

CUPS - CMS Upgrade School

17 - 21 November 2014

DESY, Hamburg, Germany

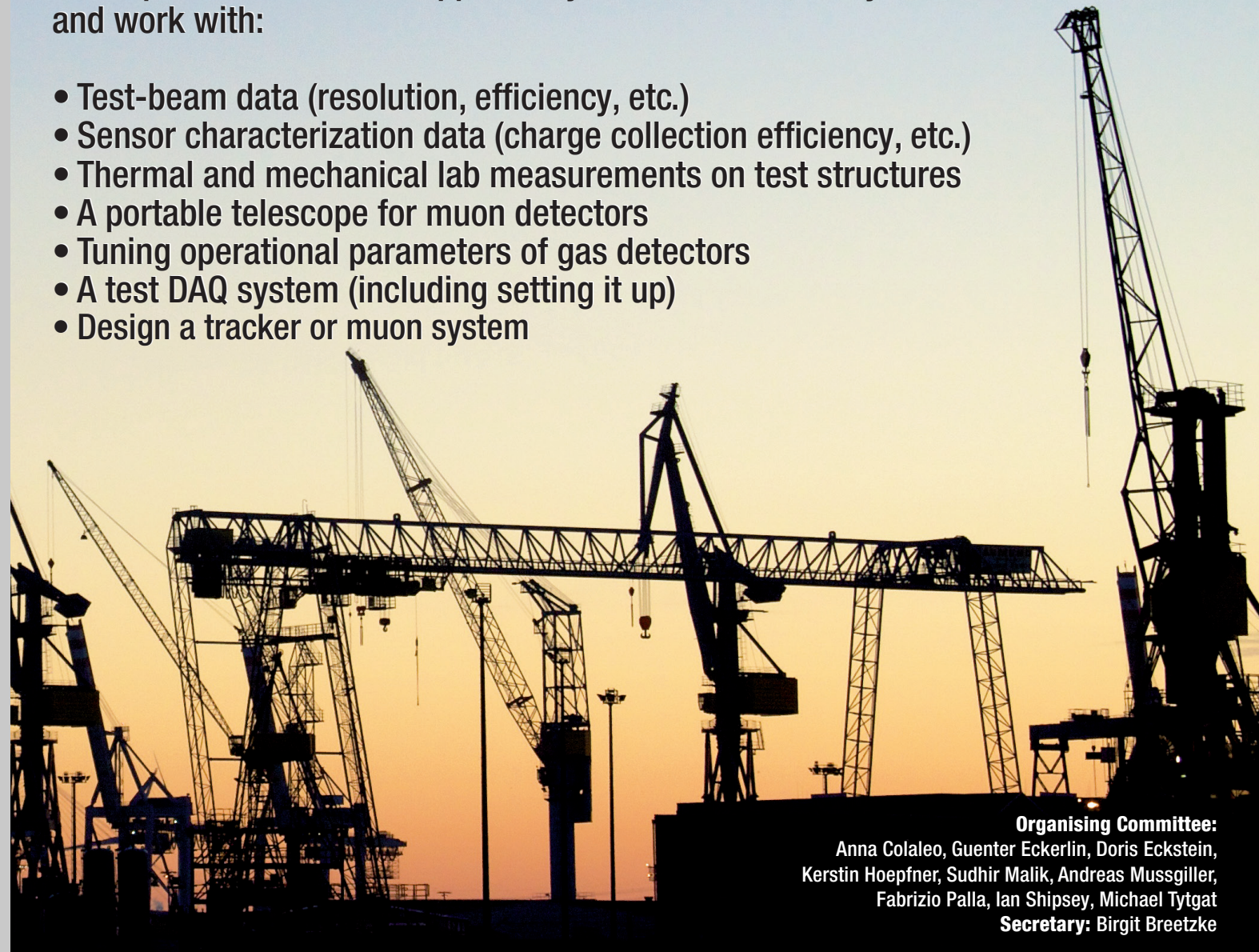
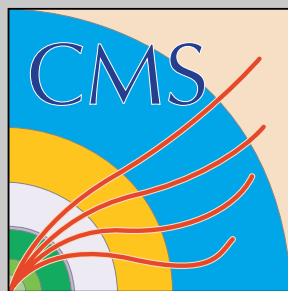
CUPS is a hands on learning experience. It will introduce students, post docs, and new faculty and scientists to our detector and how to care for it, and to help to design the detector for Phase II.

