Trondheim

The city was founded by Viking King Olav Tryggvason in 997 AD, and occupies a special place in Norwegian culture and history. Trondheim was the nation’s first capital, and continues to be the coronation city where Norway’s kings from Harald Hårfagre (872–933) to King Harald V (1991 -) have been hailed, crowned and blessed. In its history the city was and is now again a popular destination for pilgrimages. Trondheim is also an ecclesiastical centre, a regional capital, a centre for industry and commerce, and an important education and research centre.

Trondheim is home to around 169 000 inhabitants. But if we count the large number of students (every sixth inhabitant is a student) the population swells to 180 000. The students adds a youthful exuberance to this thousand-year old city. While it is not a large metropolis, Trondheim’s location and opportunities put it on an equal footing with the major cities of Europe.

Trondheim’s internationally renowned university, and the city’s many research communities ensure that it is a city of innovation and development of science, business and industry ventures. Trondheim is truly the nation’s technological capital.

St. Olavs hospital

St. Olavs Hospital is a health enterprise and university hospital in the Mid-Norway health region, an area which consists of the counties of More and Romsdal, Sør-Trøndelag and Nord-Trøndelag and has a total of 630,000 inhabitants.

In the new University Hospital patient treatment, research and teaching are integrated functions. The new University Hospital is situated at Øya in the central part of Trondheim. The first clinical centres were completed in 2006. The entire project will be completed in 2015.

The hospital project consists of new buildings and a new organization. The centre model is introduced in the hospital from 2000. The hospital management consists of managing director an seventeen heads of department. The Faculty of Medicine has reorganized its departements corresponding to the centres.

The University Hospital in Trondheim is the first university in Norway which completely integrates patient treatment, research and teaching. The hospital will have a total area of 197 500. From this will 49,500 m² be used to university and teaching functions. Approximately 80 per cent of the existing buildings will be replaced by new ones.

NTNU and SINTEF

The Norwegian University of Science and Technology (NTNU) is Norway’s primary institution for educating the nation’s future engineers and scientists. The university also has strong programmes in the social sciences, teacher education, the arts and humanities, medicine, architecture and fine art. NTNU’s cross-disciplinary research delivers creative innovations that have far-reaching social and economic impact.

The SINTEF Group is the largest independent research organisation in Scandinavia. Every year, SINTEF supports the development of 2000 or so Norwegian and overseas companies via research and development activities. SINTEF’s goal is to contribute to wealth creation and to the sound and sustainable development of society. The organization generate new knowledge and solutions based on research and development in technology, the natural sciences, medicine and the social sciences.
Social events

Guided tour of St. Olav's Hospital
Contact the information desk for more information

The new university hospital in Trondheim St. Olav's hospital was officially opened by the Norwegian king, Kong Harald, on Saturday June 12 in 2010. The project has thus far been the largest land based project in Norway. The hospital is fully equipped with modern technology and delivers a solid infrastructure for treatment, education and research. During the conference you will have the opportunity to join us on a guided tour of the hospital. Please register at the information desk beforehand.

Concert at Nidaros Cathedral and welcome reception at To Tårn
Thursday

Nidaros Cathedral is the most important Lutheran church in Norway. The building of the oldest parts of the cathedral was begun in 1070 on top of the grave of holy King Olav Haraldsson and finished in 1300. Until 1906 the cathedral was used for the crowning ceremonies of the royal family. The cathedral has always been and still is an important focal point for pilgrims from northern Europe. Here you will have the opportunity to experience a live organ concert played on the famous baroque Wagner organ. Afterwards the welcome reception will be held in the adjacent establishment "To Tårn".

Get together dinner at Dokkhuset, Solsiden
Friday

Solsiden, a spirited and animated place located in an area of old shipyards and workshops, is one of the most modern and urban areas of the city. A plethora of cafés, restaurants and bars await the eager visitor with joie de vivre set on an evening and/or night rich with amusement. The informal get together party will take place in the old pump house of the area Dokkhuset. Nowadays Dokkhuset serves as a blend of restaurant and concert stage, primarily used for Jazz and chamber music. If you want to participate but still not have registered and paid for this event please contact the information desk on Thursday during the conference.
We proudly present our Silver sponsor for SMIT 2010, Olympus. Olympus has been in collaboration with the Trondheim group for many years, especially in the Future OR project at St. Olavs Hospital.
### National organizing committee SMIT 2010

