

INTRAOPERATIVE ULTRASOUND NAVIGATION FOR LIVER RESECTION AND THERMO ABLATION

PROGRAMME

ircad
France
STRASBOURG
UNIVERSITY



JULY 9 - 11

G. Torzilli (IT)
F. Giuliani (IT)
M. Giménez (AR)

COURSE ENDORSEMENT AND ACCREDITATION



This course is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS).

EACCME credits are also recognized by the American Medical Association towards the Physician's Recognition Award (PRA).



AMERICAN COLLEGE OF SURGEONS • DIVISION OF EDUCATION
ACCREDITED EDUCATION INSTITUTES
ENHANCING PATIENT SAFETY THROUGH SIMULATION
ACCREDITED EDUCATION INSTITUTE



COURSE OBJECTIVES

- Learn the basic and advanced principles of intraoperative ultrasound guided liver surgery and thermoablation
- Develop strategies to approach liver tumours under a parenchyma-sparing approach using the ultrasound as a live navigation system
- Understand how to move from classical hepatectomy such as right and left resections to advanced parenchyma-sparing surgery.
- Enhance the knowledge about thermoablation machines and techniques
- Learn how to centre a lesion and become proficient in performing a laparoscopic ablation of liver tumors
- Explore and understand how to do all the new advanced liver procedures developed by prof. Torzilli as the Liver Tunnel, the upper transversal hepatectomy, the Roller Coaster hepatectomy, etc.
- Learn from world-wide recognized experts the tips and tricks on advanced ultrasound guided surgery and thermoablation
- Collaborate with peers to share experiences, best practices, and innovative approaches in advanced liver surgery and thermoablation.
- Gain insight into emerging technologies and advancement in intraoperative navigation systems for liver tumors ablation and resection (laparoscopic and open)
- test yourself by experimenting with the advanced techniques proposed during the course through the use of phantoms and in-vivo models under the supervision of expert trainers.

COURSE DIRECTORS

Guido TORZILLI

Felice GIULIANTE

Mariano GIMENEZ

Humanitas Research Hospital, Milan, Italy

Policlinico A. Gemelli, Rome, Italy

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IRCAD, Strasbourg, France

University of Tokyo Hospital, Tokyo, Japan

Hospital Curry Cabral, Lisbon, Portugal

Humanitas San Pio X, Milan, Italy

University Hospital Zurich, Zurich, Switzerland

Ageo Central General Hospital, Ageo City, Japan

University Hospital Mainz, Mainz, Germany

TRAINERS

Davide ARRIGO

Pio CORLEONE

Flavio MILANA

Policlinico A. Gemelli, Rome, Italy

CHU Bordeaux, Bordeaux, France

Humanitas Hospital Rozzano, Milan, Italy

Thursday, July 9th, 2026

MORNING

07.45 am	Registration	
08.00 am	Welcome to participants. Introduction to IRCAD	M. Gimenez
08.15 am	Course presentation	G. Torzilli F. Giuliani M. Gimenez

THEORETICAL SESSION

INTRAOPERATIVE ULTRASOUND: THE FUNDAMENTALS

Chairmen:
G. Torzilli
F. Giuliani
M. Gimenez

08.20 am	Open Ultrasound	G. Costa
08.40 am	Laparoscopic & Robotic Ultrasound	M. Gimenez
09.00 am	Hepatic nodule: How to recognize it?	F. Milana
09.20 am	Contrast enhanced ultrasound (CEIOUS): Principles and applications	S. Famularo
09.40 am	Role of colour flow analysis	P. Addeo
10.00 am	Discussion with participants	

10.10 am Break

THEORETICAL SESSION

THE IOUS IN LIVER SURGERY: TIPS AND TRICKS

Chairmen:
S. Famularo
P. Tinguely
Y. Kawaguchi

10.30 am	IOUS & ICG injection	Y. Kawaguchi
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10.50 am	Cognitive liver map during open and mini-invasive liver resections	<i>F. Ardito</i>
11.10 am	The compression: from the open to a work in progress in MALS	<i>F. Procopio</i>
11.30 am	IOUS tricks: • How to define the surgical area • How to check the resection line intraoperatively • How to identify an unknown vessel (hooking technique) • Post resectional control	<i>S. Famularo</i>
12.00 pm	Video session (pre-record) • How I do it • Discussion	<i>F. Procopio</i> <i>E. Dulundu</i> <i>F. Ardito</i>

