unicancer

In association with

ACCURAY

Endorsed by ESTRO

Artificial Intelligence in Radiation Oncology:

FROM FOUNDATIONS TO CLINICAL INTEGRATION

15th january 2026 at Genolier Innovation Hub, Switzerland

International in person course
Conducted by Dr. Arnaud Beddok, MD PhD HDR
Endorsed by ESTRO
Educational engineers: Sergio Rabenjason, MSc & Gaëtan Raymond, PhD

Main learning objective:
to recognise the conception and the practical uses of artificial intelligence tools in radiation oncology

Duration
8 hours

Place
Genolier Innovation Hub
Route du Muids 3
1272 Genolier, Switzerland

Deadline for registration
20th december 2025
c-pinto@unicancer.fr

Price per participant

850€ taxes included

Limited places

Details
Administrative features
Céline Pinto
c-pinto@unicancer.fr
Scientific features
Arnaud Beddok
a.beddok@gmail.com

Target audience
Radiation oncologists, medical physicists, dosimetrists, RTTs, department heads, healthcare administrators

Degree required
From beginner to expert

Requirements
None

Assessment procedures
Before the course
Placement questionnaire
During the course
Formative & sommative assessments
After the course
End of course questionnaire
Satisfaction questionnaire

Organisational features
Lunch included
Transport and accomodation at trainees' expense

Accessible to people with disabilities
For any specific request, please contact our disability officer
David Aubry
d-aubry@unicancer.fr

Day 1 – Scientific Course (Plenary Sessions)

9:00 – 9:30 Opening Session

Lead trainer: Dr. Arnaud Beddok (Institut Godinot, France)
Attending radiation oncologist and AI researcher.
Introduction to the course and educational objectives.

9:30 – 11:15 Session 1 – Foundations of AI in Medicine: Concepts, Data, and Law

Moderator: **Prof. Noémie Elhadad PhD**

Experts: Prof. Stéphanie Allassonnière PhD (Université Paris Cité, France) - in remote
Full Professor, mathematician specialized in AI and health modeling.
Will present core algorithmic concepts and their link with medical data.

Dr. Arnaud Beddok MD PhD (Institut Godinot, France)
Attending radiation oncologist and AI researcher.
Will give an overview of current and future AI applications in radiotherapy.

Prof. Noémie Elhadad PhD (Columbia University, USA)
Associate Professor of Biomedical Informatics, expert in clinical big data and federated learning.
Will address multimodal data integration, FAIR principles, and federated infrastructures.

Prof. Moïse Serero, judge at the commercial Chamber (Tribunal des activités économiques de Paris, France)
Professor in commercial law and digital law, president of the digital committee for the French commercial judges
Will explain GDPR, legal accountability and the implications of AI in clinical workflows.

11:15 – 11:45 Coffee Break

11:45 – 13:15 Session 2 – Clinical AI in Radiotherapy: From Segmentation to Dosimetric Applications

Moderator: **Dr. Eliana Vasquez-Osorio PhD**

Experts: Prof. Thibaut Marin PhD (Yale School of Medicine, USA)
Assistant Professor, deep learning researcher.
Will present technical principles and clinical uses of tumoral AI-based segmentation in radiation oncology.

Dr. Loïg Vaugier MD PhD & Dr. Alexandra Moignier PhD (ICO, France)
Attending radiation oncologist and medical physicist, leading a cardiac segmentation AI project.
Will present their clinical experience with auto-contouring tools and implementation challenges.

Dr. Eliana Vasquez-Osorio PhD (University of Manchester, UK)
Senior Research Fellow, computer scientist specialized in deformable registration.
Will discuss image registration and online adaptive workflows guided by AI.

Kélian Poujade MSc (IUCT-Oncopole, France)
PhD student in Artificial Intelligence
Will present an ESTRO-selected study on AI-based failure prediction

unicancer

In association with

ACCURAY

Endorsed by ESTRO

Artificial Intelligence in Radiation Oncology:

FROM FOUNDATIONS TO CLINICAL INTEGRATION

15th january 2026 at Genolier Innovation Hub, Switzerland

International in person course
Conducted by Dr. Arnaud Beddok, MD PhD HDR
Endorsed by ESTRO
Educational engineers: Sergio Rabenjason, MSc & Gaëtan Raymond, PhD

Main learning objective:
to recognise the conception and the practical uses of artificial intelligence tools in radiation oncology

Duration
8 hours

Place
Genolier Innovation Hub
Route du Muids 3
1272 Genolier, Switzerland

Deadline for registration
20th december 2025
c-pinto@unicancer.fr

Price per participant

850€ **taxes included**

Limited places

Details
Administrative features
Céline Pinto
c-pinto@unicancer.fr
Scientific features
Arnaud Beddok
a.beddok@gmail.com