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Thomas Lange</td>
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<td>Toril A.N Hernes</td>
<td>NTNU / SINTEF</td>
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<tr>
<td>Brynjulf Ystgård</td>
<td>St Olavs Hospital</td>
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<td>Peter Friderichen</td>
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<td>Berit Brattheim</td>
<td>HIST</td>
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<td>Olav Haraldseth</td>
<td>NTNU</td>
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<tr>
<td>Ronald Mårvik</td>
<td>NTNU / St Olavs Hospital</td>
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<td>Jan Gunnar Skogås</td>
<td>St Olavs Hospital</td>
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<td>Hans Olav Myhre</td>
<td>NTNU / St Olavs Hospital</td>
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<td>Cecilie Våpenstad</td>
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<td>Roald Bergstrøm</td>
<td>KITH</td>
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<td>Erik Fosse</td>
<td>UiO / Oslo University Hospital</td>
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<td>Odd Helge Gilja</td>
<td>Haukeland / UiB</td>
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<td>Ole Jacob Elle</td>
<td>UiO / Oslo University Hospital</td>
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### SMIT 2010 Organization

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<tr>
<td>President</td>
<td>Brynjulf Ystgaard, MD, Norway</td>
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<tr>
<td>Co-President</td>
<td>Toril A.N Hernes Prof, Norway</td>
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<tr>
<td>President Elect</td>
<td>Amir Szold, MD, Israel</td>
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<td>Honorary President</td>
<td>John Wickham, MD, UK</td>
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### Steering committee SMIT

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<td>Alberto Arezzo, MD</td>
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<tr>
<td>Jenny Dankelman, PhD</td>
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<td>Nicola Di Lorenzo, MD</td>
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<td>Harald Fischer, PhD</td>
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<td>Erik Fosse, PhD, MD</td>
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<tr>
<td>Kees A. Grimbergen, PhD</td>
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<td>Eiji Kanehira, MD, PhD</td>
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<td>Gernot Kronreif, MD</td>
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<td>Thomas Langø, MD</td>
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<td>Enric Laporte, MD</td>
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<td>Marco M. Lirici, MD, PhD</td>
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<td>William Meng, Dr.</td>
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<td>Richard Satava, MD</td>
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<td>Jose Manuel Schiappa, MD</td>
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<td>Calin Tiu, MD</td>
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<td>Brynjulf Ystgaard, MD</td>
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### Senior Member Advisors of SMIT

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<td>Gerhard Buess, MD</td>
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<td>Alfred Cuschieri, MD</td>
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<td>Alan Lomax, MD</td>
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### Executive Office SMIT

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<tr>
<td>General Secretary</td>
<td>Andreas Melzer, MD, Germany</td>
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<td>Editor in Chief</td>
<td>Eiji Kanehira, MD, Germany</td>
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<td>Treasurer</td>
<td>Marc O. Schurr, MD, Germany</td>
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<tr>
<td>Protocol Officer</td>
<td>Christine Melzer, Germany</td>
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</table>
Currently, interventional and surgical disciplines are facing an obvious paradox. Despite the excellent diagnostic imaging capabilities of MRI, which does not expose patients and physicians to ionizing radiation it is not widely used. Ultrasound and the emerging field of Biophotonic imaging are usually not MRI compatible and not designed to be used in conjunction with MRI. As a consequence, surgeons continue to use traditional operating techniques, which are based on visual inspection of the pathological anatomy structure either by traditional open or endoscopic surgery. Radiologists still have to expose themselves and their patients to long fluoroscopy times to perform complex cardiac or even paediatric interventional procedures. In fact, the frequent inadequacy of fluoroscopy as a navigation guide and to visualize the pathological target results in long procedure times, the use of nephrotoxic and allergenic iodine contrast agents and an unacceptable x-ray exposure. In Germany 1.5% of the cumulative risk of cancer has been attributed to diagnostic X-ray (Lancet 2004; 363:345-351).

The IIIOS project will provide technology and training for the integration of ultrasound and biophotonics based imaging with magnetic resonance imaging (MRI), Computed Tomography (CT) and Positron Emission Tomography (PET) to define the specs of an Integrated Interventional Imaging Operating System (III OS) aimed at minimal invasive treatment of common life-threatening disorders, e.g., cancer, cardiovascular disease and structural heart defects. Effective therapy of these conditions will require a range of safe surgical and interventional devices used with the necessary visualization and tracking under real-time image guidance.

