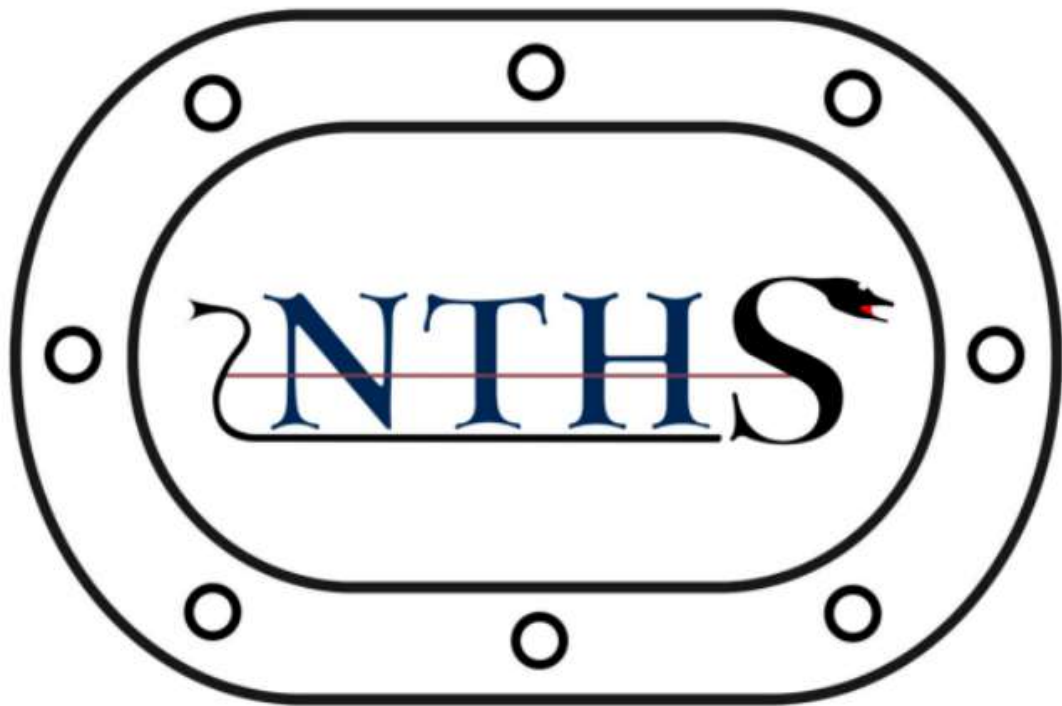
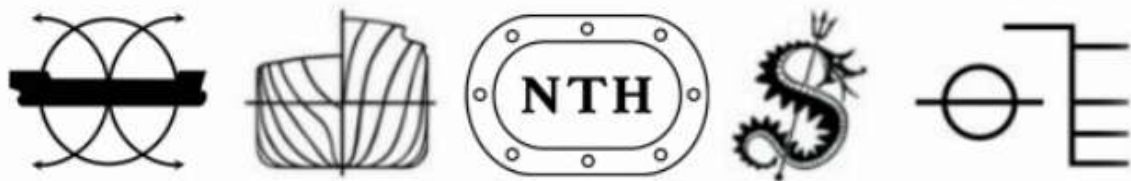


OFFICIAL REPORT

72nd NTHS



NORWEGIAN DELEGATION
SWEDEN 2019



WORDS FROM THE PRESIDENT

The 72nd NTHS is over for this time, and we are pleased to say that this year's congress was a success, such as the NTHS congresses usually tend to be. The Swedish delegations from Chalmers in Gothenburg, and KTH in Stockholm were this year's hosts and invited 50 shipbuilding students from Norway, Sweden, Finland and Denmark to learn about and experience the Swedish maritime industry.

The Norwegian delegation consisted of five students from 5th grade and five from 3rd grade. The fifth graders had joined one congress before, in 2017 when Norway was the host country, and were therefore excited to be a part of NTHS without having the same amount of responsibility as last time. The third graders were chosen based on a lottery, where the number of important roles you have had in Mannhullet, decided how many lottery tickets you got. To kickstart the year, a welcoming dinner was held in August for the members of the delegation to get to know each other.

Prior to the congress, the main job for the Norwegian delegation was to find sponsors to be able to afford the travel and the attendance fee. Due to several years with tough economy in the industry, we feared that this would be difficult. However, after some months with calling and emailing companies, we were able to book our tickets and made sure that a Norwegian delegation was present at the NTHS congress for the 72nd time.

