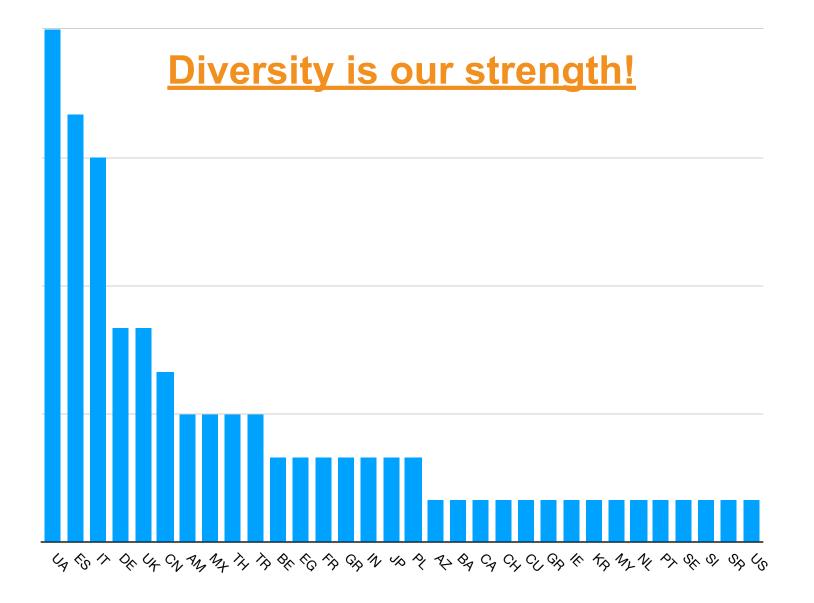
# DESY Summer Student Program 2025: Welcome Session Introduction to the Program

Nick Styles, Olaf Behnke, Carolin Leao Grötzinger (Sec.), Britta Niemann (Sec.), Andreas Przystawik

**DESY Hamburg**, 22.7.2025



#### Welcome to 86 Students from 31 Countries!



## **Special Welcome to Ukrainian Students**

Українська Літня Школа DESY



3rd DESY Ukraine School,

1st in Winter 2023, 2nd Summer 2024

(Latter two integrated with Summer Student Programme)

## Code of Conduct

DESY is a diverse and multinational workplace, hosting employees and guests from a wide range of backgrounds. We aim to make DESY and the Summer Student Programme a welcoming environment for all participants, and would therefore ask that everybody complies with our code of conduct.

We ask you to treat your fellow participants as well as other people within the DESY workplace with consideration, respect and professionalism at all times. Harassment of any form (whether physical or mental/psychological) and exclusionary or offensive behaviour on the basis of gender, sexual orientation, disability, physical appearance, body size, race, nationality or religion will absolutely not be tolerated. Any occurrences of such can and should be promptly communicated to the programme organisers.

As the programme welcomes students from across the globe, we choose to adopt English as the official language of the DESY Summer Student Programme in which all lectures and events will be carried out. We urge participants to be cognisant of this and to communicate in English wherever possible in order to foster easy communication between all participants and avoid unnecessary language barriers.

In short: Be kind and considerate to your colleagues, and expect them to behave the same way towards you!

## **Deutsches Elektronen-Synchrotron DESY**



#### A research centre of the Helmholtz Association

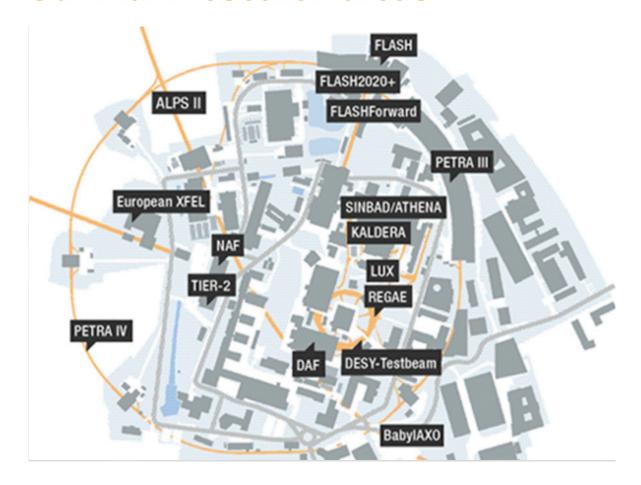
- Publicly funded national research centre, established 1959 in Hamburg
- Locations: Hamburg and Zeuthen
- Base budget: 349M €