IIIOS will provide a group of researchers with internationally leading technical training facilities which cannot usually be provided to doctoral students, and, specific new technology study courses available to both medical and technology based researchers. The Network will foster cross interdiscipliary research and training between the clinical disciplines (Interventional Radiology/Cardiology, Cardiovascular Surgery, Anesthesia) on the one hand, and, instrument design, safety and R&D with academic scientists and industry on the other. The research program of this Initial Training Network will provide a stimulating training environment for all participating early stage researchers and experienced researchers by utilizing unique imaging environments across Europe.

The IIIOS consortium includes a critical mass of industrial and university research institute partners with high expertise in design, development, and manufacture of these devices and instruments. To ensure medical the safety and economical usability of the system and to allow an optimal integration into the future hospital workflow, 6 university hospitals will contribute their clinical and administrative expertise to the consortium in the fields of Interventional Radiology/Cardiology, Anaesthesia, Oncology, General and Cardiovascular Surgery and preclinical Image guided procedures. The consortium of the IIIOS research and training process includes two Biomedical Technology Societies: DGBMT and SMIT&MEDIS Foundation in Rumania providing expert networking and conference organization. The is involved in the consortium and will play a key role in the exchange of knowledge and expertise to the new member states of the EU through hosting conference.
The society encourages world-wide membership from people and companies involved in medical practice, research and technology. This includes, but is not limited to medical practitioners, regardless of their specialty, and members of industry with an interest in innovative medical technologies as equal partners. Also welcome are nurses, the paramedical disciplines, medical administrators and lawyers with a medico-legal interest. Furthermore, the Society encourages physicians and engineers in training to take advantage of the reduced membership fee. Membership benefits include:

- Six issues of Minimally Invasive Therapy and Allied Technologies (MITAT), the official journal of the Society, listed in Current Contents.
- Free or reduced registration fee at the SMIT Annual Conference.
- Eligibility for election to the Steering Committee and the option to become members of the SMIT Task Forces.

Membership application can be found at www.smit.de

Standard membership fee:
For institutional members, medical practitioners and members of industry.
EUR 225,00

Reduced membership fee:
For nurses, technicians, engineers and medical practitioners in training; applicable only if approved by a letter of the Head of Department.
EUR 100,00

The journal of Minimally Invasive Therapy was inaugurated in 1991 and has been successful in bringing the latest details of innovative minimally invasive therapy to the attention of interest groups. In our sixth year of publication, we were extremely fortunate to be enhanced by a merger with the Journal of Endoscopic Surgery and Allied Technologies. The journal provides an authoritative base from which workers involved in minimally invasive surgery or interventional radiology may rapidly present their experience for the benefit of their colleagues and patients.
Richard Satava - “The future of medical innovation”

Richard Satava, MD, FACS, is Professor of Surgery at the University of Washington Medical Center, and Senior Science Advisor at the US Army Medical Research and Materiel Command in Ft. Detrick, MD. Prior positions include Professor of Surgery at Yale University and Program Manager of Advanced Biomedical Technology at the Defense Advanced Research Projects Agency (DARPA). His surgical residency and a fellowship with a Master of Surgical Research was at the Mayo Clinic. He has served on the White House Office of Science and Technology Policy Committee on Health, Food and Safety. He is currently a member of the Emerging Technologies and Resident Education, and Informatics committees of the American College of Surgeons (ACS), is past president of the Society of American Gastrointestinal Endoscopic Surgeons (SAGES), past president of the Society of Laparoendoscopic Surgeons (SLS), and is on the Board of Governors of the National Board of Medical Examiners (NBME). He is on the editorial board of numerous surgical and scientific journals, and active in numerous surgical and engineering societies. He has been continuously active in surgical education and surgical research, with more than 200 publications and book chapters in diverse areas of advanced surgical technology, including Surgery in the Space Environment, Video and 3D imaging, Telepresence Surgery, Virtual Reality Surgical Simulation, and Objective Assessment of Surgical Competence and Training. While striving to practice the complete discipline of surgery, he is aggressively pursuing the leading edge of advanced technologies to formulate the architecture for the next generation of Medicine.

Professor Kevin Cleary - “Image guided therapy”

Kevin Cleary is a Research Professor for the Imaging Sciences and Information Systems (ISIS) Center in the Department of Radiology at Georgetown University Medical Center. He is also a leader in the Computer Aided Interventions (CAIMR) group (part of the ISIS center) and a member of the research faculty at the Lombardi Cancer Center. He is an expert in the field of medical robotics, specializing in the development of technology for image-guided and minimally invasive medical procedures.