Target audience
Radiation oncologists,
medical physicists,
dosimetrists, RTTs,
department heads,
healthcare administrators

Degree required
From beginner to expert

Requirements
None

Assessment procedures
Before the course
Placement questionnaire
During the course
Formative & sommative assessments
After the course
End of course questionnaire
Satisfaction questionnaire

Organisational features
Lunch included
Transport and accomodation at trainees' expense

Accessible to people with disabilities
For any specific request, please contact our disability officer
David Aubry
d-aubry@unicancer.fr

Day 1 – Scientific Course (Plenary Sessions)

13:15 – 14:00 Lunch Break

14:00 – 14:15 Individual Interactive quiz 15'

14:15 – 15:15 Session 3 – Radiomics & Predictive Modelling

Moderator: Prof. Laurent Dercle MD PhD

Experts: Prof. Laurent Dercle MD PhD (MSKCC, USA)
Associate Professor, radiologist and radiomics expert.
Will discuss radiomic features, reproducibility, and model validation strategies.

Prof. Laura Rozenblum MD PhD (Sorbonne Université, France)
Associate Professor, nuclear medicine physician and AI researcher.
Will present use cases of early AI integration into clinical nuclear imaging.

15:15 – 16:45 Session 4 – Ethics, Bias & Societal Impact: Designing Responsible Oncology Tools

Moderator: Prof. Bernice Simone Elger MD PhD

Experts: Prof. Bernice Simone Elger MD PhD (University of Basel, Switzerland)
Full Professor, ethicist and physician.
Will address ethical foundations of AI in healthcare, transparency, and physician responsibility.

Dr. Kamyar Shahrooz EdD (Northeastern University, USA)
Will present how bias in training data and algorithms can lead to inequitable outcomes.

Mickaël Berrebi (Groupe Diot-Siaci, France)
Economist
Will explore institutional and economic consequences of AI deployment in oncology

16:45 – 17:15 Final Discussion – Open Questions & Future Perspectives

Moderator: Dr. Arnaud Beddok

Open-floor discussion with all speakers and participants
Live course evaluation (satisfaction questionnaire, knowledge review)
Review of participant expectations (through post-quiz or feedback forms)
Closure and key takeaways

Participants will also receive a follow-up email with a post-training evaluation and knowledge assessment to complete within 7 days.

unicancer

In association with

ACCURAY

Artificial Intelligence in Radiation Oncology: FROM FOUNDATIONS TO CLINICAL INTEGRATION

16th january 2026 at Genolier Innovation Hub, Switzerland

Hands-on workshop
Conducted by Dr. Arnaud Beddok, MD PhD HDR
Educational engineers: Sergio Rabenjason, MSc & Gaëtan Raymond, PhD

Main learning objective:
to use AI tools in radiotherapy departments

Duration
3.5 hours

Place
Genolier Innovation Hub
Route du Muids 3
1272 Genolier, Switzerland

Deadline for registration
20th december 2025
c-pinto@unicancer.fr

Price per participant

200€ **taxes included**

Limited places

Details
Administrative features
Céline Pinto
c-pinto@unicancer.fr
Scientific features
Arnaud Beddok
a.beddok@gmail.com

Target audience
Radiation oncologists, medical physicists, dosimetrists, RTTs, department heads, healthcare administrators

Degree required
From beginner to expert

Requirements
None

Organisational features
Lunch included
Transport and accomodation at trainees' expense

Accessible to people with disabilities
For any specific request, please contact our disability officer
David Aubry
d-aubry@unicancer.fr

Day 2 – Optional hands-on workshop

Choose from two parallel workshops focused on practical, case-based learning:

9:00 – 12:30 Workshops A&B

Workshop A: Adaptative Radiotherapy in Practice

From daily imaging to plan re-optimisation
- Presentation and analysis of clinical cases
- Daily decision-making in imaging for adaptation
- Practical contour deformation and revision
- Guided plan adaptation and discussion

Experts:
Dr Susan Lalondrelle MD PhD (The Royal Mardsen NHS Foundation Trust, United Kingdom)
Dr Sebastian Klüter PhD (Unvesity Hospital Heidelberg, Germany)

Workshop B: Managing Motion

From 4D imaging to real-time adaptative workflows
- Cyberknife® system real-time tracking demonstration
- AI-based tracking algorithm principles
- Practical workflow troubleshooting

Experts:
Fabien Lebeaux (Accuray, Switzerland)