

# Welcome to Neuwave-12!

Overview



# The workshop

past – present - future



## NEUWAVE-1 Garching 2008



## ESS Lund hosted the NEUWAVE-5 Workshop

2013



The NEUWAVE-5 participants met on the ESS-AB (Lund) site expecting positive signs to initiate building the European Spallation Source soon and neutron imaging facilities in particular.



- 2008: Garching, Germany
- 2009: Abingdon, UK
- 2010: Sapporo, Japan
- 2011: Gatlinburg, USA
- 2013: Lund, Sweden
- 2014: Garching, Germany
- 2015: Mito, Japan
- 2016: Abingdon, UK
- 2017: NIST, USA
- 2019: PSI, Switzerland
- 2023: Tokyo, Japan

## NEUWAVE-11 Tokyo 2023





# The workshop

past – present - future

- 56 participants (which is more aligned with the original format and scope)

**The format of the NEUWAVE workshop series**  
 The organizers intentionally kept the number of participants on the order of 40 to 50 only to enable intensive interaction on an informal basis. Next to the experienced experts, young scientists were involved to present their recent findings for discussion.  
 Announcements and invitation were spread mostly within the range of the main workshop partners only. The organizers kept the right to reject applications and participation if the contribution was outside the scope of the workshop.

## Achievements during the NEUWAVE series

Evaluation of achievements is summarized in the following categories:

*Methods*

*Education*

*Analysis tools*

Many PhD projects were initiated (Table 2).

*Facilities*

*Detectors*

*New applications*

*Networking*

Table 2. PhD theses in the framework of the NEUWAVE series.

Name	Institution	Topic	Year of defense
M. Schulz	TU München	Radiography with polarized neutrons	2010
R. Woracek	Uni Tennessee/HZB	Energy selective neutron imaging for the characterization of polycrystalline materials	2015
S. Peetermans	EPFL	Energy selective neutron imaging for material science	2016
B. Betz	EPFL	Visualization of magnetic domain structures	2017
M. Boin	Open University	Development of vector tomography algorithms for 3D imaging of local crystallographic structures	2015
A. Fedrigo	KU/CNR/ESS	VESPA/neutron imaging in cultural heritage	2015
M. Makowska	DTU Copenhagen	SOFC anodes/ <i>In situ</i> structural phase imaging	2016
T. Reimann	TU München	Vortex matter beyond SANS	2017
P. Schmakat	TU München	Depolarization neutron imaging/ODIN chopper system	2016
A. Hilger	TU Berlin	Polarization/polarimetric neutron imaging	2015
G. Burka	Open University	Combined neutron imaging at Bragg edges of structural materials	2012
L. Josic	EPFL	Quantitative Neutron Imaging at Bragg edges of structural materials	
J. Valsecci	Uni Geneva	nGI and depolarization analysis with polarized neutrons	2019
M. Raventos	Uni Geneva	Diffraction neutron imaging	2018
R. Harti	Uni Geneva	Quantitative dark-field imaging	2018
A. Cereser	DTU/ESS	ToF 3D neutron diffraction	
M. Sales	HZB/KU/ESS	SEMSANS	
H. Sato	Hokkaido University	RITS code for diffraction analysis	2016
H. Hasemi	Hokkaido University		

- Walking discussion, Dedicated sessions, ncrystal workshop, Open discussion sessions