Participants will have the opportunity to understand, analyze, and work with:

- Test-beam data (resolution, efficiency, etc.)
- Sensor characterization data (charge collection efficiency, etc.)
- Thermal and mechanical lab measurements on test structures
- A portable telescope for muon detectors
- Tuning operational parameters of gas detectors
- A test DAQ system (including setting it up)
- Design a tracker or muon system

**Anna Colaleo, Guenter Eckerlin,
Doris Eckstein, Kerstin Hoepfner,
Sudir Mahlik, Andreas Mussgiller,
Fabrizio Palla, Ian Shipsey,
Michael Tytgat**

21/11/2014



Organising Committee:

Anna Colaleo, Guenter Eckerlin, Doris Eckstein,
Kerstin Hoepfner, Sudhir Malik, Andreas Mussgiller,
Fabrizio Palla, Ian Shipsey, Michael Tytgat

Secretary: Birgit Breetzke

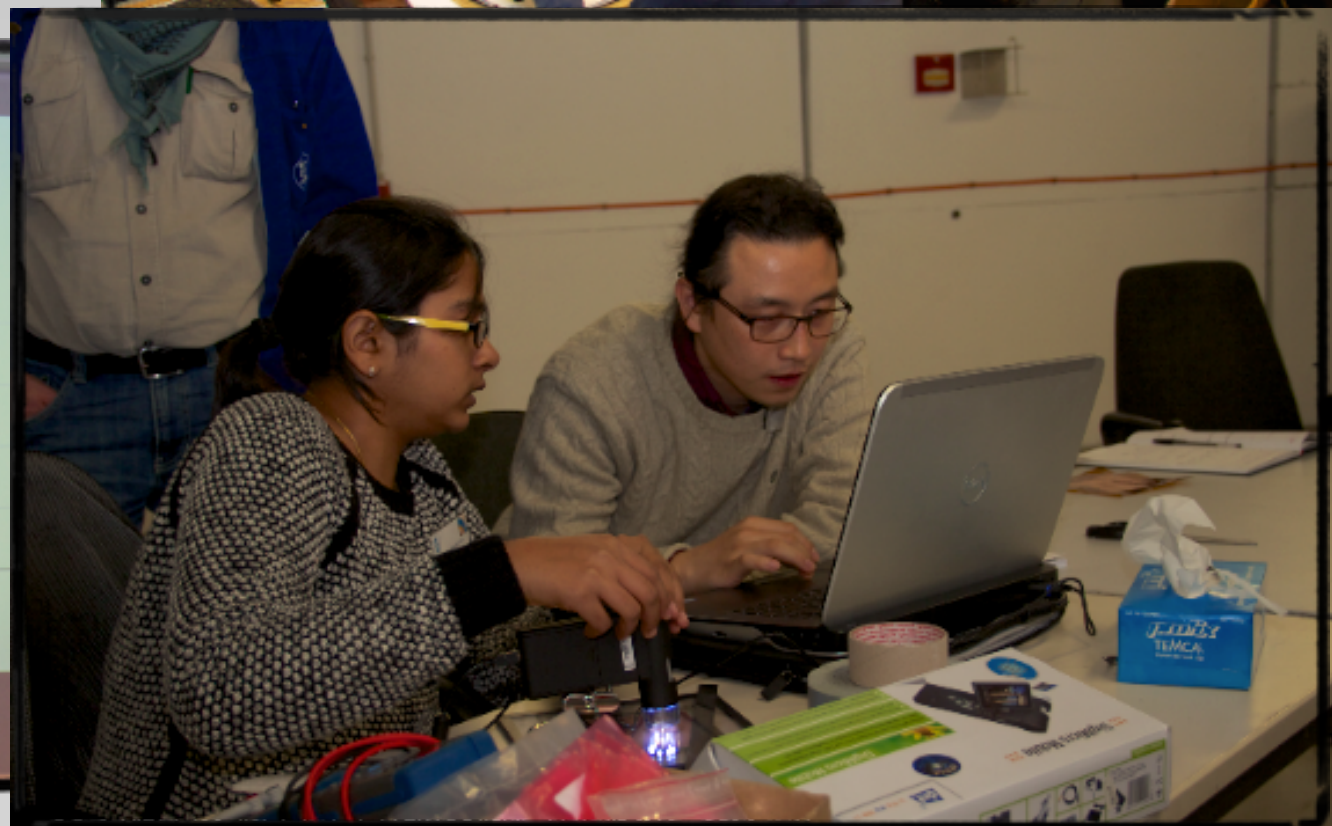
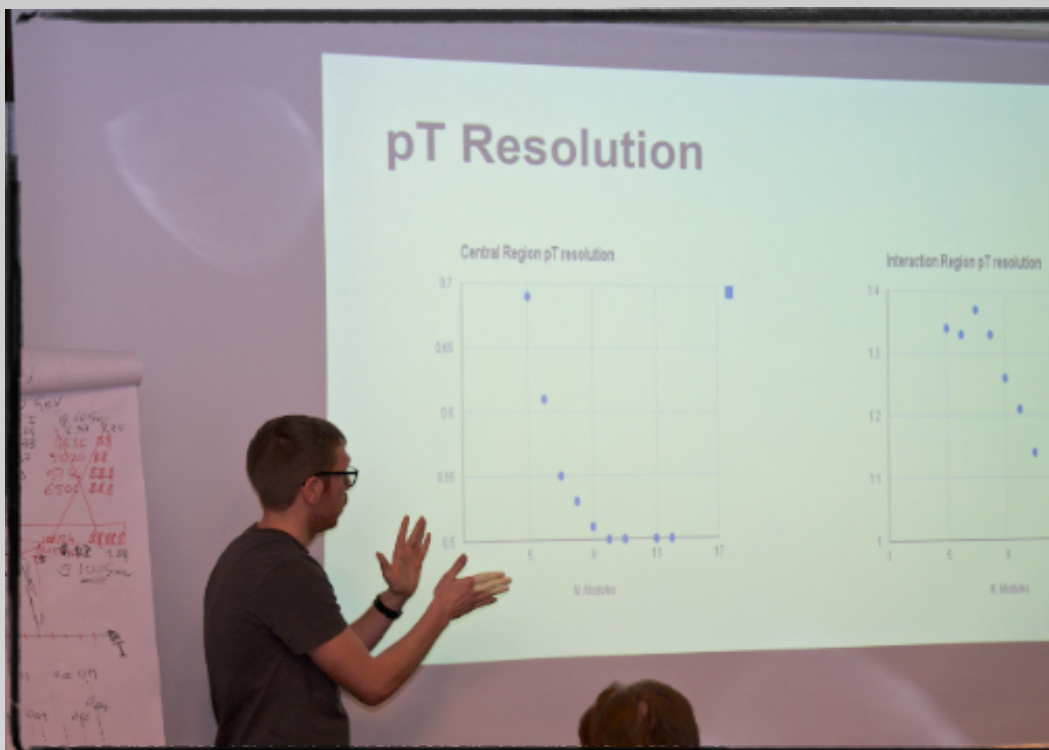
For details of the application procedure please see:

<http://indico.cern.ch/e/CUPS2014>



1st CMS Upgrade School ever

- 25 participants from 12 countries
- many excellent lectures
- 8 short exercises
 - CBC2 and GEM test beam analysis
 - Delphes and tkLayout
 - Alibava
 - Gaseous Detectors
 - Muon Telescope
 - DAQ / μ TCA
- 2 long exercises

