

CONFERENCE BOOKLET

EWG
ORAHS
OR APPLIED TO
HEALTH SERVICES

51st Annual Meeting of the EURO
Working Group on Operational
Research Applied to Health
Services

TRONDHEIM, 6th – 11th JULY



ORAHS
TRONDHEIM 2025

WELCOME TO ORAHS 2025 IN TRONDHEIM

We are delighted to welcome all participants and accompanying guests to Trondheim for ORAHS 2025.

The name “Trondheim” originates from the Old Norse word *bróndheimr*, meaning “home of the strong and fertile people”, a tribute to the Trønder people. We hope that you will take advantage of the opportunity to explore both the city and its warm and welcoming citizens during your stay.

Today, Trondheim is a vibrant and forward-looking city. It is home to Norway’s largest university, its most innovative hospital, and the awe-inspiring Nidaros Cathedral. Located 63 degrees north, not far from the Arctic Circle, Trondheim offers long summer evenings - perfect for enjoying the city’s charm and natural beauty.

Throughout the conference, we hope you will be inspired by our two plenary sessions, engage in a wide range of presentations and posters, and especially enjoy Practitioner’s Day, a unique opportunity for researchers and practitioners to come together, share experiences, and exchange ideas.

Our social program promises memorable experiences, including an organ concert at the majestic Nidaros Cathedral, guided walks through the historic city, and a scenic boat trip that concludes with the opportunity to ‘Bara bada bastu’, a Nordic tradition of sauna and relaxation.

We look forward to an exciting and enriching week with you in Trondheim!

Henrik Andersson
(on behalf of the ORAHS 2025 organising committee)

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Index

Program at a glance	7
Saturday	7
Sunday	7
Monday	8
Tuesday	8
Wednesday	9
Thursday	9
Friday	9
Practical information	10
Conference venue	10
Lunch	13
Scientific program	13
Last minute updates	13
Information for session chairs	13
Wifi connection	14
Receipt and certificate	14
Steve Gallivan award	14
Water and weather	15
Getting around in Trondheim	15
Plenaries	16
Plenary: Nadia Lahrichi	16
Plenary: Lina Grännö	16
Panel discussion	16



Doctoral Colloquium	18
Participants	18
Experts	18
Social program	19
Sunday Welcome Reception	19
Monday Nidaros Cathedral Concert	19
Tuesday City Walking Tours	20
Wednesday Boat Trip	20
Thursday Conference dinner	21

PROGRAM AT A GLANCE

	SATURDAY 05.07.2025	SUNDAY 06.07.2025	MONDAY 07.07.2025	TUESDAY 08.07.2025	WEDNESDAY 09.07.2025	THURSDAY 10.07.2025	FRIDAY 11.07.2025
07:30							
08:00			Registration			Registration	
08:30			Opening			Opening	
09:00	Doctoral Colloquium	Doctoral Colloquium	Plenary	Sessions	Boat trip	Practice – oriented plenary	Sessions
09:30							
10:00			Coffee break	Coffee break		Coffee break	Coffee break
10:30							
11:00			Sessions	Poster session 1		Sessions	Business meeting
11:30							Closing
12:00			Lunch	Lunch		Lunch	Lunch
12:30							
13:00			Sessions	Sessions		Poster session 2	
13:30						Panel discussion	
14:00	Doctoral Colloquium Social Event	Welcome reception	Coffee break	Coffee break	City tour	Coffee break	
14:30							
15:00			Sessions	Sessions		Sessions	
15:30							
16:00							
16:30							
17:00							
17:30							
18:00			Nidaros Cathedral (Nidarosdomen) concert				
18:30							
19:00						Conference dinner	
19:30							

SATURDAY | 5th JULY

📍 Disputasrommet at Hovedbygg (NTNU)

08:45 – 15:30 Doctoral Colloquium

16:00 – 20:00 Social Event Doctoral Colloquium

SUNDAY | 6th JULY

📍 Disputasrommet at Hovedbygg (NTNU)

09:00 – 17:00 Doctoral Colloquium

18:00 – 20:00 Welcome Reception (at Rockheim)

MONDAY | 7th JULY

📍 Realfagbygg (NTNU)

08:00 – 09:00 Registration

Time	R5	R8	R9
09:00 – 09:30	MA-01: Opening	–	–
09:30 – 10:30	MB-01: Plenary	–	–
11:00 – 12:30	MC-01: Simulation 1	MC-02: Implementation	MC-03: Staff scheduling
13:30 – 15:00	MD-01: Home healthcare	MD-02: Patient to room	MD-03: ED & ICU
15:30 – 17:00	ME-01: Access and EMS	ME-02: Cancer and personalised care	ME-03: Appointment scheduling