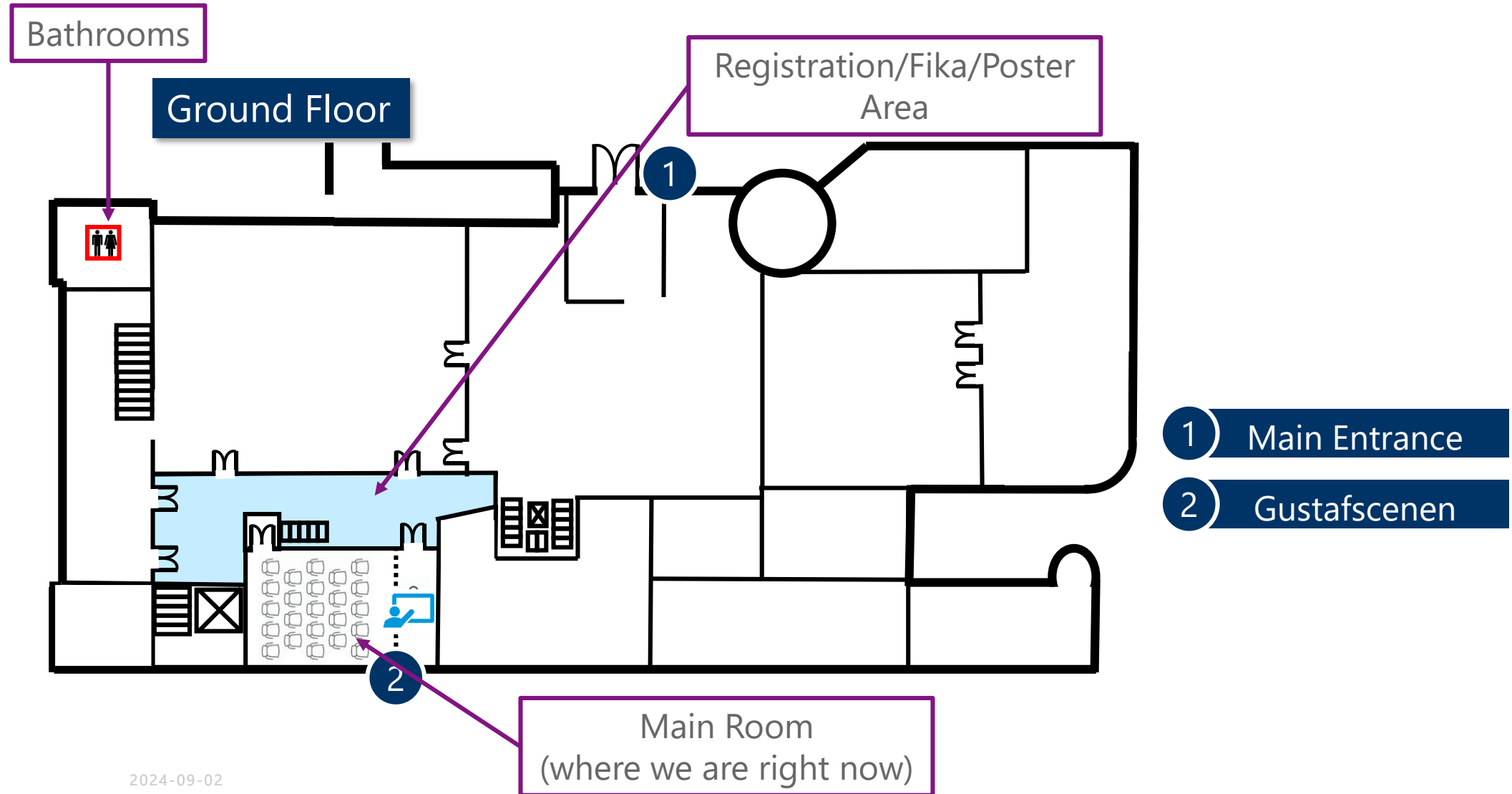
# The workshop

## Walking discussion



# Finding your way around AF Borgen

Some housekeeping things



# Overview of the Conference

## Some Things to Point Out



	Time	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00
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<b>Wednesday</b>	04-Sep-24	08:30 Arrival & Coffee at ESS	09:00 ESS Site Visit & Tour		11:10 Coffee Break	11:40 Morning Session 1	13:00 Lunch at ESS	14:10 Afternoon Session 1	15:15 Coffee Break	15:45 Afternoon Session 2	17:25 Closing			
<b>Thursday</b>	05-Sep-24	08:45 Arrival & Coffee	09:00 NCrystal Workshop											

# Group Photo



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- Meet at the entrance outside!