During the congress, the delegations were introduced to the different aspects of the Swedish maritime industry. Rolls Royce, Stockholm Repairyard, Alfa Laval and Volvo Penta were only some of the companies that we were lucky to visit.

All together, we can say that the Swedish delegations did a great job as hosts of the 72nd NTHS and we are already looking forward to next year's congress in Finland!

Lastly, I want to say thank you to all of our sponsors that made it possible for us to join the 72nd NTHS congress.

Best regards,



Mildrid Haga
President, NTHS 2019



THE NORWEGIAN DELEGATION



MILDRID HAGA



HARALD HAUGLI



LIVE FORFANG BJØRNSTAD



ANDERS HABOSTAD



ERLEND TORJE LUNDBY



AKSEL KNUDSEN NORDSTOGA



VILDE EIRIN BRUUN



OLA DRANGE VEGLO



HENRIK HEIEN



SOHRAB SEKANDAR




inocean

A NAUTICAL MILE AHEAD

PROGRAM OF THE NTHS WEEK 2019

	Monday 25/03/2019	Tuesday 26/03/2019	Wednesday 27/03/2019	Thursday 28/03/2019	Friday 29/03/2019
08:30					
09:00	Alfa Laval	Stockholm Repair Yard	Rolls-Royce	Volvo Penta	Company Fair at SSRS: Scanjet ScandiNAOS
09:30					
10:00					
10:30					
11:00					
11:30					
12:00					
12:30					
13:00					
13:30					
14:00	Company Fair at KTH: Wallerius DNV-GL Trans Auto AB XL Marin	Stena Sphere	SSPA		
14:30					
15:00					
15:30					
16:00					
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17:00					
17:30					
18:00					
18:30	Dinner at Vigårda Vasagatan 14			Dinner at Vapiano Sjureplan	Dinner at Boulebar
19:00					
19:30					
20:00					
20:30					
21:00	Evening at The Temple Bar	Evening at Vodkabaren	Surprise Evening	Anecdote night at Irish Embassy Downtown	
21:30					
22:00					
22:30					
23:00					



NTHS 72 Schedule - Sweden 2019

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About Global Maritime:

Global Maritime is a marine, offshore and engineering consultancy that specializes in marine warranty, dynamic positioning and engineering services. Global Maritime is an international company based in Stavanger, Norway. Global Maritime was established in 1979 and is present in both Europe, America and Asia today.

MONDAY 25th OF MARCH

TUESDAY 26th OF MARCH

Today we were going to two different locations, and first out was Stockholm Repairyard! The yard was a short drive with the bus from our hostel and once there, the day started out with a presentation of the yard.

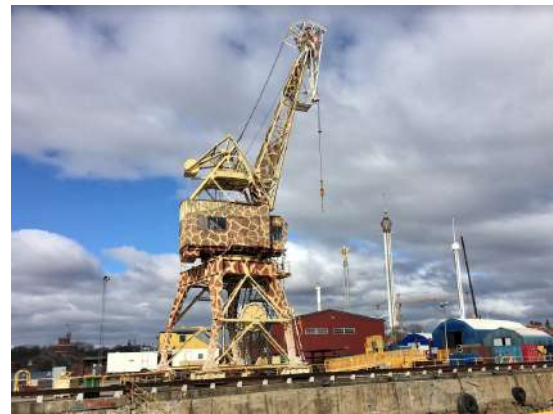
From its start in the 1850s the yard has expanded its area and are planning further expansion to be able to handle both smaller and larger vessels.



Stockholm Repairyard annually repair between 50 and 100 vessels and provide every essential service regarding repair, maintenance and conversion of vessels. Their yard is fully equipped with drydocks, cranes, quays, storage facilities and workshops. The drydocks measure 180m by 25m, and 100m

by 16.5m, and their quays measure 75m with a depth of 5m, and 150m with a depth of 6-12m.

After some technical information about the site, the NTHS group got a guided tour of the facilities. This included both the drydocks and their different workshops. The group was also able to enter the drydocks and get a look at the vessels situated there for maintenance or other services. On this tour, we saw the “famous” giraffe cranes pictured below.



The second, and last, stop of the day was at KTH (Kungliga Tekniska högskolan) for a company fair. Here, DNV GL, Wallenius, Trans Auto AB and XL Marin presented their companies.