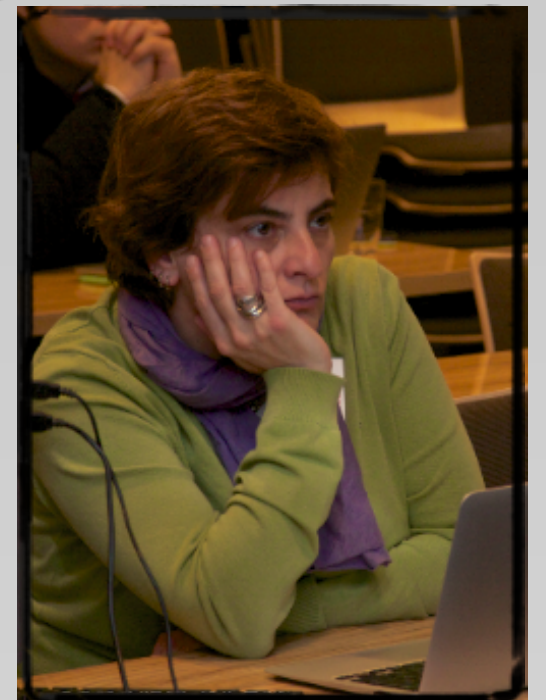
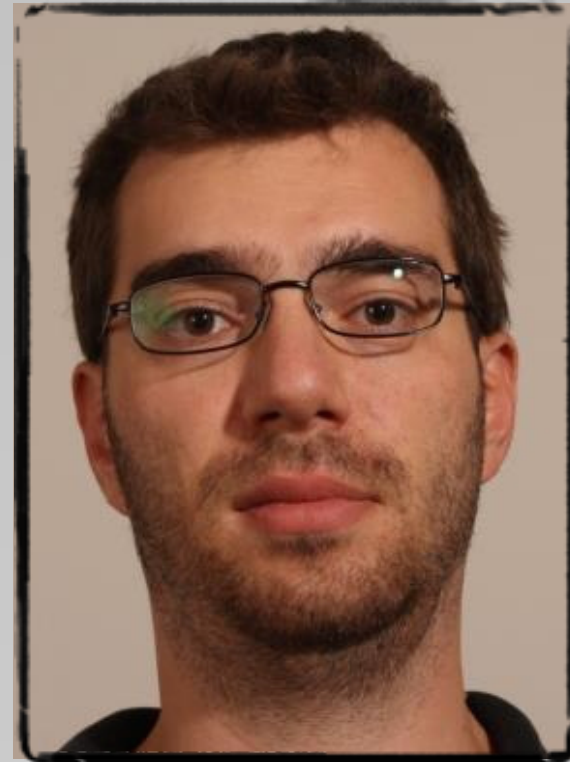


Short Exercises








MANY THANKS !!!

Long Exercises



MANY THANKS !!!



Jury

IPM     

HIGH p_T MUON ANALYSIS
~ TEAM III ~

H. BEHNAMIAN, D. CIERI, M. DALL'OSSO, J. LEE
K. MONDAL, E. TIRAS



GROUP PRESENTATION AT CUPS2014
NOV 17-21, 2014

CMS Experiment at the LHC, CERN
Data recorded: 2012-10-20 07:28:44 (LHC Run 1) 2012-10-20 07:28:44 (LHC Run 1)
Paper: CMS-2012-007 (2012-10-20)

Long Exercise: Team 1
Search for $B^0 \rightarrow \mu\mu$
Optimization of Phase 2 CMS detector

Ankita Mehta
Ben Kilminster
Fabio Ravera
Gouranga Kole
Hasan Ogul
Ramandeep Kumar
Ramkrishna Sharma

CMS Upgrade School
17-21 November, 2014
DESY Hamburg

Detector desing report

Team 2

November 21, 2014

Detector design tune
for final states with high- p_T muons

Team 4: Ennio, Marius, Martin, Mohsen, Olena, Suvankar



MANY THANKS !!!