18:30 Nidaros Cathedral Concert

TUESDAY | 8th JULY

📍 Realfagbygg (NTNU)

Time	R5	R8	R9
09:00 – 10:30	TuA-01: Surgery Scheduling 1	TuA-02: EMS and cyber attacks	TuA-03: Location and Logistics
11:00 – 12:30	TuB-01: Poster session 1 (<i>at R5 and AU1-101</i>)	–	–
13:30 – 15:00	TuC-01: Analytics & healthcare management	TuC-02: Integrated planning	TuC-03: Optimisation
15:30 – 17:00	TuD-01: Blood & sepsis	TuD-02: System dynamics	–

17:15 – 18:45 City Walking Tour

WEDNESDAY | 9th JULY

📍 HAVET (*Strandveien 104*)

09:45 – 16:30 Boat Trip

THURSDAY | 10th JULY

📍 Kunnskapssenteret (St. Olavs Hospital)

08:30 – 09:15 Registration

Time	KA12	KA11
09:15 – 09:30	Welcome address	–
09:30 – 10:30	Plenary session	–
11:00 – 12:30	ThC-01: Innovation 1	ThC-02: Innovation 2
13:30 – 14:00	ThD-01: Poster session	–
14:00 – 15:00	ThE-01: Panel discussion	–
15:30 – 17:00	ThF-01: Innovation 3	ThF-02: Innovation 4
19:00	Conference Dinner (at Clarion Hotel)	

FRIDAY | 11th JULY

📍 Realfagbygg (NTNU)

Time	R5	R8	R9
09:00 – 10:30	FA-01: Simulation 2	FA-02: Surgery scheduling	FA-03: Elderly care
11:00 – 12:20	FB-01: Business meeting	–	–
12:20 – 12:30	FC-01: Closing	–	–

PRACTICAL INFORMATION

Conference venue

ORAHS 2025 will take place at **Gløshaugen Campus** from Saturday to Tuesday (and again on Friday), and at **Kunnskapssenteret at St. Olavs Hospital** on Thursday. Both venues are close to one another, and are a 20-30 minute walk from the city centre.

Gløshaugen Campus

Gløshaugen is the main campus of NTNU (Figure 1). Two buildings will be used: **Hovedbygget** for the Doctoral Colloquium (on Saturday and Sunday) and **Realfagbygget** for the scientific conference (on Monday, Tuesday, and Friday).

