2 participants, coordinated by chair)

12:45-13:30 **Satellite**

Chairs: **P. Kosmidis (Hygeia, Athens), N. Zamboglou (German Medical Institute, European University, Cyprus)**

- The evolution of precision medicine and the impact of AI

C. Antonopoulos

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- TBA

13:30 **Lunch break**

16:00-17:30 **SESSION 3–METRICS and DATA SHARING**

Coordinators: **A. Psyri (Athens University)**, **G. Lo Russo (INT, Milan)**, **E. Fountzila (Papanikolaou, Thessaloniki)**

16:00 Evaluation metrics for medical imaging AI
Evangelia Christodoulou, DKFZ Heidelberg (Germany)

16:30 Federated and swarm learning: when will this be feasible?
Daniel Truhn, Aachen University Hospital (Germany)

17:00 Diagnosis and decision-support tools: the example of digital-twin in
respiratory diseases
Enriqueta Felip, VHIO (Spain)

17.30-17:45 **Coffee Break**

17:45-19:30 **SESSION 4- DIGITAL PATHOLOGY**

Coordinators: **M. Reck (Lung Clinic Grosshansdorf, Germany)**, **P. Foukas (Athens University)**, **K. Papadopoulou (Mol Oncol Lab, ELIEK)**

17:45 Digital Pathology in diagnostic workflows
Julien Calderaro, CHU Henri-Mondor (France)

18:15 Digital pathology, pathogenomics and unconventional pathomics
Alexander T. Pearson, University of Chicago (USA)

19:00 *The clinician's perspective - comment by the chair (M. Reck)*

19:15 Summary of the afternoon sessions
(by 2 participants, coordinated by chair)

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End-of-day briefing

Sunday, June 15

09:00-10:30 SESSION 5 - MULTI-AI

Coordinators: **A. Krithara** (NCSR Demokritos), **E. Boleti** (Royal Free, London UK)

09:00 Multimodal AI for clinical decision
Arsela Prelaj, Istituto Nazionale dei Tumori (Italy)

09:45 AI for enhanced multiomics data integration
Julien Vibert, Gustave Roussy (France)

10:30-11:00 Coffee Break

11:00-13:30 SESSION 6 - GENERATIVE AI

Coordinators: **N. Papanikolaou** (Champalimaud Foundation, Portugal),
P. Skarlos (Thessaly University), **E. Sarris** (Metropolitan Hospital, Athens)

11:00 Foundation models for imaging
Francesco Trovò, Politecnico di Milano (Italy)

11:45 Multimodal and multiomics Foundation Models
Mireia Crispin, Cambridge Cancer Center (UK)

13:15 Summary of the morning sessions
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13:30 Lunch break

16:00-17:30 SESSION 7 - THE ENVIRONMENT OF AI DEVELOPMENT AND APPLICATIONS IN CANCERS

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Coordinators: **I. Boukovinas** (Bioclini, Thessaloniki), **V. Venizelos** (Metropolitan Hospital, Athens), TBA

16:00-16:45 Multi-Explainable AI real-world approaches
Vanja Miskovic, Politecnico di Milano-INT (Italy)

16:45-17:45 Real-world AI applications:

...in breast cancer

G. Lainakis (Greece)

...in lung cancer

N. Koufos (Greece)

...in prostate cancer

N. Papanikolaou (Portugal)

17:45-18:00 Coffee Break

18:00-19:30 WORKSHOP: Multimodal foundation models - how to build an AI tool

Facilitators - Marta Ligeró, Narmin Ghaffari Laleh (TUD, Germany),

Federica Corso, Luca Invernizzi (INT, Italy), Matteo Sacco (University of Chicago, USA)

19:30 End-of-day briefing

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Monday, June 16

09:00-11:00 SESSION 8 – DIGITALIZATION AND AUTOMATIZATION

Coordinators: **G. Fountzilas (Aristotle University, Thessaloniki), A. Prelaj (INT, Milan)**

09:00 AI applied to EHR and Real-World Data extraction and analysis.
JessicaXinHjaltelin,UniversityofCopenhagen(Denmark)

09:45 Digital health in cancer
ThanosKosmidis,CEO-CareAcross(Greece)

10:30 KEYNOTE LECTURE:LLMs and AI AGENTS
JakobNikolasKather,TechnicalUniversityofDresden(Germany)

11:15 Coffee Break

11:30-14:00 SESSION 9 – HOW TO DESIGN INNOVATIVE CLINICAL TRIALS WITH AI

Coordinators: **H. Linardou (Metropolitan Hospital, Athens), G. Mountzios (H. Dynant Hospital, Athens)**

11:30 AI and its role in the clinical trials' journey
LoicVerlingue,CentreLéon Bérard(France)

12:15 AI-supported biomarker discovery
TBA Kather group? or INT?

13:00 Virtual drug screening and development pipelines - the future of treatment?
MarinaGarassino,UniversityofChicago(USA)

13:45 Summary of the morning session
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14:00 Lunch Break

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16:00-17:00 **SESSION 10–Patient Data and Ethical Imperatives**

Coordinators: **A. Christopoulou (Ag. Andreas, Patras), V. Douvelis (Corfu)**

16:00-16:30 AI-driven Health Data in patient care

Panos Bassios (MSD)

16:30-17:00 Overview of the ethics and regulatory framework for AI implementation
Ioanna Michalopoulou, Michalopoulou & Associates Lawgroup (Greece)

17:00-17:15 Coffee Break

17:15-18:30 **WORKSHOP: How to design an AI-driven clinical trial: Digital Twins, synthetic and real-world data arms, trials screening.**

Facilitators- Leonardo Provenzano (INT, Italy),

Nikolaos Spathas (Metropolitan Hospital, Greece), Raquel Perez-

Lopez (VHIO, or one of her lab members)

18:30-19:30 **Meet the expert** – Career talks, science discussions

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Tuesday, June 17

09:00-10:30 SESSION 11 – INFRASTRUCTURE AND SYNTHETIC DATA

Coordinators: **Narmin Ghaffari Laleh, TBA**

09.00 Synthetic data and its multiple uses
AINDO representative (Italy)

09.45 Infrastructure and cybersecurity - what happens in the cloud?
Sokol Kosta, Aalborg University (Denmark)

10:30 Debriefing
H. Linardou, A. Prelaj

- ❖ Evaluation and participant feedback
- ❖ Take-home messages and parting words

11:00 End of the Conference