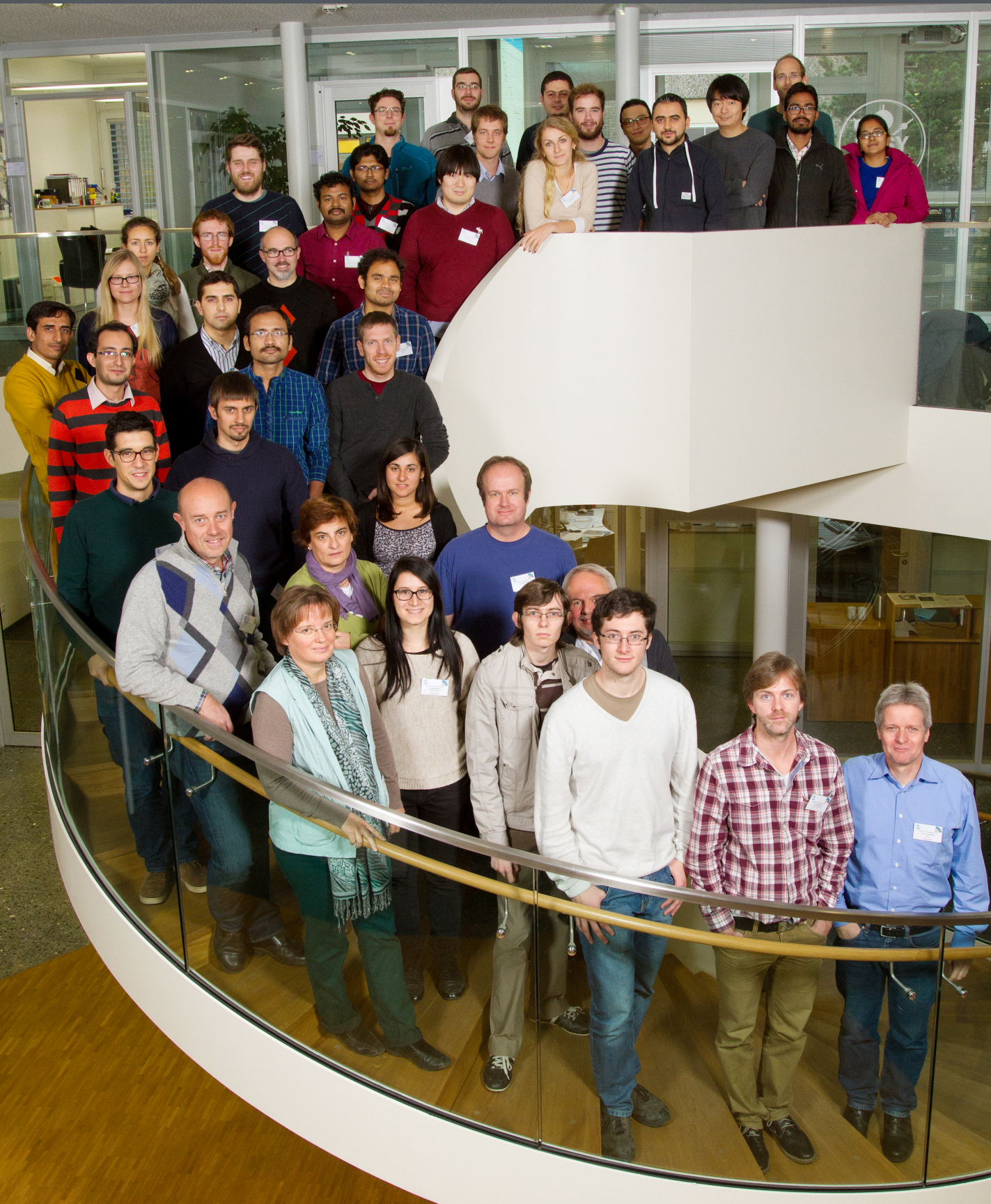
Special Thanks to



Birgit Breetzke and
Oskar Reichelt



Farewell



- ➔ this was the first hardware school within CMS
- ➔ please help to improve future events by filling the evaluation form
(anonymous, so no worry...)
<https://indico.cern.ch/event/319686/evaluation/evaluate>
- ➔ DESY tour starts at 15:30; meeting point at the fancy stairs
- ➔ pictures will appear on a website shortly
a link will be distributed