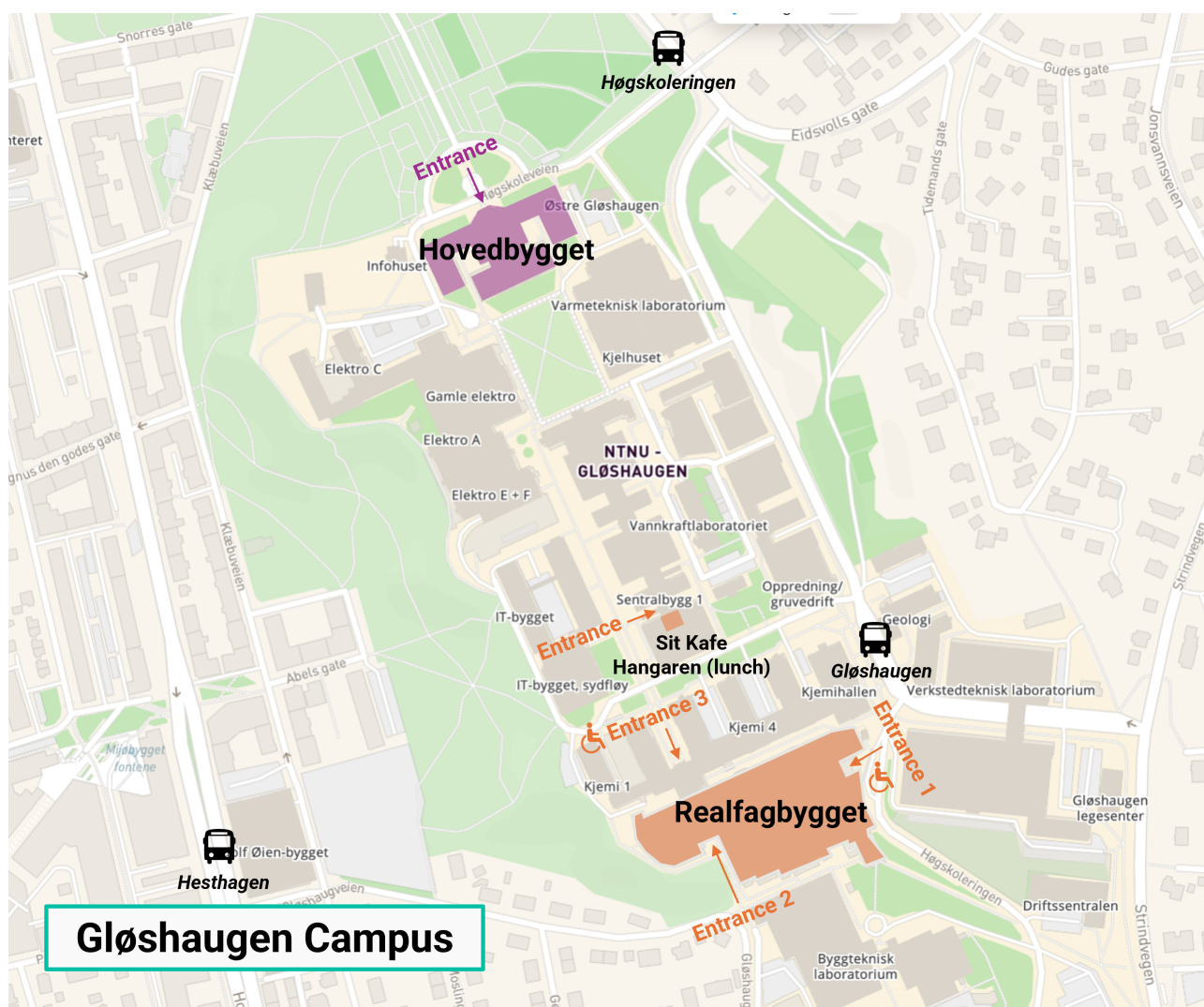


Figure 1: Gløshaugen Campus

➡ The entrance is located at *Høgskoleringen 1*.

 The closest bus stop is *Høgskoleringen* (bus: 3, 22, 25).

 The room **Disputasrommet**, located on the second floor, will be used for the Doctoral Colloquium.

Figure 2

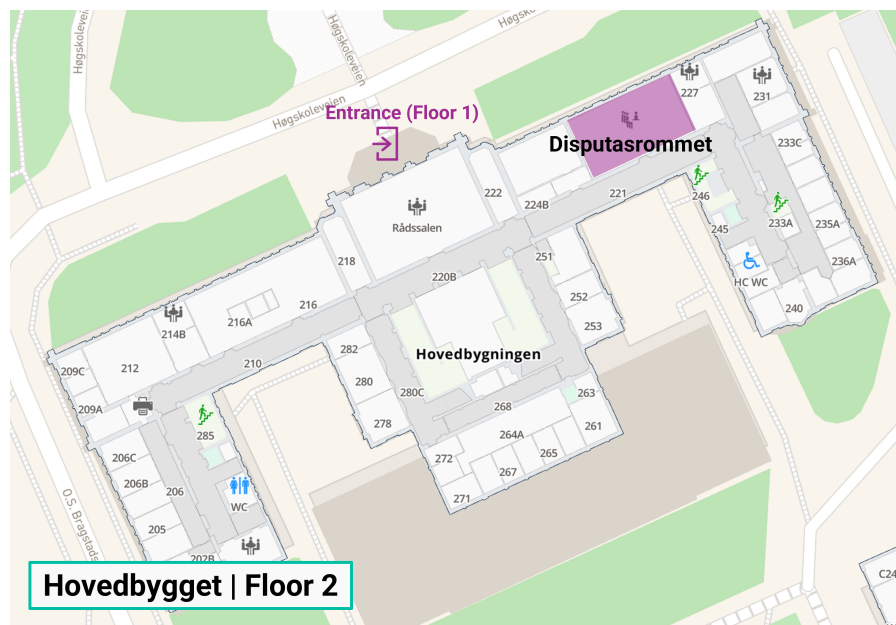


Figure 2: Hovedbygget layout - Floor 2

➡ Three entrances will be open during the conference: Entrance 1, Entrance 2 and Entrance 3.

 The closest bus stop is *Gløshaugen* (bus: 3, 22). Many buses stop at *Hesthagen* (bus: 1, 2, 10, 11, 18, 20, 71), which is at walking distance too, but uphill and there is construction work.


 Three rooms are available for ORAHS at the floor U1: **R5**, **R8**, and **R9**.

Figure 3

➡ The entrance is located at *Olav Kyrres gate 17*.

 The closest bus stop is *St. Olavs Hospital Øst* (bus: 12, 13, 70), but most buses stop at *Studentersamfundet 2* (bus: 1, 2, 10, 11, 18, 20, 71).

 The sessions will take place at rooms **KA11** and **KA12** on floor 1. Two other rooms will be available for working: **KS11** and **KS12**.