Erik Fosse - “Surgical aid in areas of armed conflict”

Erik Fosse is an MD and Professor of medicine at Oslo University, Norway. His specialty is general surgery and thorax surgery. He is currently the department manager at the Interventional center at the National Hospital in Oslo. Fosse received his PhD in 1987 at the University in Oslo. The SMIT congress in 2002 was managed by Fosse and his colleagues in Oslo. Fosse leads The Norwegian Aid Committee (NORWAC), a humanitarian organization that works mainly with health care issues. Their work is based on the principle of solidarity and equality regardless of religion, race and ethnic belonging.

Professor Vidar Hepso - “Imaging and navigation in the oil industry”

Vidar Hepso is the Principal researcher and project manager of Statoil Research and Technology and a Professor at the Norwegian University of Science and Technology (NTNU). His work tasks are related to integrated operation or new collaborative practices enabled by new information and communication technology. He is the Statoil coordinator of SFI integrated operations at NTNU and an internal Statoil supervisor of 2-5 NTNU/BI students yearly within the Technology Master program at NTNU and project manager within Statoil’s Summer projects for students. Vidar Hepso's specialties include collaborative training, digital oil field of the future, anthropology, actor network theory, computer supported cooperative work, and participatory design. He recently published the book “Leading Research in Technoscience: Insider social science in socio-technological change”.

Dr. Brynjulf Ystgaard - “Under the volcano: disaster preparedness”

Brynjulf Ystgaard is a surgeon at the St. Olav's Hospital in Trondheim, Norway. Ystgaard graduated medical school University of Bergen 1979 and his specialty is general and gastrointestinal surgery since 1997. He has been a consultant surgeon at the University Hospital in Trondheim since 1991. Ystgaard has a vast experience from war surgery and surgery and disaster relief through several missions with the Red Cross/Red Crescent movement for more than 15 years.
<table>
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<tr>
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<tr>
<td>07:30</td>
<td>MITAT editorial board meeting (ground floor)</td>
<td>Registration</td>
<td>Auditorium Blåhø (ground floor)</td>
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<td>Keynote talk II - plenary</td>
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<td>Welcome session - plenary</td>
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NB: Program is subject to change without notice
## Scientific session 1

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<th>Time</th>
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<tr>
<td>0900-0930</td>
<td>Welcome session (Blåhø)</td>
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<tr>
<td>0930-1030</td>
<td>Keynote talk 1 - &quot;The future of medical innovation&quot; - Richard Satava</td>
</tr>
<tr>
<td>1030-1100</td>
<td>Coffee break / Exhibition / Poster (hall, ground floor)</td>
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</table>

**Previous events:**
- 0800-0900: Registration (hall, ground floor)
- 0900-0930: Welcome session (Blåhø)
- 0930-1030: Keynote talk 1 - "The future of medical innovation" - Richard Satava (Blåhø)
- 1030-1100: Coffee break / Exhibition / Poster (hall, ground floor)

## Science session 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1300-1430</td>
<td>Lunch break and general Assembly SMIT (Blåhø)</td>
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**Previous event:**
- 1300-1430: Lunch break and general Assembly SMIT (Blåhø)

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### Future OR

**Thursday 2nd September**

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**Previous event:**
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### Minimally Invasive Therapy I

**Thursday 2nd September**

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**Previous event:**
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### Interventional radiology

**Thursday 2nd September**

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**Previous event:**
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### Sensors and robotics

**Thursday 2nd September**

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**Previous event:**
- 1300-1430: Lunch break and general Assembly SMIT (Blåhø)
Scientific session 3
Thursday 2nd september

Previous events: 1630-1700 Coffee break / Exhibition / Poster (hall, ground floor)

Medical imaging I
1700-1845 Aud. Blåhø (ground floor)
IØS event (NTNU)/Scientific Industrial sponsored session

Chairs: Odd Helge Gilja, Toril A N Hernes

Bio-photonic techniques: Physical principles and potential applications in Medicine
Rajesh Kumar, University of St. Andrews

An automated dynamic phantom to produce a figure of merit for the image quality of medical ultrasound imaging systems
George Corner, Ninewells Hospital

Progress in high resolution ultrasound towards in vivo pathology
Christine E. M. Demore, University of Dundee

Strain-ratio - for quantification of strain differences in quasi-static elastograms
Roald F. Havre, University of Bergen

Angle-independent flow imaging using plane-waves and parallel receive beamforming
Lasse Lavstakken, Norwegian University of Science and Technology