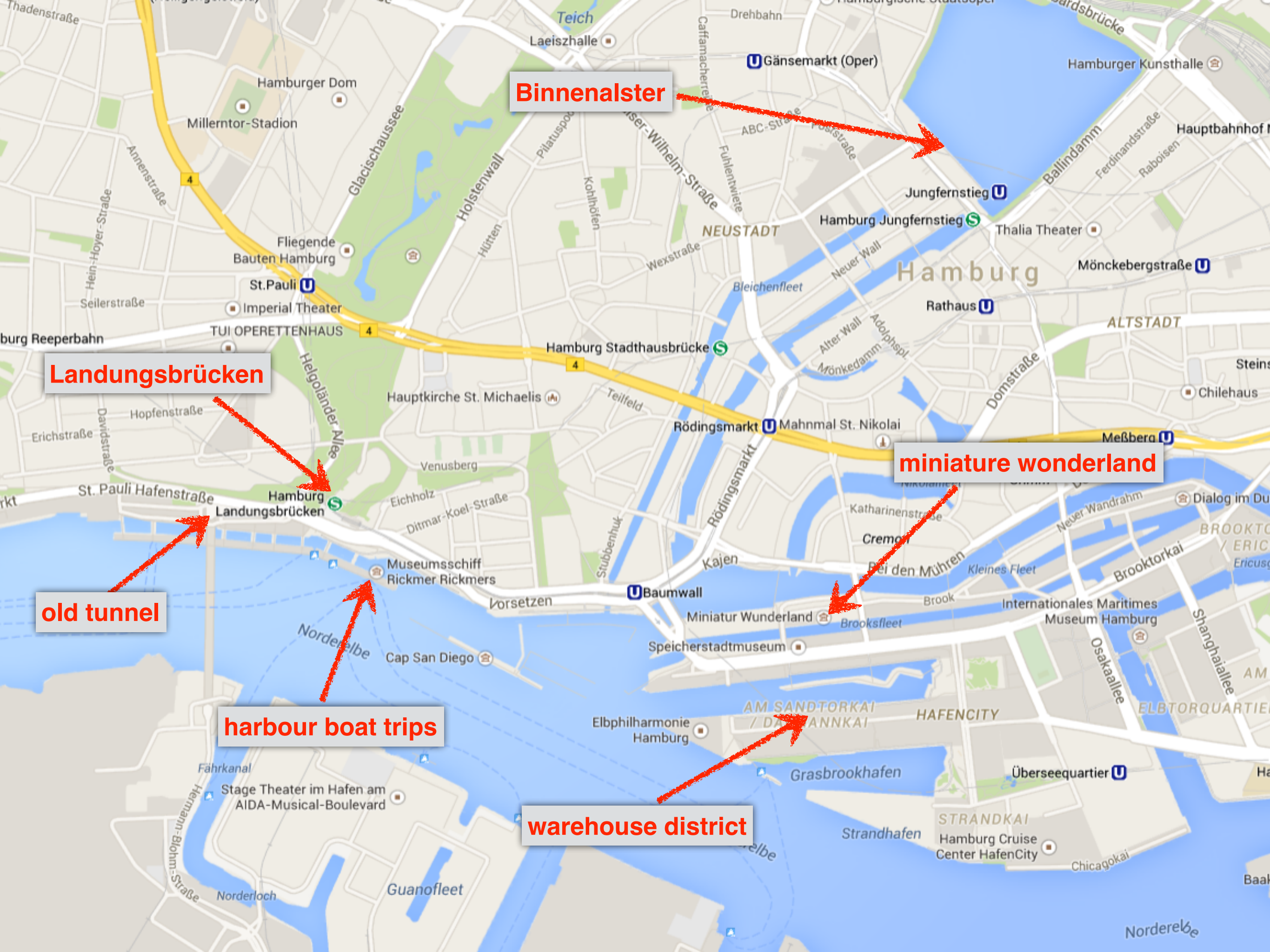
we hope everyone enjoyed the time at DESY and in Hamburg (incl. facilitators)