 Figure 4 and Figure 5

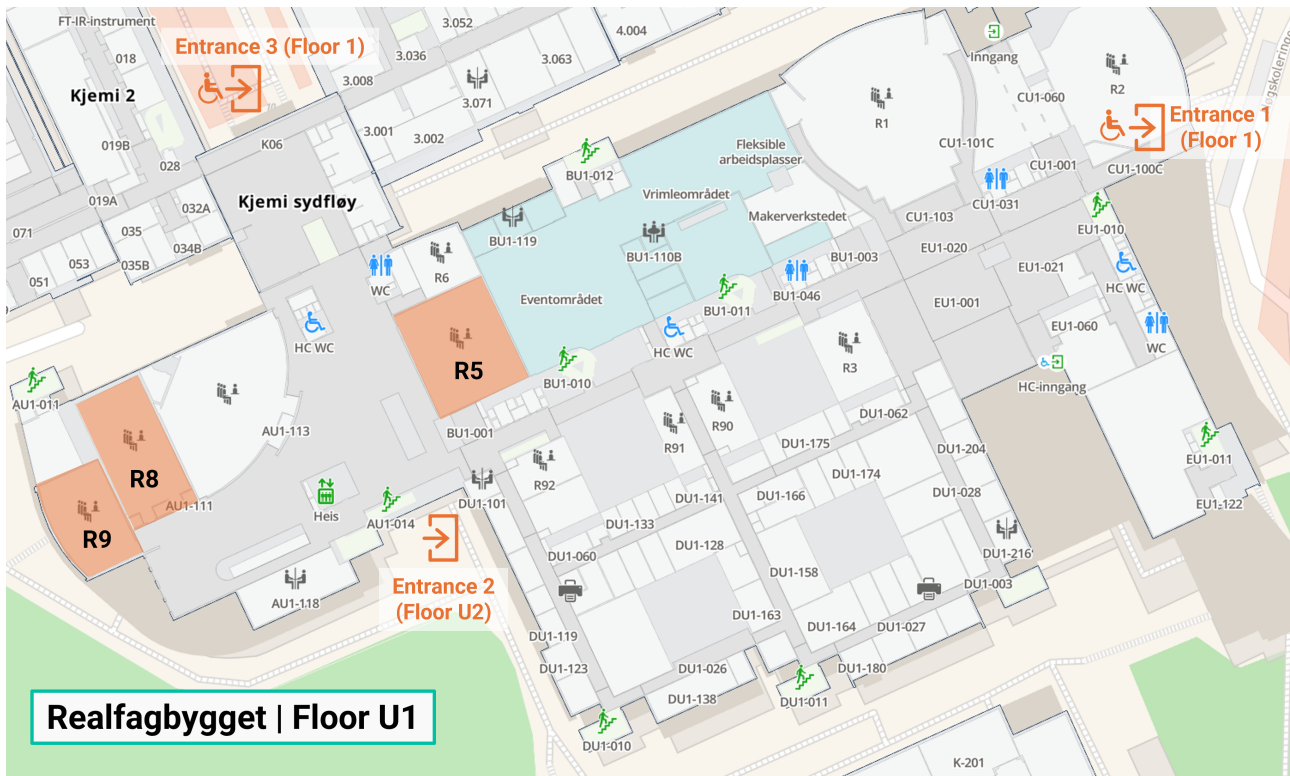


Figure 3: Realfagbygget layout - Floor U1

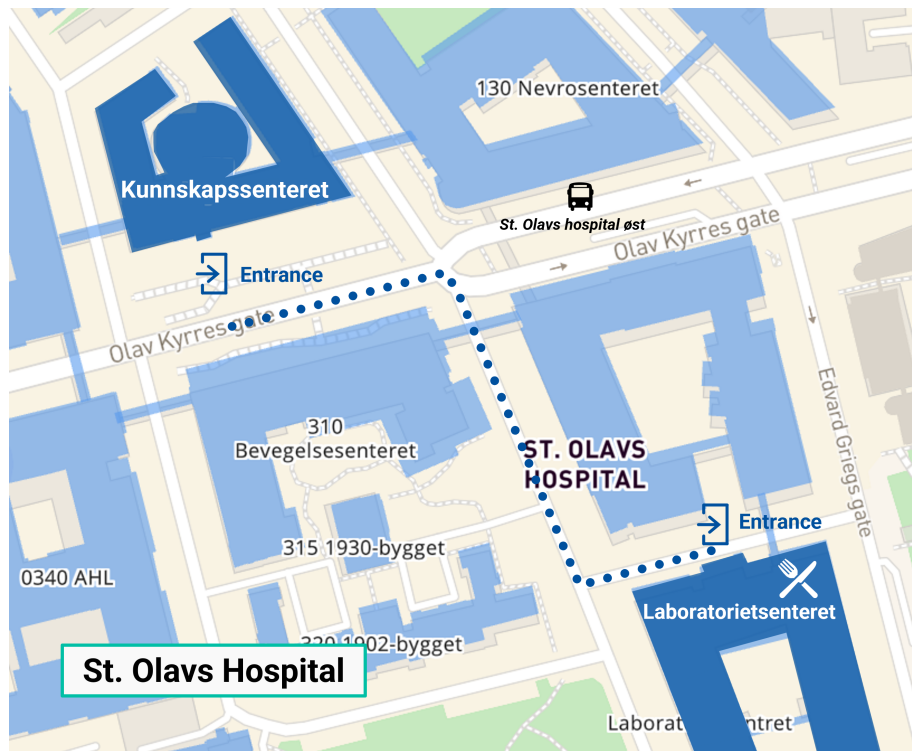


Figure 4: St. Olavs Hospital

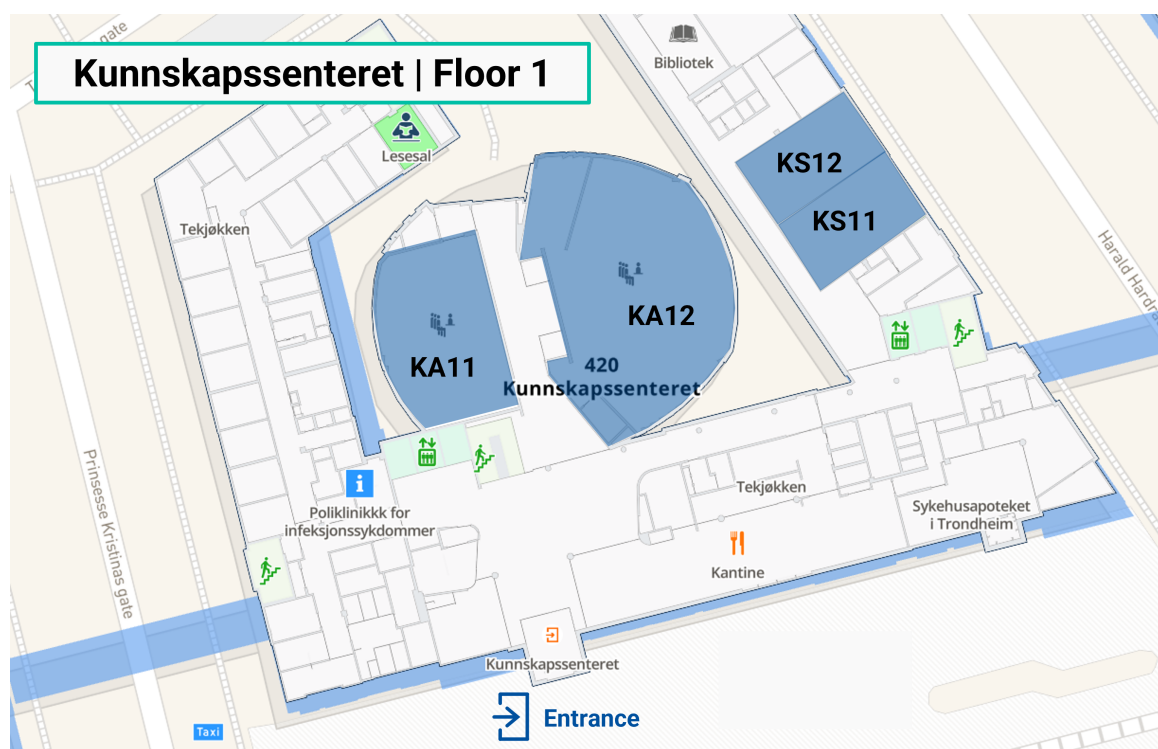


Figure 5: Kunnskapssenteret layout - Floor 1

Lunch

- **Monday, Tuesday and Friday:** Lunch will be served at **Sit Kafe Hangaren** (*Alfred Getz' vei 1*) (Figure 1).
- **Thursday:** Lunch will be served at the **canteen of Laboratoriesenteret** (*Erling Skjalgssons gate 1*) (Figure 4).

Scientific programme

On the website you can find the **sessions overview** and the **abstract book**. The abstract book can also be accessed through the EURO system.

Last minute updates

The conference website has a news section on the right banner, where updates and any last minute changes will be published.

Information for session chairs

Each session comprises 4 talks. Regular talks will be 15 minutes plus 5 minutes for questions. Please:

1. Arrive 5 minutes before the start of the session to check the equipment.
2. For simplicity, place all the presentations on your laptop or on one of the speakers' laptops. If as a session chair you can't bring your laptop, please get in touch with the committee beforehand. The PCs in the rooms need NTNU credentials, and won't be available for ORAHS.
3. Follow the schedule. If a speaker is absent, do not advance other talks or extend previous presentations.
4. Facilitate discussion. If the audience is silent, have a couple of questions or comments ready to engage the speaker.