- Large-scale infrastructures (accelerators!): PETRA III, FLASH, European XFEL, IDAF
- Future new x-ray source PETRA IV recently made a BMBF research priority!
- Employees: ~3000, including 1300 scientists, plus each year >3000 international guest scientists, ~500 young scientists

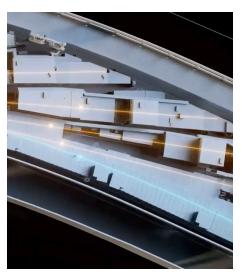


#### **Research at DESY**

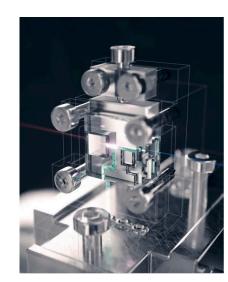
#### Our main research areas



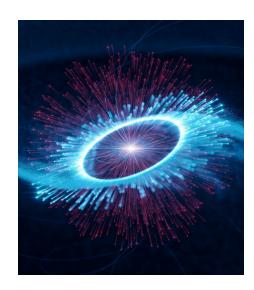
...plus much more!



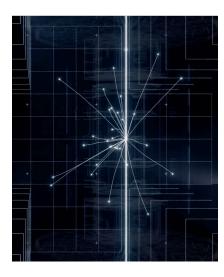
**Photon Science** 



Accelerators



**Astroparticle Physics** 



Particle Physics

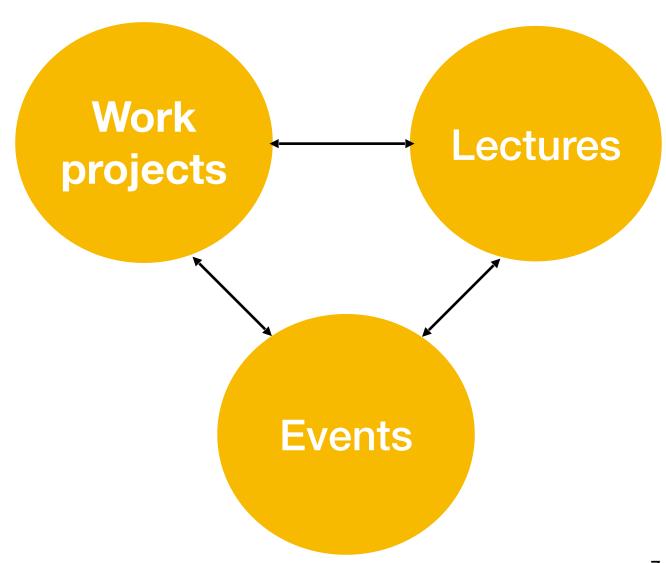
## **DESY Summer Student Programme Main Pillars**

We aim to provide you with a highly rich and rewarding time during the programme!

Your <u>work projects</u> allow you to conduct independent research, guided by world-leading experts in their fields.

The projects are supported by a comprehensive <u>lecture programme</u> on wide range of topics, to provide *crucial context* for the research work.

A series of <u>events</u> will allow you to see more of the *on-site activities at DESY*, discover *future opportunities*, and help to build your *scientific network*.



