



Center for innovation,  
medical devices and  
technology

# NEWSLETTER



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- ◆ **MiDT Laparoscopy and Robotics: A Proud Member of NASCE and host of the scientific meeting in 2026**

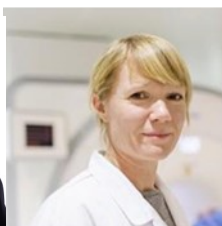
## Exploring theranostics as a personalized treatment for brain tumors



National Research Center for Minimally Invasive and Image-Assisted Diagnostics and Treatment



Tora Solheim.  
Photo: Kai T. Drageland



Live Eikenes.  
Photo: Geir Mogen, NTNU



Anna Karlberg.  
Photo: Privat

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Live Eikenes, Professor, Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim

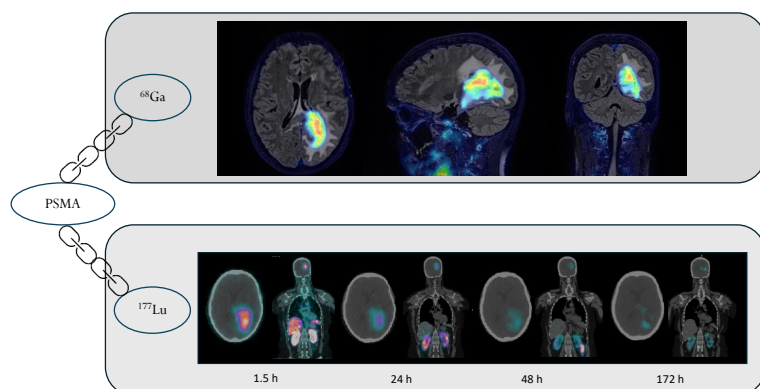
Anna Karlberg, Physicist/Researcher/PhD, Department of Radiology and Nuclear Medicine, St. Olavs hospital, Trondheim University Hospital, Trondheim

In 2023, Tora Solheim, Live Eikenes and Anna Karlberg initiated a groundbreaking clinical study at NTNU/St. Olavs hospital to explore a new type of radioactive treatment for patients with recurrent high-grade glioma. Glioma is a malignant type of primary brain tumor, and the current treatment options often include a combination of surgery, chemotherapy and radiotherapy. But the treatment effect is not good enough, and most patients affected by the disease relapse and have a poor prognosis. It is therefore an urgent need for new approaches to improve outcome for these patients.

Theranostics is a way to personalize cancer treatment by using targeted radioactive drugs for both diagnosis and therapy. In this study, the diagnostic radioactive drug  $^{68}\text{Ga}$ -PSMA is used for imaging to identify specific tumor receptors. If the diagnostic imaging show high uptake of  $^{68}\text{Ga}$ -PSMA, the therapeutic radioactive drug  $^{177}\text{Lu}$ -PSMA delivers ionizing radiation to tissues expressing these receptors, sparing healthy surrounding tissue from radiation damage (Figure 1). This treatment

concept has demonstrated improved overall survival in other patient groups, such as those with neuroendocrine tumors and prostate cancer.

This is one of the first clinical studies in the world exploring the theranostic concept to treat patients with brain tumors. The main goal of the study is to improve existing diagnostic and therapeutic methods in glioma management, and introduce a novel, well-tolerated radionuclide treatment that potentially can improve patient outcome and quality of life for this patient group. The treatment is now being tested in Norwegian patients to see if it provides sufficient treatment effect to continue with a randomized trial in the future. The study is ongoing, but preliminary data is encouraging and demonstrates that most of the patients show tumor uptake of  $^{68}\text{Ga}/^{177}\text{Lu}$ -PSMA and that the treatment is well tolerated.



**Figure 1.** One of the first patients in the world treated with the radiotracer  $^{177}\text{Lu}$ -PSMA for recurrent high-grade glioma at St. Olavs hospital.