WEDNESDAY 27th OF MARCH

We started out early in the morning with a bus ride from Stockholm to Rolls Royce AB at Kristinehamn. First, we got a tour looking at the test facilities, production areas and the offices. In particular, it was very interesting to get a closer look at the cavitation tunnels which provide the opportunity to run model tests with free surface. We also got the opportunity to learn about how CFD and model tests are used in an iterative process to optimize the propellers and hull.

After a very delicious lunch in the company cafeteria, we got a thorough introduction to the services Rolls Royce offers. From the presentation, it seems like Kongsberg Gruppen did a very good buy!



We also got the chance to learn more about the master's theses of members of the different delegations, as both representatives from the Danish and the Swedish delegations presented their research topics.

Then it was time to head for Gotenburgh with a very social bus ride where we got to know the other delegation members even better. The night ended with dinner at Boulebar.



THURSDAY 28th OF MARCH

Today we went to two different locations. We started out the day by having a good breakfast early in the morning at the hostel before we took the bus over to the location of Volvo Penta. The bus ride took us about 30 minutes and we started the visit by having a brief introduction of Volvo Penta. We learned how the process of supplying power solutions for offroad all over the world is and how the process differs from at sea and on land.

After the brief introduction we had a tour around the company area where we got to learn how they test their products and engines. We were lucky enough to get onboard on of their newest test vessel which had the latest technology onboard.



After the tour we had a lovely lunch while having a beautiful view of the coast of Gøteborg. The company visit ended with an introduction of the software program that Volvo Penta use to tune their products as optimal as possible. We also had the opportunity to test the program and it was a good experience.



FRIDAY 29th OF MARCH

Friday morning started at the head office of the Swedish Sea Rescue Society with a good view over the coast of Goteborg. Two local, Swedish companies had each prepared a presentation for us here.

First out was Scanjet, which is a global supplier of intelligent tank level monitoring systems and tank level gauging systems, providing an intelligent tank management system for marine and offshore applications.

Their head office is based in Sweden, with facilities worldwide in major ship building regions.

We were introduced to one of their products and specialization for Scanjet, tank cleaning equipment and the importance of these systems. They deliver these systems to everything from small chemical carriers and product tankers to large VLCC and ULCC crude oil tankers.

Next up was ScandiNAOS which is working with energy efficient and sustainable shipping. We were first introduced to their main goal, which is “to contribute to finding the best environmental and economic alternative for a sustainable and successful maritime transport”.

Then we were introduced to one of their projects; Green pilot. The project is to demonstrate that introducing methanol as a fuel for smaller ships can improve competitive power and reduce the environmental impact.

Their main objective is identification and development of rules and regulations in addition to the design of ship conversions.

After two hours of presentations the presidents from each delegation gathered for lunch to discuss all the positive things and improvements of the conference.

The final company presentation of NTHS 72 was by Stena Group at their headquarters in at Masthuggskajen in Göteborg. The participants of the congress was given a thorough presentation of all aspects of Stenas businesses. Stena is engaged in offshore drilling, shipping, property and finance, in addition to the ferry operations which Stena is most known for.

For the final evening of the congress, the the students dressed up for the annual banquet. In addition to the participants of this years congress around fifty participants of earlier NTHS' were also present. The evening was spent sharing memories and experiences from past congresses and the visiting delegations gave the hosts gifts to appreciate the hard work they have put down to arranging this congress.

Next year NTHS 73 will be arranged in Finland, we look forward to learn more of the Finish industry and get to know even more interesting and exciting people.

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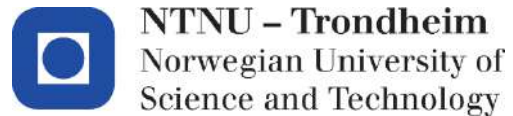
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We are looking for people who want to challenge the ocean to improve human life.

Through all times, the ocean has challenged human beings. In the ocean we find the resources that have made Norway's maritime industries grow fast. By using knowledge from marine technology, your imagination, creativity and sense of adventure, you can take part in this exploration. Those who want to join us have many exciting tasks and challenges ahead. Science always has an opening for new and better solutions to existing problems.

WHY CHOOSE MARINE TECHNOLOGY?

Do you want to challenge the ocean to improve the life of the world's population? The Marine Technology study at NTNU is your choice. We wish you welcome on board. The Marine Technology Centre (MTS) at NTNU in Trondheim is the largest research and educational centre of the marine industry in the western part of the world. Students are participating actively in international marine research projects. If you are thinking globally, are willing to push boundaries by using your imagination, creativity and environmental awareness, and appreciate working with people from different countries, the marine industry wants you.