## **Research Projects**

#### **Your topics**

- Program A: Photon Science
  - Solid-state physics and nanoscience, Molecular sciences, Soft-matter science, Development of experimental techniques, Lasers and optics, Theory and computing
- Program B: Particle Physics
  - Physics data analysis and performance, Development of experimental equipment, Research on accelerators, Theory of elementary particles, Computing
- Program C: Astroparticle Physics (Zeuthen-only)
  - Astroparticle physics analysis and observations, Instrumentation for astroparticle physics, Theory of astroparticle physics

You should have already been made aware of your project area and title, and should have been put in touch with your supervisor(s).

Please contact the organizers directly after the session if this is not the case!

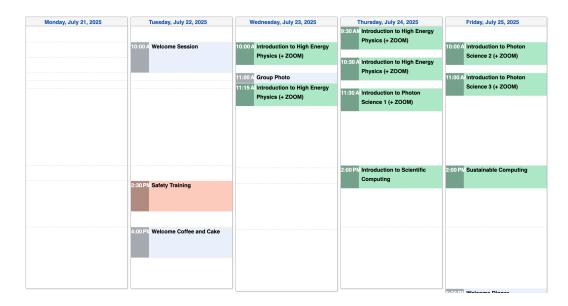
#### **Your Work at DESY**

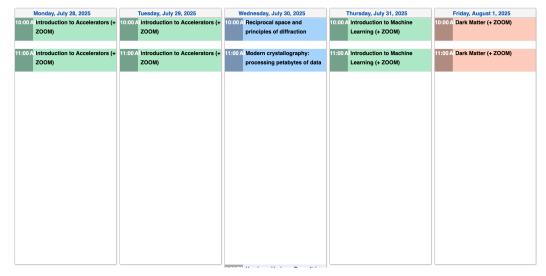
#### A few important details

- Weekly working time of 39 hours
  - Project work, lecture time, tours, group meetings, etc, are all counted towards this
  - We don't expect you to work antisocial hours your evenings and weekend should be your own
- New this year: Possibility to take up to 3 days "vacation time"
  - This must be discussed with and approved by your supervisor(s), and must be registered within your group (fill in a form)
- All students should have the chance to present their project work and results at least once to their DESY group (e.g. towards the end of the project)
  - This should be organized within your group
- Everybody is expected to write a report on their project (about 10 pages) at the end of the programme (templates will be provided)
- General recommendation for project work: Don't be shy, be proactive, don't hesitate to ask your supervisors questions and give feedback! They invited you here and are happy to help!
- Summer student sessions: <a href="https://indico.desy.de/event/49320/sessions/20685/">https://indico.desy.de/event/49320/sessions/20685/</a> with presentations from some of you:
  - Wednesday Sept. 10th Thursday Sept. 11th, 09:45 12:30, Main Auditorium Bld. 5

## Lecture Timetable Please attend!

- Lecture participation is mandatory colour key for timetables
  - Green Mandatory for All Students!
  - Blue Mandatory for Photon Science Students!
  - Red Mandatory for Particle Physics Students!
  - (As defined by your project category A or B)
  - Grey other events
- Lectures are (with very few exceptions) always in the morning, usually starting at 10AM
- Please check the timetable regularly in case there are changes to the schedule or location on short notice
  - https://indico.desy.de/event/49320/timetable/





# **Events**For your diary

- <u>Today</u>: Safety Training (Particle Physics only), plus Coffee and Cake in the Canteen extension at 4PM
- <u>Tomorrow</u>: Lecture programme begins, group photo at 11:00 AM (in lecture break)
- Friday: Welcome BBQ! Supervisors also invited
- Wednesday 30th July: Boat tour (registration required)
- Thursday 21st August: Career orientation workshop (registration required, 40 places)
- Tuesday 26th August: DASHH/PIER graduate school event
- Thursday 28th August: Festival of International Students (students from Zeuthen will visit Hamburg, BBQ plus other activities planned in the evening)

Keep an eye on this page for any updates, registration links etc: <a href="https://indico.desy.de/event/49320/">https://indico.desy.de/event/49320/</a>