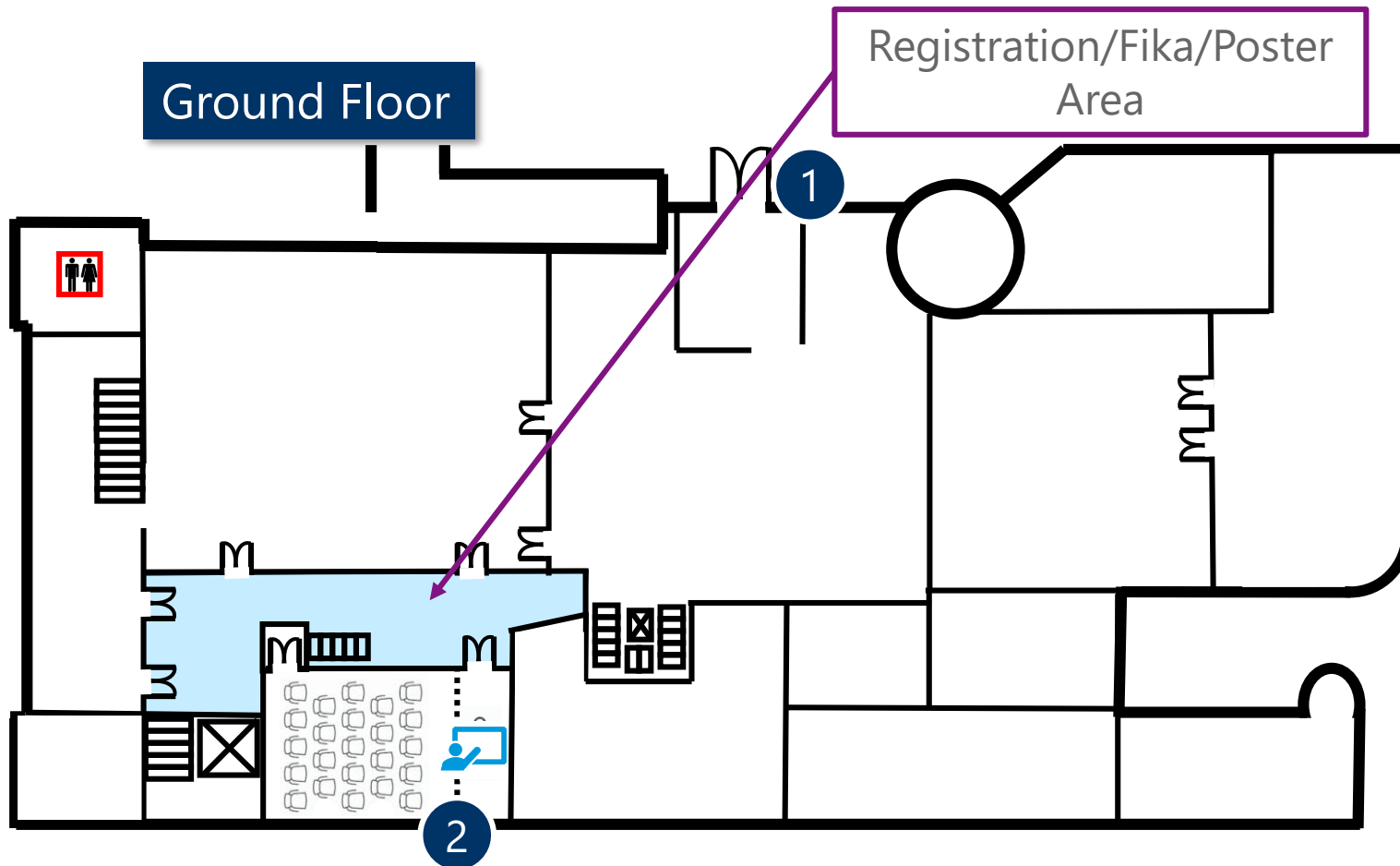
# Coffee Break & Poster Sessions



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# Reminder: Where to put your poster



- Please put your poster up at 11.00 if you have not done so yet.
- Remove after the last session tomorrow.
- Monday Coffee & Posters are longer than on Tuesday – use the time to discuss

- 1 Main Entrance
- 2 Gustafscenen

# Poster Pitches



	<b>Registration and Poster setup</b>		08:30 - 09:00
09:00	<b>Welcome and Logistics</b>	<i>Robin Woracek</i>	09:00 - 09:10
	<b>Welcome to ESS and its future Science</b>	<i>Giovanna Fragneto</i>	09:10 - 09:30
	<b>Poster Pitches</b>		09:30 - 09:50
10:00	<b>Progress in wavelength resolved imaging at PSI</b>	<i>Markus Strobl</i>	09:50 - 10:15
	<b>Pulsed neutron imaging activities at RADEN in J-PARC</b>	<i>Takenao Shinohara</i>	10:15 - 10:40
	<b>Poster Pitches</b>		10:40 - 11:00
11:00	<b>Coffee Break &amp; Posters 1</b>		11:00 - 11:40
	<b>Commissioning the VENUS beamline: preliminary results</b>	<i>Jean Bilheux</i>	11:40 - 12:05
12:00	<b>Recent advances in neutron imaging at FRM II</b>	<i>Michael Schulz</i>	12:05 - 12:30
	<b>Group Photo!!</b>		12:30 - 12:40