Wifi connection

The **Eduroam** connection is available on all university campuses. For more information on how to connect to Eduroam, visit this link.

NTNU also provides a **guest network** (*ntnuguest*) for visitors who can't access Eduroam. For more information on how to connect to the guest network, visit this link.

Receipt and certificate

Each participant received a **payment receipt** by email from NTNU Konferanser (info@konferanser.ntnu.no) at the email address provided during registration.

Participants who wish to receive a **certificate of attendance**, please request it to the organising committee by sending an email to orahs2025@iot.ntnu.no.

Steve Gallivan award

Since ORAHS 2017, the Gallivan Award is given to the best poster presented by PhD students. In particular, three students are awarded at each ORAHS edition thanks to the EURO General Support Funding. The winner of the previous editions are published on the ORAHS website.

The list of candidates is composed of 6 PhD students:

Lieke Jansen – University of Groningen (the Netherlands); **Mina Moeini** – Simon Fraser University (Canada); **Arianna Freda** – Roma Tre University (Italy); **BoFan Zhang** – King's College London (United Kingdom); **Chao Pan** – KU Leuven (Belgium); **Jedidja Lok-Visser** – University of Twente (the Netherlands);

This year, the jury is composed of Melanie Reuter-Oppermann (president) and two other members. Even if some participants also present their work as a regular talk, only the poster is evaluated by the jury. The winners of the Steve Gallivan Award are announced during the conference dinner.

Water and weather

Tap water in Norway is safe to drink, unless otherwise indicated. Trondheim Municipality has exceptionally good drinking water quality. For more information, visit this link (in Norwegian only).


Summers in Trøndelag can be a little moody. Last year in Trondheim the minimum temperature was 7.3°C, the maximum 28.3°C and the average 14.3°C. It is wise to always carry a sweater and a light rain jacket or umbrella, as the weather in Trondheim can change quickly. We recommend checking the weather forecasts daily and dressing accordingly. You can do so at the Norwegian weather forecasting service www.yr.no.

Getting around in Trondheim

We strongly recommend using the **AtB service** to plan your bus trips and buy tickets. You can visit www.atb.no/en or download the AtB app.

PLENARIES

 MONDAY | 7th JULY

 09:30 - 10:30

 Realfagbygg - R5


Leveraging Operations Research to drive innovation in Healthcare Systems

Nadia Lahrichi | Professor at the Department of Mathematics and Industrial Engineering at Polytechnique Montreal (Canada)

As healthcare systems face increasing pressure to deliver high-quality care efficiently, operations research (OR) offers powerful tools for driving innovation and enhancing system performance. In this keynote, we will explore how advanced OR methodologies and data analytics can transform healthcare delivery through practical case studies, including resource scheduling and allocation. We will also examine some critical questions such as: *Does innovation in hospitals align with innovation in OR?* And *what are the key elements that drive meaningful change?* While we may not have definitive answers, we will share insights and lessons learned that can help shape the discussion.



 THURSDAY | 10th JULY

 09:30 - 10:30


 Kunnskapssenteret - KA12

Transforming healthcare delivery through data-driven organizational development and strategic planning

Lina Grännö | Head of Planning and Follow-up at Karolinska University Hospital (Sweden)

As healthcare strives to meet patients' needs with high quality and accessibility, operations research (OR) offers opportunities to streamline and improve healthcare processes. In this keynote, we will explore how data-driven organizational development and strategic planning can transform healthcare delivery through practical examples from Karolinska University Hospital. We will discuss critical questions such as: How can we ensure optimal use of healthcare resources? While we may not have all the answers, we will share insights and experiences that can help shape future discussions.



 THURSDAY | 10th July 14:00 – 15:00 Kunnskapssenteret - KA12

PANEL DISCUSSION: Enabling healthcare innovation through OR

Jarl Reitan | (Moderator) Innovation advisor at St. Olavs Hospital (Norway)

Jarl Reitan is an innovation advisor at the service innovation centre at St. Olavs Hospital. He specialises in service design, innovation management, development of patient pathways, and remote medical follow-up. Since 2004, he has worked with innovation in the public sector and has led major national competence development projects.



Øystein Døhl | Financial manager at Trondheim Municipality and researcher at NTNU (Norway)

Øystein Døhl is the financial manager at Trondheim Municipality and a researcher at NTNU. With over 20 years of experience in health data analytics and strategic planning of municipal health services, he has done research on the evaluation of long-term patient follow-up, and his current interest is how municipalities can prepare for demographic shifts. He holds a PhD in health economics.