Real Time Elastography evaluation of rectal tumors within the out-patient clinical setting.
Jo Waage, University of Bergen

Overall clinical accuracy in ultrasound-based neuronavigation
Frank Lindseth, SINTEF, Norway

OR logistics
OR logistics
1700–1845 Aud. Gråkallen (1st floor)

Chairs: Warren Sandberg, Andreas Seim

The Future of Clinical Decision Support in the Digital Operating Room
Jesse Ehrenfeld, Massachusetts General Hospital

Rapid detection of multiple instruments in endoscopic video
Loubna Bouarfa, Delft university of technology

Use of Events in Clinical Software
Andreas D. Landmark, NTNU

Supporting real time adjustments to perioperative work
Barge Lillebo, Norwegian University of Science and Technology, Trondheim

Improving Surgical Trays Logistics - reduction of complexity
Carl Christian Røstad, NTNU

Improving Operating Room Logistics at a Norwegian University Hospital
Andreas Seim, SINTEF, Technology and Society

Automated drug delivering system at St. Olav’s Hospital, Trondheim
Liv Johanne Wekre, Central Norway Hospital Pharmacy Trust, Trondheim

The Future Of Operating Room Situational Awareness With A Mobile Device Application
Brian Rothman, Vanderbilt University Medical Center

Next event: 1845-1915 Special lecture 1 - “Surgical aid in areas of armed conflict” - Eric Fosse (Blåhø)
Leisurely 10 minutes walk to Nidaros Cathedral
Concert at Nidaros Cathedral and welcome reception at To Tårn

Minimally invasive therapy II
0900–1030 Aud. Blåhø (ground floor)

Chairs: Jenny Dankelman, Erik Fosse

Virtual planning and computer controlled repositioning for malunited distal radius fractures
J.G.G. Dobbe, University of Amsterdam

Feasibility of using Thiel cadaver model for Magnetic Resonance guided Focused Ultrasound Surgery
Alexander Volovick, University of Dundee

Multi-steerable instruments for endo-nasal skull base surgery
Paulus Breedveld, Delft University of Technology

A rigid reusable access port for Single Incision Laparoscopic Surgery
Stuart Brown, University of Dundee

Sleeve gastrectomy through the Quad-port LESS device
Andrea Domenico Califano, University of Catanzaro

Mintz Y MD, Hadassah Hebrew University Medical Center, Jerusalem

Next event: 1030-1100 Coffee break / Exhibition / Poster (hall, ground floor)

Microtechnology in medicine - VECTOR
0900–1030 Aud. Gråkallen (1st floor)

Chairs: Marc Schurr, Sebastian Schostek

Historic development of active capsules
Arianna Menciassi, Scuola Superiore Sant’Anna

New frontiers in capsule endoscopy
Sebastian Schostek, Novineon Healthcare Technology Partners GmbH

Enabling robotic functions in an endoscopic capsule
Oscar Alonso, University of Barcelona

A large European project finishing – From R&D to industry
Marc Schurr, Novineon Healthcare Technology Partners GmbH

Next event: 1030-0900 Keynote talk II - “Imaging and navigation in the oil industry” - Vidar Hepsø (Blåhø)
## Scientific session 5

### Training

1100–1300         Aud. Blåhø (ground floor)

**I3OS event (Rikshospitalet)**

**Chairs:**
- Ronald Mårvik, Amir Szold, Jenny Dankelman

**An Advanced System for the Pre-operative Planning of a Pediatric Laparoscopic Procedure**
Lucio Tommaso De Paolis, Salento University

**Objective evaluation methodology for surgical motor skills assessment**
Ignacio Oropesa, Technical University of Madrid

**Real-time ultrasound simulation**
Sjur Urdson Gjerald, Norwegian University of Science and Technology

**Development of a video-based system for assistance in laparoscopic surgical training**
Juan Alberto Sanchez Margallo, Minimally Invasive Surgery Centre Jesus Uson

**A virtual reality simulator-based system for MIS objective evaluation**
Patricia Sánchez-González, Technical University of Madrid

**Visual force feedback in boxtrainers: is it useful?**
Tim Horeman, Delft University of Technology

**Construct validity of two modules on a virtual reality laparoscopic training simulator**
Cecilie Våpenstad, SINTEF Technology and Society, Trondheim

**A Simple Loss-of-Resistance Trainer for Epidural Needle Insertion**
Dennis Van Gerwen, Delft University of Technology

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### Nanomedicine, imaging and related topics