01.00 pm Lunch at the Institute

Intraoperative ultrasound navigation for liver resection and thermoblation

AFTERNOON

02.00 pm **Lab presentation with Prof. Gimenez & Dr. Famularo**

EXPERIMENTAL LABORATORY

Beginning of the workshop rotation at **02.15 pm**

Rotation time: one hour per station

TASK	Table N° in the OR	TITLE	SETTING
Station 1	Table 10	IOUS- LAPAROSCOPIC: Anatomy vascular recognition surgical tips and tricks.	In vivo liver
	Table 11		
	Table 12		
Station 2	Table 6	IOUS- OPEN: Anatomy vascular recognition surgical tips and tricks	In vivo liver
	Table 7		
	Table 8		
Station 3	Table 15	Technical aspects of ablation devices + US-guided needle insertion using the open freehand technique + Percutaneous robotic system	Ex vivo liver
	Table 16		
	Table 17		
Station 4	Table 18	Laparoscopic US: Probes manipulation and laparoscopic punctures	Human Simulator
	Table 19		
	Table 20		

06.00 pm

08.30 pm

End of session
Dinner at the Restaurant “La Brasserie des Haras”,
23 Rue des Glacières in Strasbourg

Friday, July 10th, 2026

MORNING

07.45 am Evaluation of the previous day

THEORETICAL SESSION

INTRAOPERATIVE ULTRASOUND GUIDED LIVER SURGERY:
CLASSIC AND NEW ANATOMIC CONCEPTS

Chairmen:
E. Dulundu
M. Donadon

08.00 am	R1 vascular surgery	E. Dulundu
08.15 am	How to identify and how to use the collateral veins	M. Donadon
08.30 am	Liver thermoablation: Currently available data	P. Tinguely
08.50 am	Hilar approach: from Takasaki to MILS	G. Wakabayashi (visioconference)
09.10 am	The transparenchymal approach	F. Giuliani
09.30 am	Discussion with participants	

Chairman :
M. Gimenez

ADVANCE PARENCHYMA SPARING IIOUS GUIDED LIVER SURGERY

09.45 am	From wedge to rollercoaster: quantum hepatectomies	G. Torzilli
10.05 am	Coffee Break	

Intraoperative ultrasound navigation for liver resection and thermoblation

Chairmen:

G. Torzilli

M. Gimenez

F. Giuliani

10.30 am	From meso hepatectomy to mini-meso hepatectomy	S. Famularo
10.45 am	Transversal hepatectomy and the “roller-coaster”	F. Procopio
11.00 am	How to deal with disappearing metastases after chemotherapy	F. Ardito
11.15 am	Ablation 2026. Planning, Execution and confirmation. When to use ablation	M. Gimenez
11.45 am	IOUS in major hepatectomies	H. Pinto Marques (visioconference)
12.05 pm	Cluster approach for parenchyma sparing major hepatectomy	G. Torzilli
12.35 pm	<i>Discussion with participants</i>	
01.00 pm	Lunch at the Institute	

AFTERNOON

02.00 pm **Lab presentation with Pr. Gimenez & Dr. Famularo**

EXPERIMENTAL LABORATORY (PRACTICE ON LIVE TISSUE)

- 02.15 pm
- Laparoscopic Access:
 1. ICG
 2. US Exploration
 3. Laparoscopic Ablation
 4. Laparoscopic US ICJ Injection
 5. Laparoscopic Resection
 - Open Access:
 1. US Resection

06.30 pm End of the day session - Evening free

Intraoperative ultrasound navigation for liver resection and thermoblation

Saturday, July 11th, 2026

MORNING

07.45 am Evaluation of the previous day

THEORETICAL SESSION: INNOVATION AND FUTURE PERSPECTIVES

Chairman:
M. Gimenez
G. Torzilli
F. Giulante

08.00 am **3D planning** G. Costa

- How to do it?
- Is its use mandatory?

08.20 am **3D-Reconstruction for extreme advanced liver resection** H. Lang

08.35 am **Debate: Liver Resection & Thermoablation in colorectal liver metastases:**

- Liver resection
- Liver ablation
- Combined resection and ablation

M. Donadon
P. Tinguely
M. Gimenez

09.40 Discussion with participants

10.10 am Coffee Break

10.30 am **Artificial Intelligence models to predict clinical events in HPB Surgery** S. Famularo

11.00 am **Computer assisted surgery. Everything changed again.** M. Gimenez

11.30 am **Final discussion**

12.15 pm **Course closure**

12.30 pm **Course evaluation**
Delivery of Certificate of attendance

01.00 pm Lunch at the Institute

NOTE PAD

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NOTE PAD