CAREER PROSPECTS

The marine industry is characterised by varied tasks, high activity and large investments. The need for skilled people is great. Most of our students have received a work position before they graduate. A majority of new employees complete an internal training programme and several are employed as trainees. As a trainee you will be working while you are being trained. Contracts usually last for up to 3 years and include a longer stay abroad (Brazil, China, the Persian Gulf, the USA etc.).

FEEDING THE WORLD'S POPULATION

Norway is the second largest exporter of seafood, thanks to the wild catch resources and growing aquaculture production in the sea that surrounds us. These marine resources are among the richest in the world. The seafood production is based on renewable resources and it will make a breadbasket for the world's population for perpetuity.

UNIQUE LABORATORY FACILITIES

The NTNU Department of Marine Technology is located together with the research environment MARINTEK, which is well reputed internationally. The NTNU has huge marine laboratories that are made available to the PhD and master level students at the Department of Marine Technology. These laboratories are the Towing Tanks I and II, Student Towing Tank, Ocean Basin, Cavitation Tunnel, Circulating Water Tunnel, Marine Structures, Marine Cybernetics, Hydrodynamics and Machinery Laboratories.

STUDENT ENVIRONMENT

The NTNU Department of Marine Technology is known for its fantastic student environment. The fact that marine students have their own campus at Tyholt is probably one of the reasons why strong ties

are made between the students at the marine technology study programme. The Marine Technology Centre (MTS) has its own library with marine technical literature available. In addition, students have their own computer labs, study rooms and seminar rooms. For the last year of the study programme, students are given student offices at the Centre. The student association "MANNHULLET" is run by the students and it offers great friends and great fun. It also organises meetings with representatives from the marine industry, so-called business presentations.

Read more about the study programme at: <http://www.ntnu.no/studies/msn1/>

The logo for KALMARINE features a stylized 'K' on the left, composed of three diagonal bars in yellow, red, and blue. To the right of the 'K' is the word 'KALMARINE' in a bold, blue, sans-serif font.An advertisement for Kongsberg featuring a dark teal background with a white grid pattern. The text 'OCEAN SPACE EXPERT' is written in large, white, sans-serif capital letters across the grid. In the top right corner, there is a red square logo with a white crown and the letters 'K' and 'S', with the word 'KONGSBERG' written below it. In the bottom right corner, there is a QR code. The text 'The Kongsberg's Risers & Wellhead unit is recognized as a world leading engineering and consultancy service provider of riser and umbilical technologies, flowlines and subsea production systems.' is written in white in the middle right section. Below this text, the website 'km.kongsberg.com' is listed.



Mannhullet

Est. 1917

The Norwegian Delegation represents Mannhullet, the student association at the Department of Marine Technology at the Norwegian University of Science and Technology (NTNU) in Trondheim.

Mannhullet is a very central part of the student lives of those seeking marine engineering for the future. Leisure time can be spent on the sailing boat Steinbiten III or the motorboat Havfruen IV. These boats also give the students experience with the sea – an element that every marine engineer must master.

Social gatherings, such as quizzes, company presentations, sports on TV and those crazy parties only marine students know how to make are situated in Mannhullet's "basement"; Skipsloggen. Every year there are festivals such as Tyholt Rock Festival, the Regatta or RUKA, and the cabaret of Mannhullets Interne Teater (MiT), which are highlights of the semester.

But beer contains calories, and for those who want to burn it away Mannhullet has a gym at Tyholt Campus called "Kraftgangen". The sporty students of Mannhullet have access to a range of wildlife equipment, and annual trips to the woods and the mountains have become a tradition. Recently Mannhullet also started an own football club, FK Marin. The supporter club, Bulben, contributes to a good environment at the football matches.

There are constantly things going on in Mannhullet, and the choir Tåkeluren (The Fog Horn) makes every gathering unpredictable. Luckily, the marine students have the newspaper Marina to keep track of it all – especially the gossip.

Mannhullet consists of the following subgroups:

Coma

This group is responsible for trips to the great outdoors. They arrange cabin trips and hiking trips to keep the marine technology students active.