1100–1300         Aud. Gråkallen (1st floor)

**Chairs:**
- Catharina De Lange, Odd Helge Gilja

**The impact of ultrasound on liposomal drug release**
Catharina De Lange Davies, Norwegian University of Science and Technology

**SURF imaging**
Rune Hansen, SINTEF, Trondheim

**Abdominal applications of Contrast-Enhanced Ultrasound**
Odd Helge Gilja, University of Bergen

**Exploration of thermal issues in treatment planning for focused ultrasound surgery**
Jing Gao, University of Dundee

**Compilation of a pathological validation database for ultrasound monitoring of tumour ablation.**
Jena Hall, Queen’s University

**The Laser biophotometry - as a non-invasive medical technique - used in the post-operative monitoring for inflammatory processes**
Srijan Sanyal, Politecnica University of Bucharest

**MRI-guided High Intensity Focused Ultrasound Ablation of Uterine Fibroids in a 3T MR scanner**
Eric Dorenberg, Oslo University Hospital

**Experimental treatment of porcine liver by magnet resonance guided high intensity focused ultrasound**
Airazat M. Kazaryan, Oslo University Hospital

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## Scientific session 6

### Medical Imaging II

1430–1630         Aud. Blåhø (ground floor)

**I3OS event (Rikshospitalet)**

**Chairs:**
- Olav Haraldseth, Ingrid Gribbestad

**Evaluation of leaflet kinematics of bioprosthetic heart valves via high-speed imaging**
Daniel Wendt, West German Heart Center Essen

**Real-time intraoperative visualization of myocardial circulation by augmented reality temperature display**
Zoltán Szabó, Linköping University Hospital

**Illustrasound: Novel Methods for Visualization of Couinaud Liver Segmentation**
Ivan Viola, University of Bergen

**Diffusion Tensor Tractography as complementary examination to BOLD fMRI in patients with brain lesions?**
Erik Magnus Berntsen, Norwegian University of Science and Technology

**The mechanical aspects of mammography**
Jerry E. De Groot, University of Amsterdam

**Mammography and Pain**
Jerry E. De Groot, University of Amsterdam

**Flat Detector Computed Tomography and Objective Measures in Cochlear Implants**
Ralf Greisiger, Oslo University Hospital

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### New surgical techniques

1430–1630         Aud. Gråkallen (1st floor)

**Revascularization of Occluded Internal Carotid Artery Using an Endovascular Flow-Reversal System**
Razvan Buciuc, University of Mississippi

**ESWT (Extracorporal shock wave therapy) in the treatment of Peyronie’s disease**
StefF Kabisch, Zeisigwaldkliniken Bethanien Chemnitz

**Laparo-endoscopic single site sigmoidectomy with US dissection and compression anastomosis**
Marco Maria Lirici, San Giovanni Addolorata Hospital

**Laparoscopic resection for colorectal liver metastases: difference in observed over predicted survival**
Airazat M. Kazaryan, Oslo University Hospital

**A new ovine model of hybrid NOTES nephrectomy**
Francisco M. Sanchez Margallo, Minimally Invasive Surgery Centre Jesus Uson

**Hemodynamic and clinical experience with the new perimount magna ease supraannular bioprosthesis at 6 months follow-up**
Daniel Wendt, West German Heart Center Essen

