

7:45 am | REGISTRATION AND WELCOMING OF PARTICIPANTS

8:10 am | THEORETICAL SESSION

INTRAOPERATIVE ULTRASOUND: THE FUNDAMENTALS

- Open ultrasound
- Laparoscopic ultrasound
- Robotic ultrasound
- Hepatic nodules:
 - How to recognize them
- Contrast-Enhanced Intraoperative Ultrasound (CEIOUS):
 - Principles and applications
- Role of color flow analysis

IOUS IN LIVER SURGERY: TIPS AND TRICKS

- IOUS & ICG injection
- Cognitive liver map during open and minimally invasive liver resections
- Compression techniques: from open surgery to ongoing developments in MALS
- IOUS tricks:
 - How to define the surgical area
 - How to check the resection line intraoperatively
 - How to identify an unknown vessel (hooking technique)
 - Post-resection control
- Video session (pre-recorded)
 - How I do it

1:00 pm | LUNCH AT THE INSTITUTE

2:00 pm | HANDS-ON SESSION ON LIVE TISSUE (MINI-PIGS)
AND SIMULATORS

- Technical aspects of ablation devices + US needle insertion with freehand technique
- Percutaneous/Laparoscopic US: probe manipulation
- IOUS (open): vascular anatomy recognition, surgical tips and tricks
- IOUS (laparoscopic): vascular anatomy recognition, surgical tips and tricks

6:00 pm | END OF SESSION

8:00 pm | DINNER IN HONOR OF THE PARTICIPANTS

7:50 am | EVALUATION OF THE PREVIOUS DAY'S SESSIONS

8:00 am | THEORETICAL SESSION

**INTRAOPERATIVE ULTRASOUND-GUIDED LIVER SURGERY: CLASSIC
AND NEW ANATOMIC CONCEPTS**

- R1 vascular surgery
- How to identify and how to use collateral veins
- Laparoscopic thermoablation:
 - How to center the lesion and how to proceed
- Hilar approach: from Takasaki to MILS
- The transparenchymal approach

ADVANCE PARENCHYMA-SPARING IOUS-GUIDED LIVER SURGERY

- Liver tunnel technique
- Mini-meso hepatectomy
- Transversal hepatectomy and the "roller-coaster" technique
- ALPPS and parenchyma sparing liver surgery
- IOUS in case of major hepatectomies and two-stage hepatectomy
- Combined laparoscopic resection and thermoablation: evidence
- Robotic liver resection:
 - On the way to a new standard in liver resections?
- Cluster approach for parenchyma-sparing major hepatectomy suturing expert

1:00 pm | LUNCH AT THE INSTITUTE

2:00 pm | HANDS-ON SESSION ON LIVE TISSUE (MINI-PIGS)

- IOUS-guided laparoscopic liver parenchyma-sparing resection
- IOUS-guided laparoscopic ablation
- IOUS-guided open parenchyma-sparing resection/ablation

**6:00 pm | END OF SESSION
EVENING FREE**

7:50 am | EVALUATION OF THE PREVIOUS DAY'S SESSIONS

8:00 am | THEORETICAL SESSION

INNOVATION AND FUTURE PERSPECTIVES

- 3D planning
 - How to do it?
 - Is its use mandatory?
- What surgical robotic systems are available today?
- What robotic systems exist today for tumor ablation?
- What do we still need to learn about liver tumor ablation?
- The future of parenchyma-sparing surgery: will robotic surgery substitute the open advanced approach?
- Robotic and AI in ultrasound
- Computer-assisted surgery
- Has everything changed again?

**12:30 pm | END OF THE COURSE
DELIVERY OF CERTIFICATES OF ATTENDANCE**

1:00 pm | LUNCH-BUFFET AT THE INSTITUTE