Top row: Positron emission tomography/Magnetic resonance (PET/MR) images of the tumor uptake of the radiotracer  $^{68}\text{Ga}$ -PSMA for diagnosis. Bottom row: Single photon emission computed tomography (SPECT)/CT images over the uptake of the therapeutic radiotracer  $^{177}\text{Lu}$ -PSMA. Images at 1.5 h, 24 h, 48 h and 172 hours post treatment show tumor accumulation of  $^{177}\text{Lu}$ -PSMA up to 7 days post therapy.

## SIMUT-seminar 2025

This year's seminar is the 18th in a row since Fremtidens Operasjonsrom (FOR) was established in 2005.

During 2024, as a result of being given a number of national roles, we have changed our name to the Center for Innovation, Medical Equipment and Technology (SIMUT). Approx. 70 participants from NTNU, SINTEF, St. Olav's hospital and industrial partners shared the status of a number of exciting projects



Photo:Gunnar Gjeldnes

*Over two days, the participants learned about how research and innovation will improve patient care and meet tomorrow's demands with both the improvement of existing and the development of new technology. The use of artificial intelligence and robotic assistance will be important technology that will increasingly be used across disciplines.*



Photo:Gunnar Gjeldnes

### The importance of innovation at St. Olav's hospital

Jan Gunnar Skogås, head of department at SIMUT with responsibility for the National Research Center for Minimally Invasive and Image-Assisted Diagnostics and Treatment (MiDT), welcomed and presented the program and the various disciplines gathered in the Center for Innovation, Medical Equipment and Technology.

Director of e-health, Per Olav Østbyhaug, Hanne Ekran Thomassen and Jarl Reitan gave the participants an introduction to the meaning of innovation at the hospital, and an overview of current service innovation projects.

The focus areas are service innovation, digitalization, and competence composition, where the focus will be on division of tasks and competence development, prioritisation, staffing planning and medical equipment/

product innovation. The goal is for each clinic to have at least one innovation project that also provides financial benefit. 83 projects have so far been completed under the auspices of the Innovation Programme.



### Innovations in MiDT

The subject area leaders at MiDT, senior physician Håkon Olav Leira, Lung, senior physician Arne Seternes, Vascular Surgery, senior physician Per Even Storli, Laparoscopy, and senior physician Ole Solheim, Neurology, gave an overview of current projects in their respective specialist areas in the MiDT centre.

### NorTrials Medical equipment

In order to strengthen the national investment in clinical studies in Norway, the Ministry of Health and Care established NorTrials, which should make it easier for national and international actors in the medical equipment industry to come into contact with the right clinical professional environments. St. Olav's hospital is the national node for inquiries and projects related to medical equipment. Sara Edvardsen, Advisor MDR (Medical Directive Regulations) at NorTrials Medical equipment, St. Olav's hospital, explained the often complex and complicated process a new medical product must go through before it is launched on the market. Sara gives advice to actors who make contact about this topic.



### SINTEF

SINTEF celebrates 75 years this year, and since the creation of the Future's Operating Room has been a close and important partner through, among other things, the MiDT research center and the NorMIT infrastructure. Øystein Risa, Head of Research at SINTEF Digital, Department of Health, shared some thoughts about their investment in health, and Sigrid Berg, Research Manager at Medical Technology, SINTEF Digital Department of Health, presented the status of NUL-FAT, a new ultrasound method for measuring fat percentage in the liver.

### NTNU



Eivind Andersen, general manager, NTNU-TTO (Technology Transfer Office) gave the participants an introduction to how they could support people and groups with good ideas in the commercialization of products/

ideas. The take-home message was to get in touch with NTNU-TTO early in order to avoid the pitfalls that could make any patenting and commercialization difficult and, in the worst case, impossible.

### St. Olav's hospital

Tina Wik, Head of Clinic, clinic for orthopaedics, rheumatology and skin diseases, presented the status of a project that uses navigation and robotic assistance when inserting knee prostheses. The technology enables greater precision and reduces the risk of performance deviating from the planning of the procedure. Using this technology, less experienced surgeons can achieve the same results as experienced ones.