**Development of Bone Anchor Substrates for Musculoskeletal Applications**
Paul Maher, University of Dundee
<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
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<th>Venue</th>
<th>Chairs</th>
<th>Presentations</th>
</tr>
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</table>
| Simulation and modelling | Friday 3rd September | 1700–1845 | Aud. Blåhø (ground floor) | Chengli Song, Sebastien Muller | Open Source Tool for 3D Simulation of Complex Applicator Placements and Ablation Volume during Image Guided Percutaneous Cryoablations  
Wolfgang Schramm, Vienna University of Technology  
Laparoscopy pneumoperitoneum fuzzy modeling  
Joao-Luiz Azevedo, Federal University of Sao Paulo  
Finite Element Analysis on Interspinous Lumbar Non-Fusion Device  
Lei Li, University of Shanghai for Science and Technology  
Analysis of red blood cells distribution in the aorta with dissections  
Wojciech Kowalczyk, University of Duisburg-Essen  
Adverse effects of limb position on myoelectric control of upper-limb prostheses  
Anders Fougner, Norwegian University of Science and Technology  
A first step towards simulating pneumoperitoneum based on MR images  
Jose Luis Moyano Cuevas, Minimally Invasive Surgery Centre Jesus Uson  
Simulation of Blood Vessel Deformation by Particle Method  
Nobuhiko Mukai, Tokyo City University |
Karl E. Grund, University and University Hospital Tuebingen  
Soloassist, A hydraulic camera holding system for minor access surgery  
Adam Fiolka, Technischen Universität München  
Development of a new 2mm grasper in SIES-POP  
(single incision endoscopic surgery plus one puncture)  
Eiji Kanehira, AMG Endosurgery Academy  
Rare indications of endoluminal surgery  
Eiji Kanehira, AMG Endosurgery Academy  
Short-term outcome following open and laparoscopic left lateral liver resection  
Olaug Villanger, Oslo University Hospital, Rikshospitalet  
Development of a Magnetic-activated Stereoscopic Camera for Single Port Laparoscopy  
Massimiliano Simi, CRIM Lab, Scuola Superiore Sant’Anna, Pisa |
| Medical Imaging III | 0900–1030 | Aud. Blåhø (ground floor) | Olav Haraldseth, Frank Lindseth | Inductively coupled MR visualization of stents in a soft embalmed Human cadaver model  
Erwin Immel, University of Dundee  
An approach to a new fluoroscopic X-ray image to a CT-like atlas registration algorithm of long bone fracture sites  
Jose Franco Campos, Minimally Invasive Surgery Centre Jesus Uson  
Fiber Tractography in Stroke Patients Revealed by MR Diffusion Tensor Imaging  
Judy R James, University of Mississippi Medical Center  
"Yes We Can" Correlate MR and Ultrasound Fetal Biometric Age  
Judy R James, University of Mississippi Medical Center  
Non-expert assessment of left ventricular global contractility using pocket sized ultrasound machines  
Ole Christian Mjølstad, Norwegian University of Science and Technology  
Enhancement of vertebrae in ultrasound imaging  
Mueller Sebastien, SINTEF Technology and Society, Trondheim |
Ilangko Balasingham, Oslo University Hospital  
Remote invasive monitoring of patients with congestive heart failure  
Jacob Bergslund, Oslo University Hospital  
Electronic diaries as a self-management tool after weight loss treatment  
Anita Das, Norwegian University of Science and Technology  
Legal framework of video recording in health care  
Kirsten Henken, Delft University of Technology  
Live surgery via videoconference  
Essen Live Meeting  
MRI guided robotic assisted procedures for pain treatment  
Andreas Melzer, University of Dundee |

Next event:  
1030-1100 Coffee break / Exhibition / Poster (hall, ground floor)
## Scientific session 9

**Saturday 4th September**

**Previous events:**

- 1030-1100 Coffee break / Exhibition / Poster (hall, ground floor)

**Next event:**

- 1300-1400 Lunch break (ground floor)
- 1400-1445 Award session (Blåhø)
- 1445-1645 Joint scientific session with SLS in NY via videoconference (Blåhø)

### Minimally invasive therapy III

- **1100–1300**
  - **Aud. Blåhø** (ground floor)
  - **Chairs:** Joachim Kettenbach, Brynjulf Ystgaard
  - **Long-term results of MR-guided Radiofrequency Ablation of Liver Metastases**
    Joachim Kettenbach, University Hospital Bern
  - **Minimally invasive refixation of loosened prostheses: instrument design**
    Gert Kraaij, Delft University of Technology
  - **Navigated Ultrasound in Laparoscopic Surgery**
    Anna Rethy, NTNU
  - **Advances in ultrasonic cutting to reduce unwanted thermal effects**
    Muhammad Sadiq, University of Dundee.
  - **Fiber-optic Raman spectroscopy of bladder biopsy samples ex vivo**
    Matthijs Grimbergen, University Medical Centre Utrecht
  - **Instrument-Guided Microwave Ablation of Liver Tumor during Liver Surgery**
    Daniel Inderbitzin, Inselspital Bern
  - **Laparoscopic management of cystic pancreatic lesions**
    Irina Pavlik Marangos, Oslo University hospital
  - **Laparoscopic pancreatic resection for cancer - is it justifiable?**
    Irina Pavlik Marangos, Oslo University hospital