#### **Tours**

#### A look behind the scenes

- Tours of the DESY campus on Wednesday 6th/Monday
   11th July at 1PM
- European XFEL tours on 12th August at 9AM
- Various other "special" tours throughout the programme
  - Testbeam, PETRA, FLASH, Computing Centre, ALPS II
  - These will give you a chance to take a closer look at various on-site activities unique to DESY, accompanied by experts to answer any questions
  - Plan to open registration on Friday

Please take note: the capacities for the special tours are quite limited (e.g. 15 participants per tour), so in order to have a fair sharing among the nearly 100 students we recommend to make choices and **register for max. 2 tours initially.** Closer to the dates, you can also book other tours if there are still places available.

Keep an eye on this page for any updates, registration links etc: <a href="https://indico.desy.de/event/49320/">https://indico.desy.de/event/49320/</a>

### People you should know

#### Your supervisors and group

- After this meeting you will meet your supervisors at ~11am in the Foyer. They will introduce you to your work place, take you to lunch etc.
  - ATLAS students: Come with me after the session :-)
- Your supervisors will be your main DESY contact persons
  - Only they know all the full details about your project work
  - Do not hesitate to ask them any questions you might have!
- All work project technical support is provided locally by the supervisors and their respective DESY groups, system administrators, etc
  - You will be integrated in the DESY groups like normal researchers
  - For work-related questions ask your supervisors or group secretaries
  - For Summer Student programme related questions, the organising team will help you

## People you should know

#### The programme organising team

- We are a group of people from the Particle Physics department (B projects) and Photon Science department (A projects) of DESY
- Particle Physics: Olaf Behnke (CMS), Carolin Grötzinger, and Nick Styles (both ATLAS)
- Photon Science: Britta Niemann, Andreas Przystawik
- Please contact us in case of any programme-related issues, administrative or general, by writing an email to <a href="mailto:summie-org@desy.de">summie-org@desy.de</a> (or contact us directly)

#### Other communication tools:

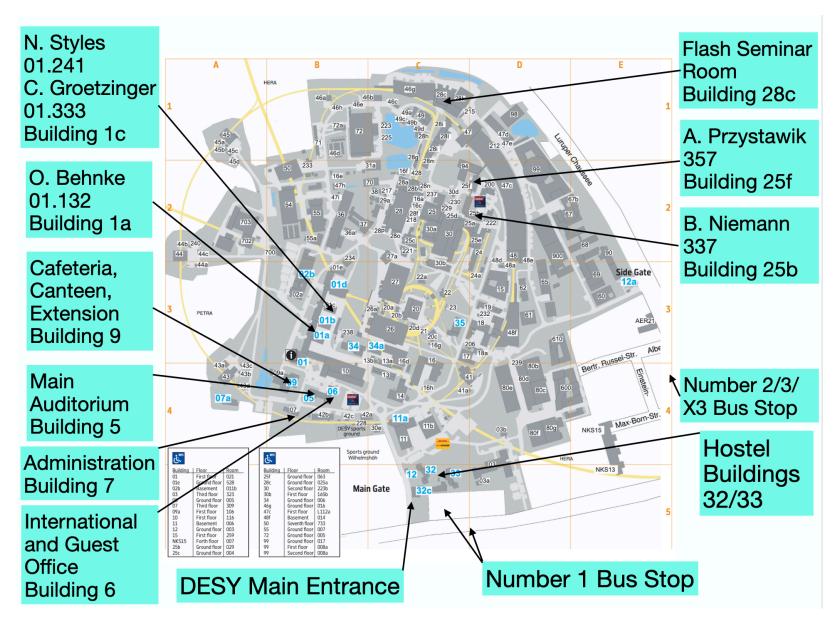
- DESY Phonebook (only inside DESY network): <a href="https://www.desy.de/pbook?lang=eng">https://www.desy.de/pbook?lang=eng</a>
- For communication amongst you: <a href="https://chat.whatsapp.com/CEWptngzART7EFCSqjItVD?">https://chat.whatsapp.com/CEWptngzART7EFCSqjItVD?</a>
   mode=ac\_c

## Places you should know

#### For reference

https://indico.desy.de/ event/49320/attachments/ 98152/135377/ Summer%20Students%20 Map.pdf

NB You will have noticed extensive building work currently ongoing through the DESY campus. Please take note of any local signage demonstrating walking routes!