HAVE A SAFE TRIP HOME

Things to see in Hamburg



- **Landungsbrücken** is a good starting point
- take Bus 1 from Notkestraße / DESY to Othmarschen
- take train S1 in direction airport and get off at **Landungsbrücken**



Binnenalster

Landungsbrücken

miniature wonderland

old tunnel

harbour boat trips

warehouse district

Landungsbrücken



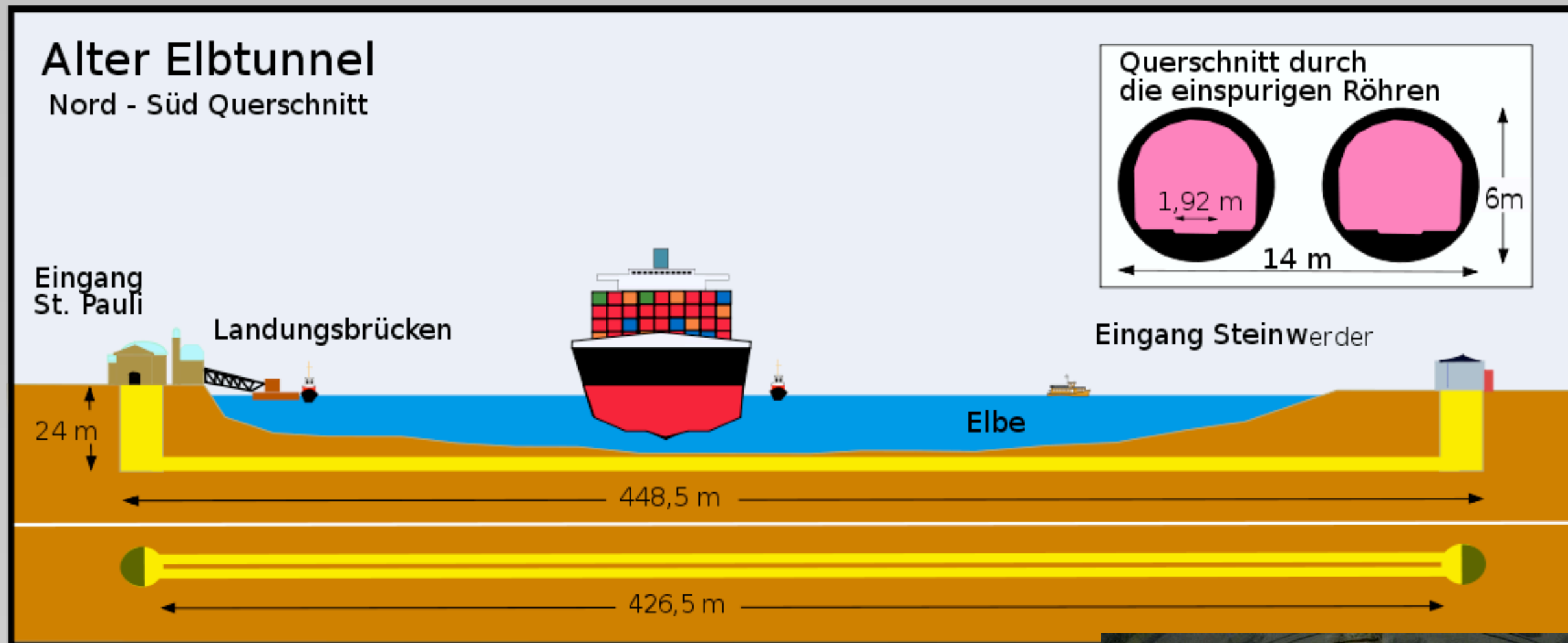
- picture shows the ‚miniature wonderland‘ version of Landungsbrücken
- the real thing looks very similar

Warehouse District



- just walk around

Old Tunnel



- just walk around