Birger Endreseth | Medical Director at St. Olavs Hospital (Norway)

Birger Endreseth is the medical director at St. Olavs Hospital, where he is responsible for strengthening and coordinating the professional healthcare development. He holds an MD and PhD, and is a specialist in general surgery and gastrointestinal surgery. Previously, he worked as senior consultant and clinic director at the Surgical Clinic at St. Olavs Hospital.



Gréanne Leefink | Associate Professor at the University of Twente (the Netherlands)

Gréanne Leefink is Associate Professor at the Center for Healthcare Operations Improvement and Research (CHOIR) at the University of Twente. She is affiliated with Isala Hospitals, where she works on topics related to integral capacity management and connected care. Gréanne obtained her PhD on integrated planning in cancer care, in collaboration with UMC Utrecht and Mayo Clinic.



Kjartan Klyve | Senior Manager at KPMG Norway (Norway)

Kjartan Klyve leads KPMG Norway's work in Healthcare Optimization and Analytics, where he spearheads the design and implementation of advanced Operations Research tools in healthcare settings. He holds a PhD in Operations Research from NTNU and has a strong history of applying optimization and algorithmic techniques to real-world scheduling problems in hospitals.



DOCTORAL COLLOQUIUM

Within ORAHS, supporting PhD students and welcoming them into our research family is important for us. For the DC, doctoral students working on their theses in the field of Operations Research applied to Health Services were invited to submit a research proposal paper. The submissions could be current working papers as well as dissertation theses outlines. As in previous years, students present their submitted research and receive feedback from a group of experienced researchers on Saturday and Sunday before the conference. Each student was assigned two experts to read their submission and guarantee a lower bound on the feedback. Besides group discussions for each talk, students get one-on-one time with the experts in the “speed-dating” sessions. This year, we decided to include a talk given by one of the experts on a relevant topic. We are very happy that Hannah Johns agreed to talk about her experiences in publishing OR in healthcare research for practitioners. Lunch and coffee breaks as well as the very special social dinner on Saturday will give PhD students and seniors the chance to network and socialise. On Sunday, all participants will travel from the DC to the reception and officially start the conference together. We believe that these events are important for the young generation of researchers and valuable for the seniors and therefore aim for the DC to become a regular part of ORAHS conferences.

Participants

Sara Cambiaghi – University of Padova (Italy); **Camille Pincon** – Polytechnique Montréal (Canada); **Miguel Baigorri** – Public University Of Navarre (Spain); **Alice Daldossi** – Università degli Studi di Torino (Italy); **Chao Pan** – KU Leuven (Belgium); **BoFan Zhang** – King’s College London (United Kingdom); **Agita Solzemniece** – Technical University of Denmark (Denmark); **Simran Lakhani** – Indian Institute of Technology Bombay (India); **Arina Soboleva** – Delft University of Technology (the Netherlands); **Lieke Jansen** – University of Groningen (the Netherlands); **Philipp Dominik Pelz** – University of Regensburg (Germany); **Jedidja Lok-Visser** – University of Twente (the Netherlands); **Ricardo Otero** – KU Leuven (Belgium); **Gabriela Pinto-Espinosa** – KU Leuven (Belgium); **Mina Moeini** – Simon Fraser University (Canada); **Sachin Bodke** – Indian Institute of Technology Bombay (India); **Yuan Li** – University of Auckland (New Zealand); **Victor Ploeg** – University of Twente (the Netherlands); **Lars Van Der Meer** – University of Twente (the Netherlands)

Experts


Nadia Lahrichi – Polytechnique Montreal (Canada); **Sandy Rutherford** – Simon Fraser University (Canada); **Houra Mahmoudzadeh** – University of Waterloo (Canada); **Angel Ruiz** – Université Laval (Canada); **Joe Viana** – NTNU (Norway); **Melanie Reuter-Oppermann** – Maastricht University & ILS Mannheim (the Netherlands); **Ilze Ziedins** – University of Auckland (New Zealand); **Thomas Bovim** – NTNU & St. Olavs Hospital (Norway); **Hannah Johns** – The University of Melbourne (Australia)

SOCIAL PROGRAM

SUNDAY | Welcome Reception

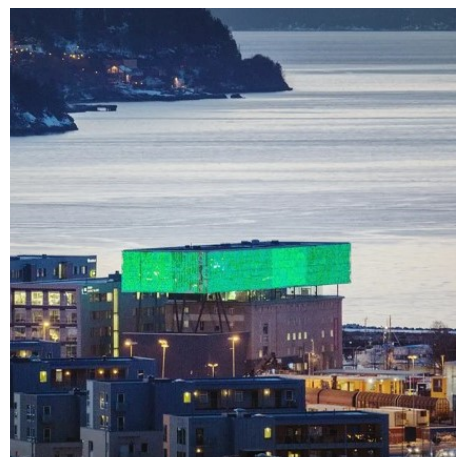
 6th JULY

 18:00 - 19:30

 Rockheim (*Brattørkaia 15*)

 21, 23 or 28 to *Pirbadet*; 25 to *Hurtigsbåtterminalen*


We look forward to welcoming you to ORAHS at Rockheim, Norway's National Museum of Popular Music. This unique venue provides a wonderful opportunity to catch up with old colleagues and make new connections. Light refreshments and a drink will be served.