# **Computing Getting started**

- WLAN: Science-Hotspot, eduroam, and DESY (for DESY devices)
  - You may already be able to use eduroam via a registration at your home institute
  - https://it.desy.de/services/networks/wlan\_at\_desy/eduroam/index\_eng.html
- DESY computing accounts:
  - Will be set up by your DESY group system admins
  - You will also get a DESY email account please check it regularly
  - Additional needs (grid certificates, etc) will be provided on an as-needed basis
- Multi-Factor Authentication (MFA): is required for many applications (login)
  - Based on One-Time Passwords (OTP) generated by smartphone app
  - Information & instructions at https://it.desy.de/services/mfa/short\_introduction/index\_eng.html
- The usual rules for Computing security should be always followed
  - Be vigilant; do not click on suspicious links or attachments, watch out for phishing attempts

# **Living on the DESY campus Feeling At Home**

- Practical information on the DESY campus → DESY booklet https://welcome-services.desy.de/sites2009/site\_guest-services/content/e56138/DESY-Welcome-Booklet-2023\_eng.pdf
- Hostel: Missing equipment (kitchen, cleaning, etc.) or other requests/complaints → don't hesitate to email vgsbuero@desy.de (or visit them in their office 06/118)
- **Drinking water**: (Except where explicitly stated otherwise) Tap water is very pure, perfectly safe to drink, and tastes good. No need to boil it. No need to buy bottled water. May just want to run tap for a while first in places where water has been standing in the pipe e.g. over the weekend.

**Letter delivery:** Use the mail box of your supervisor with putting in the address field:

C/o supervisor name your name

**DESY Group** 

**DESY** 

Notkestr. 85

22607 Hamburg

Germany

Parcel delivery: NB No longer a Packstation on campus! Closest DHL packstation for package delivery is at Osdorfer Landstr. 1a (Aldi) (Packstation 351):

https://www.dhl.de/en/privatkunden/pakete-empfangen/an-einem-abholort-empfangen/packstation.html

# Sickness and Injury In case you don't feel well

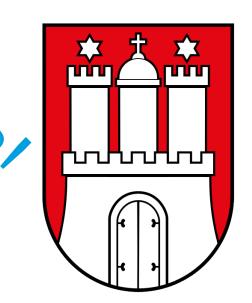
- In case you get sick and cannot work, please inform your supervisors and group secretaries
  - you may get help from the DESY medical officer in bld. 01a, ground flour, phone 2171, bgm@desy.de
- Please remember the lessons from the Pandemic
  - If you are feeling unwell (e.g. cold or flu-like symptoms), try to avoid infecting others by coming in to the office
  - Make your supervisors/collaborators aware and consider working from your hostel room if possible/necessary
  - However, make recovery and feeling better your priority :-)
- In the unlikely event of serious injury... closest hospitals with Accident and Emergency departments are **AK Altona** (Othmarschen) and **Asklepios Westklinikum (Rissen)** 
  - More details in the Safety lectures on numbers to call, etc
- A word on insurance... you should all have it!!!
  - Health insurance is mandatory you should all already have organized health insurance for your stay
  - Liability insurance is <u>very highly recommended</u>! Protects you from significant legal costs in case of an accident, which you may have to pay even if it is not your fault! The insurance is cheap, so it is <u>really a good idea to have!</u>

# Living in Hamburg

## Introduction to Hamburg Your home for the next ~8 weeks!

- Hamburg is a large city of ~1.9 Million inhabitants
  - Second largest city in Germany, 7th largest in Europe very cosmopolitan and multicultural
  - "Hansestadt Hamburg" member of the historical Hanseatic League of trading centres
- Famous for its port, culture, and nightlife ...as well as for DESY of course ;-)
  - Lies on the large Elbe river gives Hamburg its "Maritime Feel"
  - We're sure you'll be able to have a great time here, whatever your interests are. Please make sure you take the opportunity to explore our beautiful and interesting city!