**P1 – P7** (indicated by a yellow arrow pointing to the 09:30 - 09:50 slot)

**P8 – P14** (indicated by a yellow arrow pointing to the 10:40 - 11:00 slot)

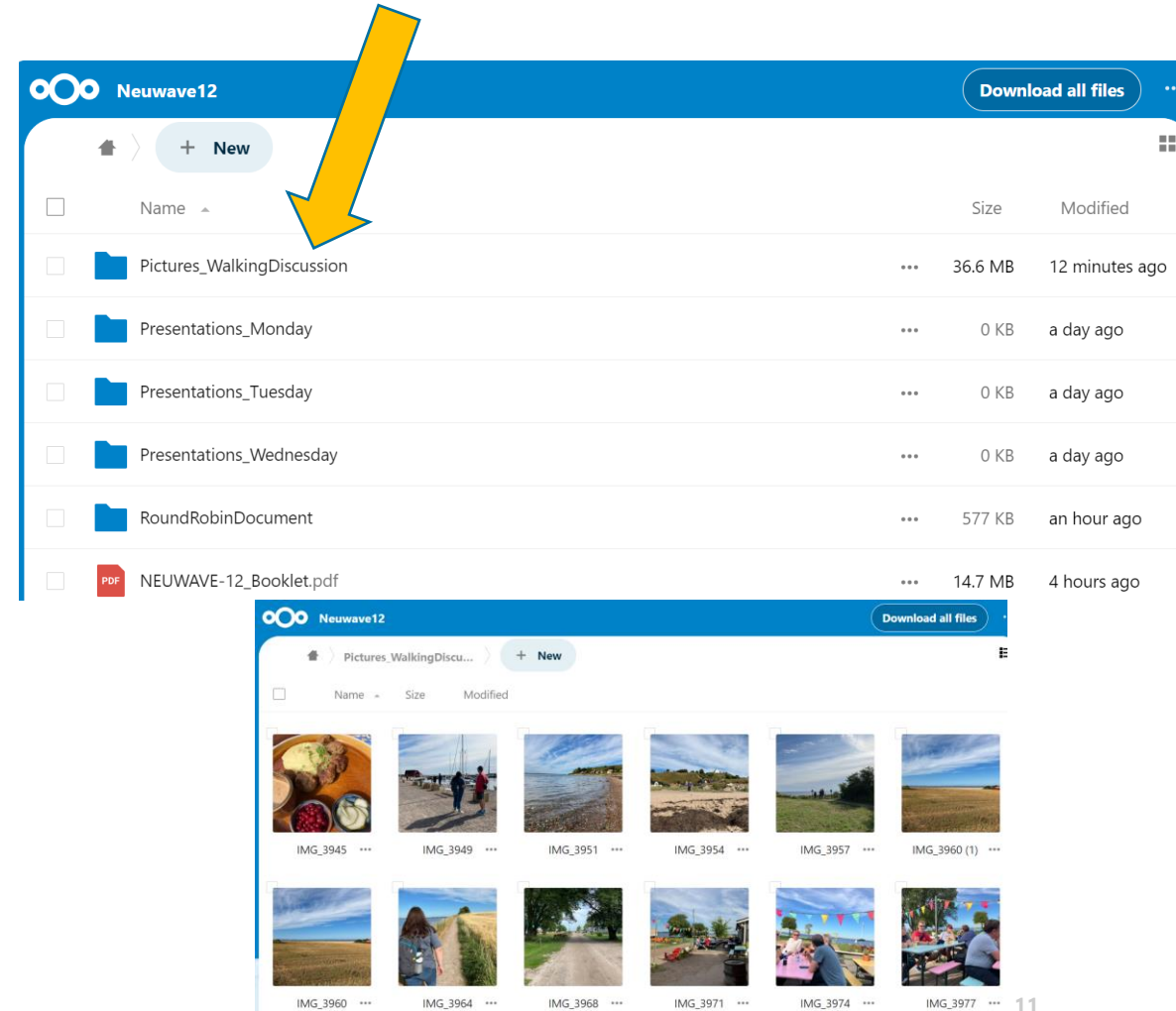
# Presentations



- For presenters, please upload your presentation files to the workshop system by the break preceding your session.

## Afterwards

- We will share all presentations amongst participants.
- Please email your presentation to: [neuwave12@ess.eu](mailto:neuwave12@ess.eu)
- LINK: <https://project.esss.dk/nextcloud/index.php/s/ceW6qiTWTmWLSYL>
- Will be PW protected (PW will be shared with participants only).
- Please drop your best photos here!