### Advances in endoscopic surgery II

- **1100–1300**
  - **Aud. Gråkallen** (1st floor)
  - **Chairs:** Marco M Lirici, Sebastian Schostek
  - **Time of Flight 3-D Endoscopy**
    Sarah Hempel, Technische Universität München
  - **A novel approach to the use of surgical robotics in NOTES procedures**
    Sebastian Schostek, Novineon Healthcare Technology Partners GmbH
  - **Effects of the design of laparoscopic tool handle in ergonomic assessment of the upper limb**
    Francisco M. Sánchez Margallo, Minimally Invasive Surgery Centre Jesus Uson
  - **Use of tactile sensor information in an experimental haptic instrument system for laparoscopy**
    Sebastian Schostek, Novineon Healthcare Technology Partners GmbH
  - **LESS Cholecystectomy: results of a randomized controlled trial**
    Marco Maria Lirici, San Giovanni Addolorata Hospital
  - **ESCO trial: colonic stent versus emergency surgery in malignant colon occlusion, an interim report**
    Mario Morino, University of Torino
  - **Plastolock shaft-guide for flexible endoscopes rigidity control by safe heating**
    Arjo J. Loeve, Delft University of Technology

### Joint scientific session with the SLS conference in New York via videoconference

- **1445–1645**
  - **Auditorium Blåhø**
  - **Agenda**
    1. Keynote Speaker, Todd Loofbourrow, presents “Robotics, Medicine, and the Future of Healthcare...Building Businesses out of Ideas”
    2. “Ultrasound and image guided surgery - A collaboration between SINTEF, St. Olavs Hospital and NTNU in Trondheim”, by Toril N Hernes, Prof NTNU and Research Director SINTEF. Including a live guided tour of the Future OR in Trondheim
    3. Presentation of the Future OR in Oslo, including tour, by Prof Erik Fosse, Department Director Rikshospitalet
    4. Presentation of the Future OR project in Dundee, including live tour, by Prof Andreas Melzer, Director of IMSaT

**Information about SLS**

SLS is the largest Minimally Invasive or Laparoscopic Society in North America and perhaps worldwide with over 6000 active members. Many Laparoscopic and MIS specialties are represented; the main three are Surgical Endoscopy, Gyn Laparoscopy, and Endourology. SLS focus is multispecialty, providing a multidisciplinary education by giving a comprehensive view that is more inline with better physician orientation and patient outcome. SLS is lead by Paul Alan Wetter, MD.
Ensuring patient values in the development of hospital information systems
Line Melby, Norwegian University of Science and Technology (NTNU)

The Biomedical Wireless Sensor Network (BWSN2) project
Karl Øyri, Oslo University Hospital

Improving PW-Doppler ultrasound using adaptive signal processing
Ingvild Ekroll, NTNU

Improvements of MR Imaging of Thiel Embalmed Human Cadavers
Mariana Gueorguieva, University of Dundee

Concept of Multimodality Image Guided Diagnostic and Therapy for Cancer
Fabiola Fernandez-Gutierrez, University of Dundee

Skin shift and its effect on navigation accuracy in image-guided neurosurgery
Takashi Mitsui, Nagoya University

Unified framework for estimation of the intima-media thickness of the common carotid artery using active contour model
Paweł Turcza, AGH University of Science and Technology

Risk factors for recurrence after transanal endoscopic microsurgery for rectal malignant neoplasm
Marco Ettore Allaix, University of Torino

Critical ischemia of the lower limbs surgical treatment
Francisca Blanca Calinescu, Army’s Center for Cardiovascular Diseases Bucharest

Endoprostheses for endovascular repair of subrenal aortic aneurysms
Ilgiz Gataullin, Kazan State Medical Academy

The Nanoporation project: A potential new application of Magnetic Resonance guided Focused Ultrasound (mrgfus)
Dana Gourevich, University of Dundee

Flexible double channel ureterorenoscopy: first results
Thomas Horn, Klinikum rechts der Isar der Technischen Universität München

Design of Patch Insulin Pump using piezoelectric micropump
Kunyong Lu, University of Shanghai for Science and Technology

Trans-vaginally assisted single incision laparoscopic right hemicolectomy for colon cancer: preliminary results
Giuseppe Navarra, University Hospital of Messina

Effects of TRUS and Fluoroscopy Registration Error on Dosimetric Quality in Prostate Brachtherapy
Mark Wu, Queen’s University

Preclinical testing of stents and stentgrafts, models of stents
Jiri Paral, University of Defense, Hradec Kralove

The FUGE Bioinformatics Platform: a central platform in the FUGE2 period
Finn Drabløs, Norwegian University of Science and Technology (NTNU)

Ensuring patient values in the development of hospital information systems
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