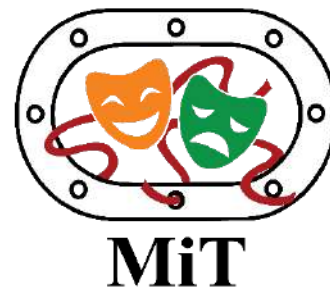


Skiptrogen

Almost all engineering student unions in Trondheim have their own bar, but ours is indisputably the largest and the best.

MIT – Mannhullets Interne Teater (Mannhullet's Internal Theatre)

One show every year, always sold out and always a huge success! The members of the Mannhullet board are always part of the jokes...



Tåkeluren

Our own maritime choir; highly energetic, not choreographed, nor talented, but extremely charming. They managed some years ago to get thrown out of a choir festival, so now they participate in band camps instead.

Marina

The newspaper for the students, by the students. Gossip and rumors true or untrue, it's all in there. If your name is in there, it's never a good thing.





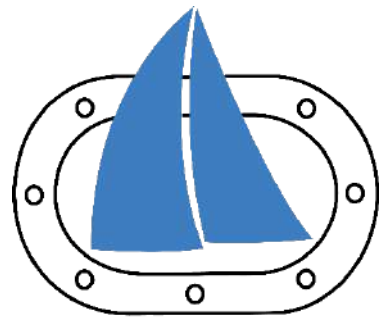
The Motorboat Committee

Havfruen V is our own motorboat, which was purchased last year as a gift to ourselves for our 100th anniversary. It is used for maritime activities such as waterskiing, diving, fishing, swimming and tanning (when the weather in Trondheim

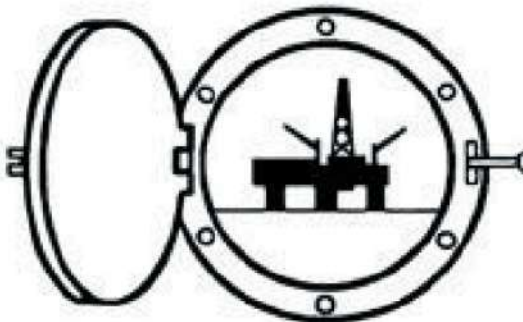
allows for it).

The Sailboat Committee

Yes, we have our own sailboat, Steinbitten III. It is a Hanse 370, new in 2006, and we are very proud of her!



SEILBÅTKOMITÉEN



Bedriftskontakt (The industry contact)

Bedriftskontakt, BK, arranges company presentations where companies present themselves for the marine technology students. They are also active in advertising summer internship, and occasionally arrange excursions.

Marin FK and Marin FKK

We are proud to have our own two football teams – for male and female. They compete against other student teams, and if they don't always win, they still have support from the best fan club ever; Bulben (the Bulb).



STATUTES OF NTHS

Regulations of NTHS as approved by the board of the 70th NTHS congress hosted by Mannhullet, Norway in 2017

§1. The name of the association is "NORDENS TEKNISKA HÖGSKOLORS SKEPPSBYGGARE".

§2. The members of the association are composed of students from the following universities:

- Danmarks Tekniske Universitet (DTU), Copenhagen
- Chalmers Tekniska Högskola (CTH), Gothenburg
- Kungliga Tekniska Högskolan (KTH), Stockholm
- Norges Tekniske Naturvitenskaplige Universitet (NTNU), Trondheim
- Alto University, Helsinki

§3. The purpose of the association is to improve the contacts between the members and to act as a provider of knowledge in ship building in the Nordic countries.

§4. The board of the association consists of 10 members. Two from each delegation, chosen by student unions.

§5. The Congress

- Every year a congress is to be arranged in one of the four Nordic countries.
Each university hosts the congress every fifth year.
- Each university is allowed a delegation of ten participants. The host university may allow more participants if desired.
- The congress must comprise of:
 - o Presentations followed by discussion and excursions to laboratories, shipyards and other industrial enterprises.
 - o A board meeting with the board consisting of the chairman and vice chairman of each delegation. The following issues will be on the agenda:
 - The President of the following year shall be introduced for the board
 - Determination of place for the next congress
 - Probable changes in the rules
 - o Invitations must be sent no later than two months prior to the congress. A preliminary schedule should be attached.

§6. The official language of the congress is English.

§7. A member fee cannot be demanded. To cover costs for the congress it is however possible to collect a participant fee, which must be no more than € 300. The association may not take on economic responsibility.

§8. When electing a new chairman at one of the universities the other universities should be informed as soon as possible. The latter also applies for changes in names, addresses and/or telephone numbers

WORDS FROM NEXT YEAR'S PRESIDENT