# Discussions and Open sessions



- Three Open Discussion sessions
- Each session will be led by two chairpersons who will work closely together to structure the discussions effectively
- We encourage participants to think about possible themes and come prepared to engage

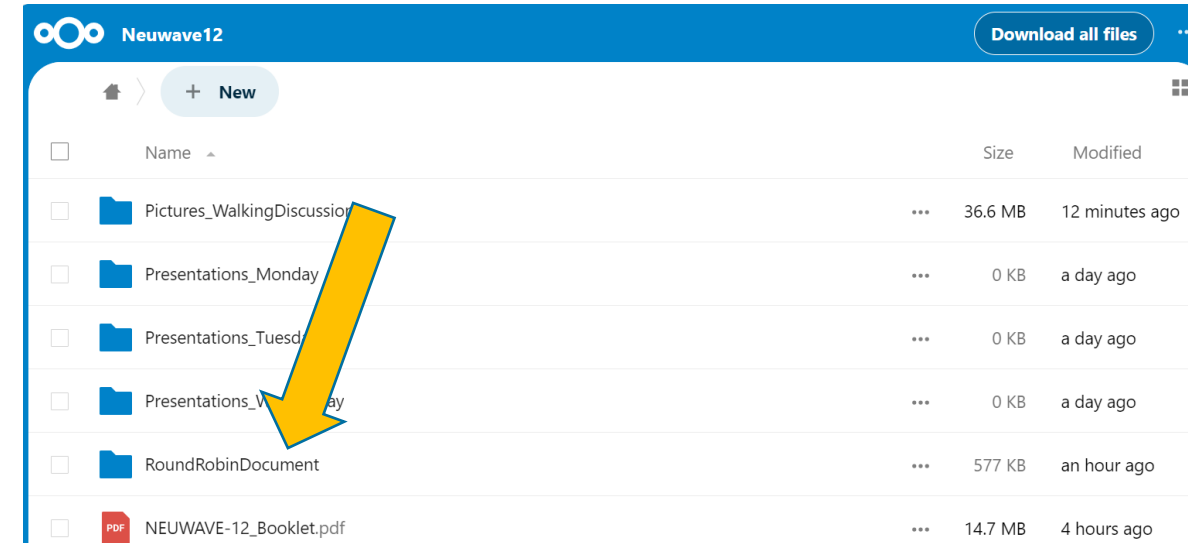
## **Possible discussion topics may include, but are not limited to:**

- Making Advanced Techniques More Accessible to New Users
- Impressions from the ESS Site Tour
- Event Mode Data Processing
- Data Analysis Pipelines
- Diffraction Simultaneity
- Strategy paper
- Round Robins and Calibration
- Future Directions: Exploring collaborative opportunities and future developments in neutron imaging and related fields
- Current and Future Hot Topics: Identifying where wavelength-resolved imaging could make an impact
- Another imaging beamline at ESS: Who would join a consortium?
- ....

# Discussions and Open sessions

## Bragg edge round robin requirement document

- It's a working document so still open for contribution and ideas.
- Please have a look at it before Ranggis talk at the end of the day on Tuesday.
- There will be a discussion following his talk about the project: so it would be good if those who want to get involved and contribute to the project to have read the document beforehand!



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## Bragg Edge Round Robin Part 1: Strain Mapping

Ranggi Ramadhan<sup>1,\*</sup>, Winfried Kockelmann<sup>1</sup>, ...

<sup>1</sup>Science and Technology Facilities Council (STFC) Rutherford Appleton Laboratory, ISIS Facility, Harwell OX11 0QX, UK