Copyright: Rockheim Museum

MONDAY | Nidaros Cathedral Concert

 7th JULY

 18:30

 Nidaros Cathedral (*Kongsgårdsgata 2*)

 1, 2, 3, 10, 11, 12, 18, 20, 22, 23, 24, 25, 70, 71, 72, 79


On behalf of Trondheim Municipality, we have been cordially invited to an organ concert at Nidaros Cathedral. Nidaros Cathedral in Trondheim is a key symbol of Norway's history, built over Saint Olav's burial site. Originally a pilgrimage site, it became a coronation church and cultural landmark. Its Gothic architecture, art, and spiritual legacy reflect Norway's religious and national identity, inspiring generations through history, art, and tradition.



Copyright: VisitTrondheim

TUESDAY | City Walking Tours

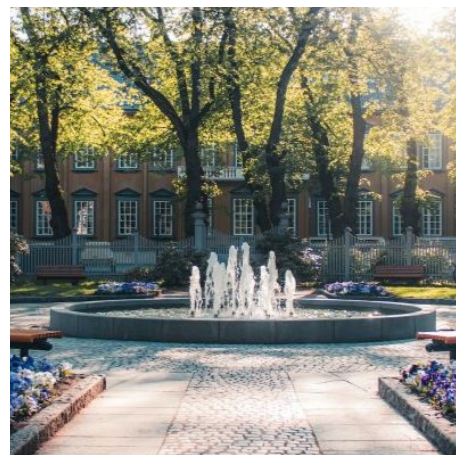
 8th JULY

 17:15 - 18:45

 Hovedbygg NTNU (*Høgskoleringen 1*)

 We depart together from NTNU

The City Walk begins at the campus and heads to *Bakklandet*, home to colorful wooden houses and the unique "Trampe" bike lift. It crosses the *Old Town Bridge* to the city center, passing *Nidaros Cathedral*, the *market square*, *Stiftsgården*, *Hotel Britannia*, and ends in vibrant *Solsiden* before returning along the River Nid (Nidelva) in Bakklandet.




Copyright: VisitTrondheim

What to bring: Wear comfortable shoes, sunscreen, sunglasses/cap, water and snacks, sweater, and a rain jacket/umbrella.

WEDNESDAY | Boat Trip

 9th JULY

 09:45 - 16:30

 HAVET (*Strandveien 104*)

 2 to *Dora*; 20 to *Strandveikaia*

This year, we have a slightly different boat trip planned. We will spend the day at HAVET, a revitalised industrial area in Trondheim. Upon arrival, we will split into small groups and take turns exploring the fjord and river by speedboat and fishing boat. Equipment and clothing will be provided for the boat trip. When not on the boats, you can enjoy access to the sauna at HAVET, go swimming or fishing nearby, or take a walk along Ladestien. We will also have access to a big indoor area, where people can relax or play board games.



Copyright: Crazy Coyote

What to bring: Bring a backpack with sunscreen, swimsuit, towel (x2 if you want to go to the sauna), flip-flops, sunglasses/cap, water and snacks. Also bring warm layers and a waterproof jacket in case of not so favourable weather.

THURSDAY | Conference Dinner

 10th JULY

 19:00

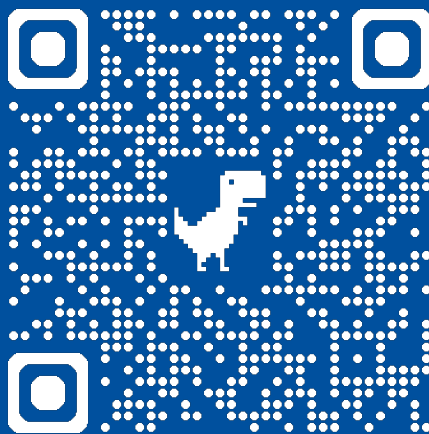
 Clarion Hotel (*Brattørkaia 1*)

 21, 23 or 28 to *Pirbadet*; 25 to *Hurtigsbåtterminalen*

The conference dinner at the Clarion Hotel offers excellent views of the fjord and is a great opportunity to socialise with the ORAHS community and practitioners. The Steve Gallivan Award will be awarded during the evening, and we will also take a group photo to commemorate the event. After dinner, guests are welcome to continue socialising at the bar and rooftop bar.



Copyright: Clarion Hotel, Trondheim



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