

# Computer navigation (CAS) and 3D printing technology (PSI) in Orthopaedic Oncology

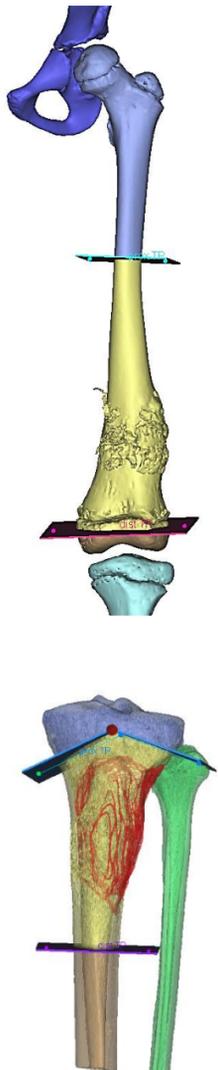
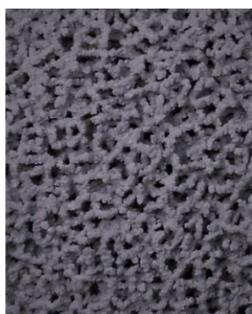
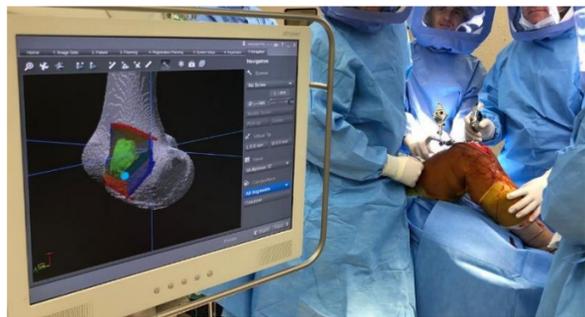
## Online symposium I



[CAOS oncology group](#)

Nov 21, 2020

UTC 08:00 – 10:00 | CET 09:00 – 11:00 | HKT 16:00 – 18:00



In primary bone sarcoma surgery, tumor surgeons formulate a three-dimensional (3D) surgical plan after analyzing two-dimensional (2D) medical images. It is prone to surgical inaccuracy as it is challenging to translate the plan to the operating room in complex cases with distorted anatomies. The surgical inaccuracy with a positive surgical margin may result in an increased risk of local tumor recurrence and patient mortality. Incorrect planes of bone resections may compromise the matching to the bone reconstruction, leading to inferior limb functions.

Computer Assisted Tumor Surgery (CATS) has been developed and applied in Orthopaedic Oncology for the last decade. The CATS approach addresses the surgical inaccuracy and guide surgeons to achieve what has been planned for a tumor-free margin and bone reconstruction. Early results suggested that the CATS technique may help in safe tumor resection and improve surgical accuracy that may offer clinical benefits.

The technology has been evolving to cover the virtual 3D software planner, a dedicated tumor navigation system, 3D printing, and robotic surgery. Institutional logistics tools are also emerging for better users' experience, including a web-based platform for seamless communication of the healthcare teams and simulation tools for patients' communication of their surgical plan. The development targets personalized precision tumor surgery in the future.

The CAOS oncology group connects passionate tumor surgeons, engineers, and researchers to develop and evaluate innovative solutions for better care in orthopedic oncology. We aim to build a CAOS oncology ecosystem with stakeholders through interdisciplinary teams collaboration, Research, and Development, Education, and Training.



[Free registration](#)

[Speakers](#)

[Programs](#)

**Kwok Chuen WONG / Paul C JUTTE**  
CAOS oncology group  
CAOS international society  
October 2020



Co-organized by

Supported by

# Computer navigation (CAS) and 3D printing technology (PSI) in Orthopaedic Oncology

## Online symposium I



[CAOS oncology group](#)

Nov 21, 2020

UTC 08:00 – 10:00 | CET 09:00 – 11:00 | HKT 16:00 – 18:00

### Key Highlights

- Current status of computer navigation and guide
- Custom tumor implants (surgeons / engineers' perspectives)
- Practical surgical planning
- Case discussion



[Free registration](#)



Prof Shekhar Kumta  
Hong Kong, China



Mr Ashish Mahendra  
Glasgow, UK



Mr Peter Scheinemann  
Implantcast, Germany



Prof XH Niu  
Beijing, China



Prof Lee Jeys  
Birmingham, UK



Dr Solomon Dadia  
Tel Aviv, Israel



Dr Laurent Paul  
3D side, Belgium



Dr Jasper Gerbers  
Groningen, NL



Dr KC Wong  
Hong Kong, China



Prof Paul Jutte  
Groningen, NL

Co-organized by



Supported by



# Computer navigation (CAS) and 3D printing technology (PSI) in Orthopaedic Oncology

## Online symposium I



 Nov 21, 2020

 UTC 08:00 – 10:00 | CET 09:00 – 11:00 | HKT 16:00 – 18:00

[Free registration](#)

Time	Title	Speakers
<b>Moderators : Kwok Chuen WONG / Paul JUTTE</b>		
16:00 - 16:05	Introduction	
16:05 - 16:20	Computer Navigation in Orthopaedic Oncology: <ul style="list-style-type: none"> <li>• Where are we now?</li> <li>• Where do we need to go?</li> <li>• How do we get there?</li> </ul>	Ashish MAHENDRA (United Kingdom)
16:20 – 16:35	3D printing in Orthopaedic Oncology: <ul style="list-style-type: none"> <li>• Where are we now?</li> <li>• Where do we need to go?</li> <li>• How do we get there?</li> </ul>	Solomon DADIA (Israel)
16:35– 16:45	<b>Q&amp;A</b>	
16:45 – 16:55	Custom tumor implants in the era of computer-assisted technology: Surgeons' perspectives	Shekhar KUMTA (Hong Kong, China)
16:55 – 17:05	Custom tumor implants in the era of computer-assisted technology: Engineers' perspectives	Peter SCHEINEMANN (Germany)
17:05 – 17:15	<b>Q&amp;A</b>	
<b>Moderators: Xiaohui NIU / Shekhar KUMTA</b>		
17:15 – 17:25	A crash course in CAS and PSI planning	Jasper GERBERS (Netherlands) Laurent PAUL (Belgium)
<b>Case discussions</b>		
17:25 – 17:40	Pelvic tumor surgery (pelvic chondrosarcoma)	Lee JEYS (United Kingdom)
17:45 – 17:55	Joint saving surgery in extremity bone sarcoma (paediatric femur osteosarcoma)	Kwok Chuen WONG (Hong Kong, China)
17:55 – 18:00	<b>Round up and closing remarks</b>	

Co-organized by



Supported by