Let's start



# ANNOUNCEMENT

Tuesday after last talk





# Timetable

## Some Things to Point Out

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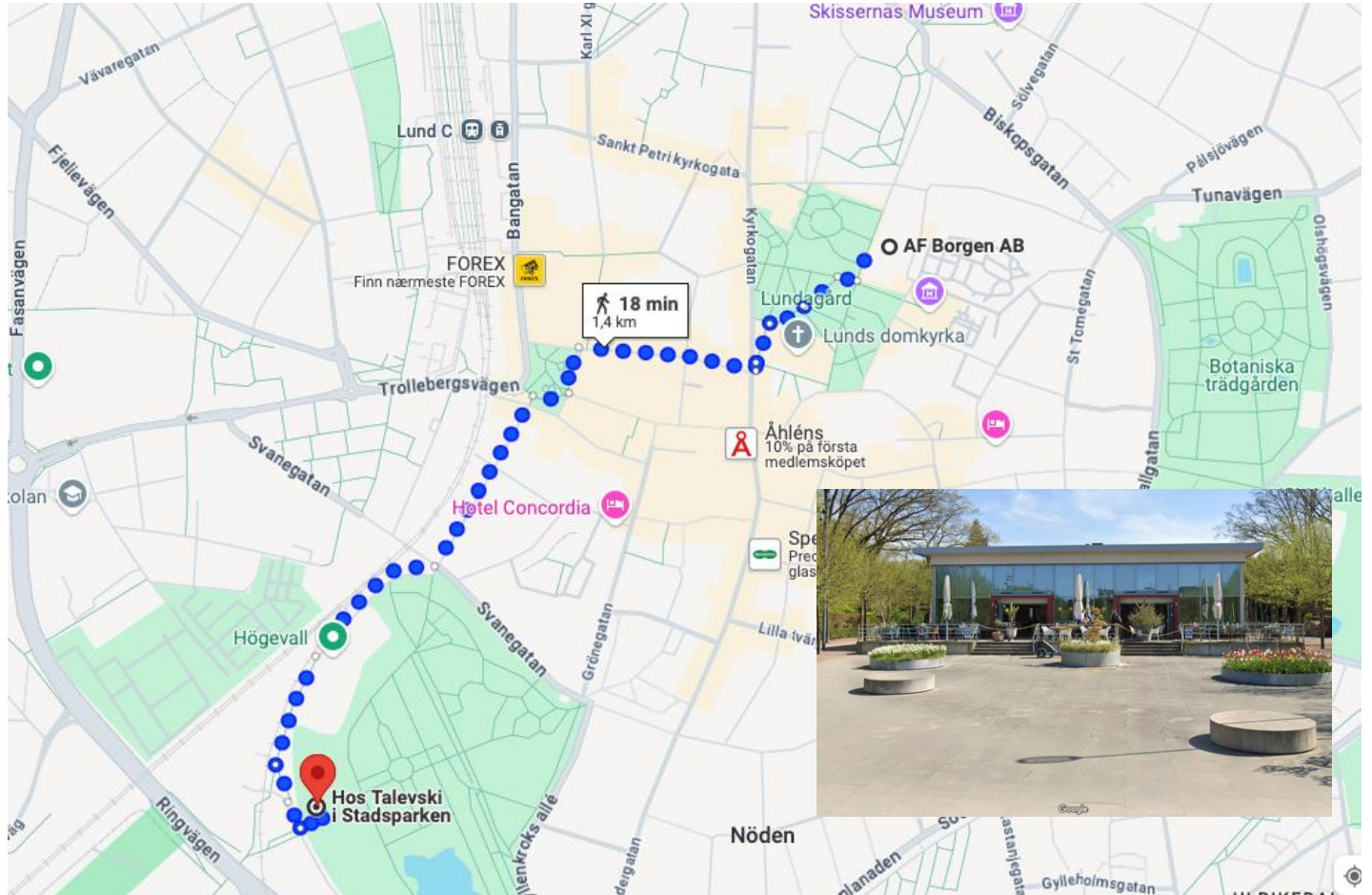


# Dinner

## Map + General Info

Dinner is on Tuesday at:

- Hos Talevski i Stadsparken
  - 2 free drinks, you will need to pay for additional drinks
- ~20 minute walk from AF Borgen



# Dinner

## Map + General Info



Dinner is at:

- Hos Talevski I Stadsparken
- 2 free drinks, you will need to pay for additional drinks

- ~20 minute walk from AF Borgen
- ~15 minutes by Skånetrafiken bus
  - 166 (Regional Yellow Bus)
  - Depart: Lund C, position E
  - Bus Stop: Lund Arenan
  - 31 kr/ journey

## Skånetrafiken

Google Play



Apple App Store



Can also purchase by tapping debit or credit card in bus/ tram (sometimes issue with non-EU cards)



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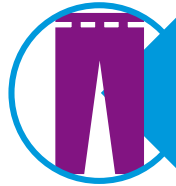