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### The bet

This year as last year, professor emeritus and innovator Sjur Dagestad took us on an inspiring journey into his innovation universe. The content this time had roots in Renaissance Italy, a cabin trip to Hafjell and the value of people who are different from yourself. He also had the world's most expensive textbook with him.



### Industrial partners

Marco Gambotti, Product Director MySolutions Medac-ta, Gunnar Mørne from Medtronic and Vebjørn Jentoft from SIEMENS presented news from their respective companies.



## MiDT Laparoscopy and Robotics: A Proud Member of NASCE and host of the scientific meeting in 2026



*Hilde Merete Klungerbo*



MiDT Laparoscopic and Robotassisted surgery (formerly known as NSALK) are honored to be an accredited center within the Network of Accredited Clinical Skills Centers in Europe (NASCE). NASCE, established as a Multidisciplinary Joint Committee (MJC) of the European Union of Medical Specialists (UEMS), is dedicated to ensure the highest standards in surgical simulation and training across Europe. As the only NASCE-accredited center in Norway, we take pride in our commitment to excellence in medical education and patient safety.

Our center achieved NASCE accreditation in 2016 and successfully completed re-accreditation in 2020 and 2024. This recognition underscores our ongoing dedication to provide high-quality training for surgeons, physicians, and other healthcare professionals.

Being part of NASCE offers significant advantages. Membership in this prestigious network enables us to share experiences with other leading training centers, gaining valuable insights into best practices and innovative techniques in surgical education. Additionally, we benefit from the exchange of scientific findings, allowing us to

stay at the forefront of advancements in simulation-based training. Collaboration within NASCE fosters inspiration, ensuring that our programs continue to evolve and meet the highest standards in medical education.

Looking ahead, MiDT Laparoscopy and Robotics is excited to host the NASCE Scientific Meeting in the fall of 2026. This prestigious event will welcome up to 120 delegates from hospitals across Europe for two days of intensive discussions on skills training, simulation, and the latest developments in the field. We are eager to bring together experts and peers to promote surgical education and innovation.

As a NASCE-accredited center, we remain committed to shaping the future of medical training and contributing to improved patient outcomes. Through collaboration, knowledge-sharing, and continuous development, we strive to uphold the highest standards in surgical education and simulation.



**NASCE - NETWORK OF ACCREDITED SKILLS CENTRES IN EUROPE**  
 EUROPEAN UNION OF MEDICAL SPECIALISTS  
*The advocate of medical specialists*





Senter for innovasjon,  
medisinsk utstyr og  
teknologi

**Avdelingssjef, Jan Gunnar Skogås**

**MiDT** Nasjonalt forskningssenter for  
Minimalt invasiv og bildeassistert  
diagnostikk og behandling

**NorTrials** | Medisinsk utstyr   
[www.nortrials.no](http://www.nortrials.no)


**NorMIT** [www.normit.no](http://www.normit.no)  
Norwegian Centre for Minimally Invasive  
Image Guided Therapy and Medical Technologies

**Fremtidens Operasjonsrom**  Operating Room of the Future

- o Eksperimentell kirurgi (preklinisk)
- o Opplæring elektromedisinsk utstyr
- o Live overføring fra operasjonsstue
- o Visualiseringslab (utvidet virkelighet)

**3D print lab** 

**Forskning og innovasjonsprosjekter**  
Pågående: Ablasjon av nyrekreft (ACUS), NUL-Fat, Aviant, Posired, MIREIA, IDEAR, LungGuide, NavCAD, MEDITATE, Lung Cancer Cockpit, In-Motion, HumanIC

FOR Neurokirurgi	FOR Energilab
FOR Gastrokirurgi	FOR Virtuell OR
FOR Kardiovaskulær	FOR Visualisering
FOR ØNH	
FOR Ortopedi	
FOR Gynekologi	

Samarbeidspartnere   Sykehus Universiteter Industri Internasjonal



# NorMIT Infrastructure

Book at [normit.no](http://normit.no)

Trondheim				Oslo		
						
						
						

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