# Site Visit to ESS

## Things to remember



Flat closed toe shoes



Wear trousers/pants



Bring EU ID or passport



Arrive on time



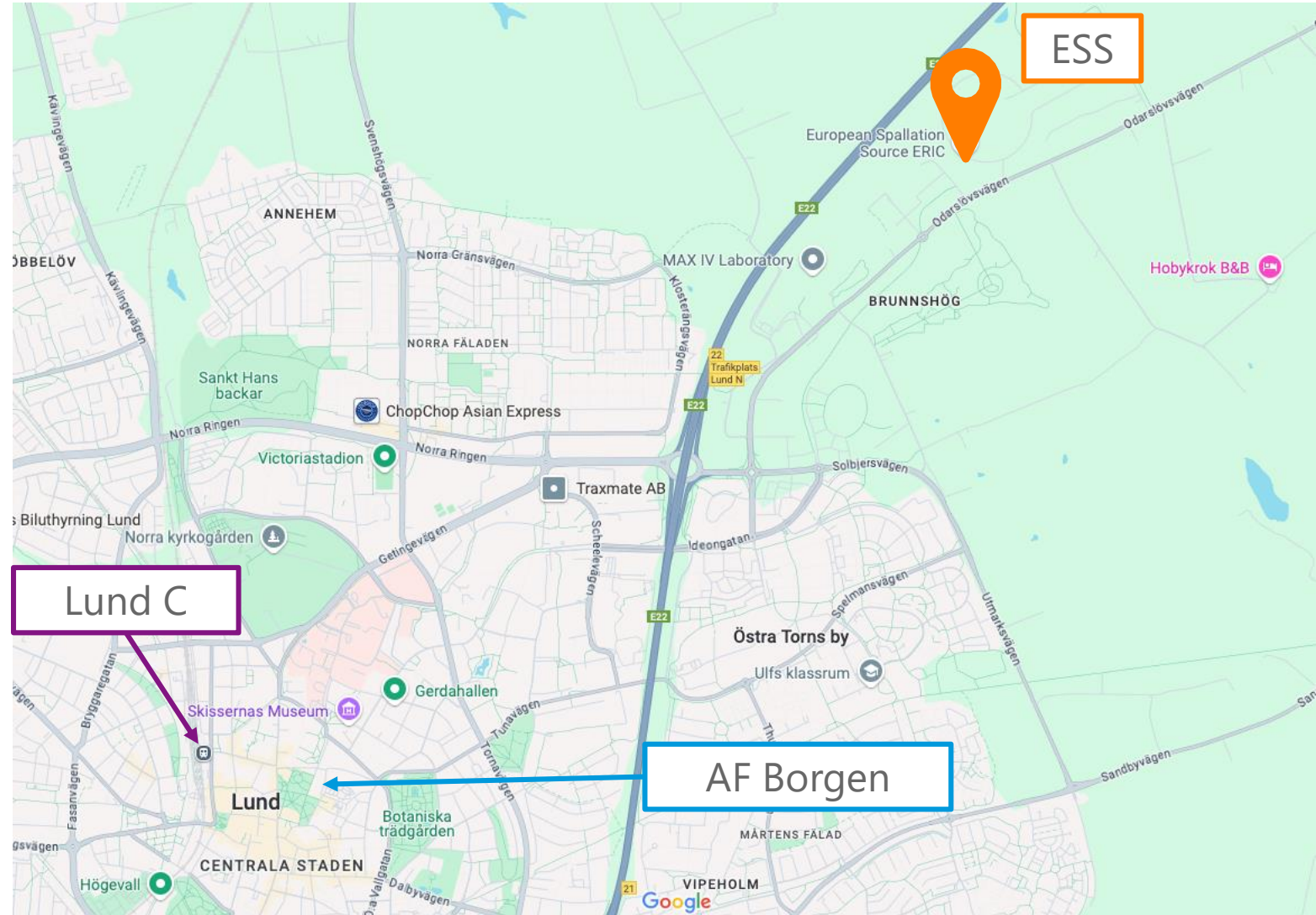
# Getting to ESS

Address: European Spallation Source ERIC, Partikelgatan 2

Tram stop: Lund ESS

From Lund C to ESS Gate:

- Tram: ~20 minutes
- Walking: ~75 minutes





# Getting to ESS

Address: European Spallation Source ERIC, Partikelgatan 2

Tram stop: Lund ESS

From Lund C to ESS Gate:

- Tram: ~20 minutes
- Walking: ~75 minutes

Tickets:

- Purchased by debit/credit card on tram (sometimes issue with non-EU cards)
- Purchased in Skånetrafiken App

## Skånetrafiken

Google Play



Apple App Store



# Getting to ESS

## At the Tram Stop



# Getting to ESS

## At the Tram Stop

Walk in direction of the windmill







# Getting to ESS

At the Tram Stop

See the ESS



# Getting to ESS

## At the Tram Stop



Through the  
car park

# Getting to ESS

## At the Tram Stop



Arrive at  
main gate

# ANNOUNCEMENT

Wednesday after last talk





# Timetable

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# NCrystal Workshop @ LINXS

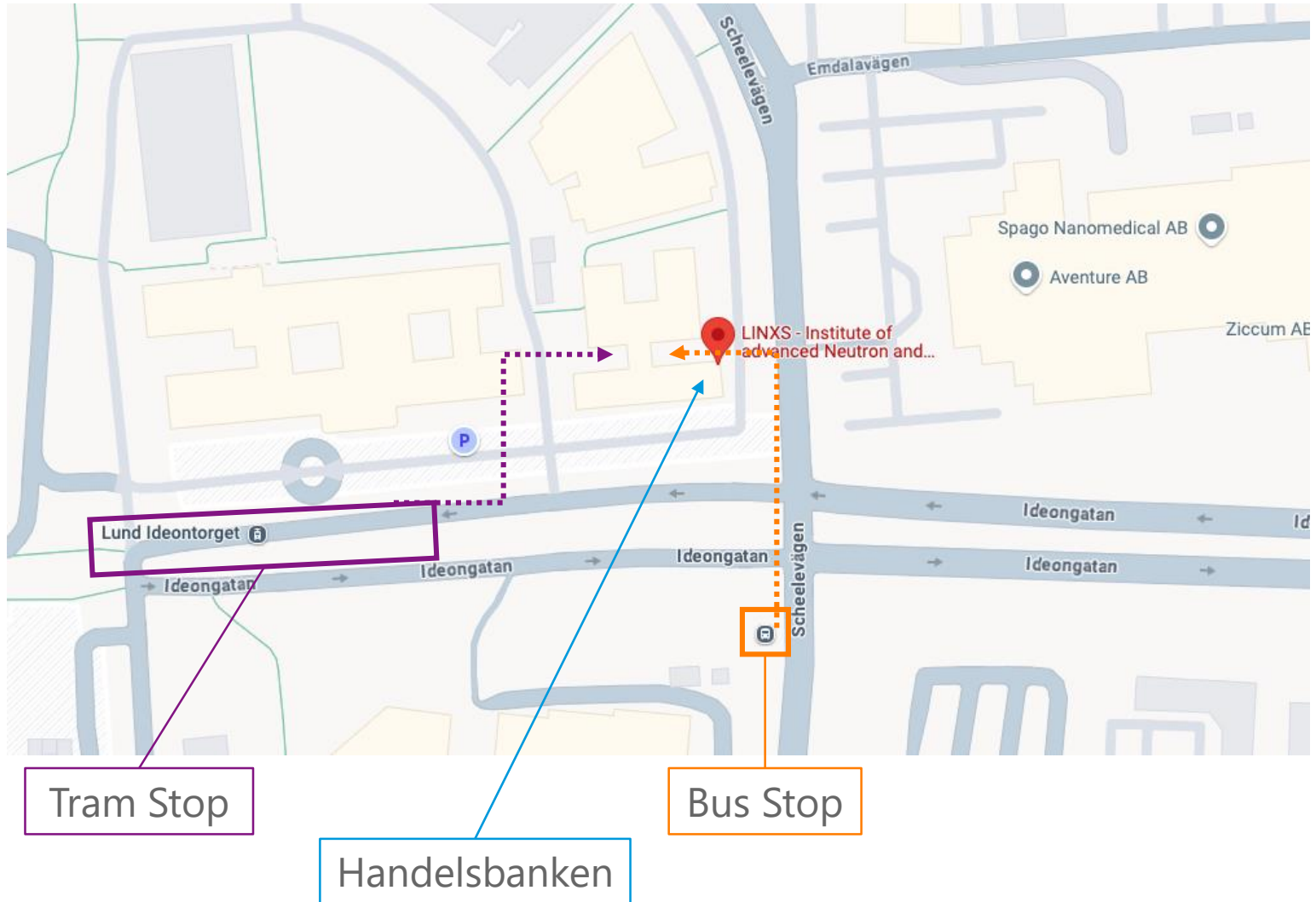
## Getting to LINXS

Tram Stop: Lund Ideontorget

Bus Stop: Lund Scheeleparken

Detailed instructions on how to get there at <https://www.linxs.se/how-to-get-to-linxs>

Lunch Reminder





**EUROPEAN  
SPALLATION  
SOURCE**