# **Public Transport Getting Around**

See also here for more details: <a href="https://summerstudents.desy.de/information\_for\_summer\_students\_2025/">https://summer\_students\_2025/</a>

- Hamburg has an excellent integrated public transport network
  - A HVV public transport ticket allows you to use S-Bahn, U-Bahn, Buses, and also several Ferries (nice views)
    - Bus 1 stops directly by Notkestr. entrance and goes to Othmarschen S-Bahn, buses 2 & 3 stop close to Luruper Chaussee
      entrance and go in the direction of Ottensen and Sternschanze respectively
  - Highly recommended that you use the HVV app if possible: <a href="https://www.hvv.de/en/service/hvv-apps">https://www.hvv.de/en/service/hvv-apps</a>
    - Cheaper tickets and real-time schedule information! Need to buy tickets before you board (at least 90 seconds before, and includes buses - no tickets available from driver) and many bus stops have no ticket machine
    - Daily group tickets (for up to 5 people) can be a good option when traveling together!
- DESY has 2 "StadtRad" bike sharing stations (near auditorium and building 25b): <a href="https://stadtrad.hamburg.de/en/home">https://stadtrad.hamburg.de/en/home</a>
  - Links for longer-term bike rental can be found here: <a href="https://hamburg.adfc.de/artikel/fahrradverleih">https://hamburg.adfc.de/artikel/fahrradverleih</a>
- "Deutschlandticket" is a good option if you are planning to do e.g. sightseeing trips at weekends
  - Allows you to use "local" trains (most RE, RB, S-bahn, but not IC, EC, ICE) to get between cities, plus use public transport within the cities
  - Local train networks are connected, so you can still go *far*, but not always *fast* (e.g. to Berlin takes > 6h)
  - Would need to buy >7 "day tickets" per month for local Hamburg travel before it becomes economical

# **Shopping Supermarkets and Shopping Centres**

- NB Shops in Germany are normally <u>closed on Sundays!</u>
  - Shops in train stations (e.g. Altona or Hauptbahnhof) are allowed to sell "travel essentials" on Sundays, which has a broad and generous definition (e.g. small supermarkets will sell their full usual selection, but not allow bulk buying)
- Very few shops open 24h most close around 20:00, a few open until 23:00
- Medications (including paracetamol, ibuprofen, etc) cannot be bought in supermarkets
  - Need to find an "Apotheke" one at Osdorfer Landstr. 112, several on Waitzstr. (Near Othmarschen S-bahn)
- A number of supermarkets and useful shops close to DESY
  - Lidl and Aldi within a short walk both are good and cheap options for most essentials
  - Denn's Biomarkt specializes in organic products, and has e.g. many vegan products (but not cheap...)
  - Budnikowsky ("Budni") is also close by and good for toiletries, hygiene products, etc
- Large shopping centre Elbe Einkaufzentrum ("EEZ") on Osdorfer Landstr. with many typical chain stores

## **ATMs/Cashing Checks**

- Unlike many other countries these days, not everywhere in Germany accepts card payments
  - (but getting better compared to a few years ago...)
  - good idea to have some cash on you, just in case
- ATM available in Canteen foyer, others at EEZ (see below) and on Waitzstr.

For those without IBAN accounts - to cash your check:

Haspa Bank at Elbe-Einkaufszentrum:

Mo.-Fr. 10.00-18.00 Uhr

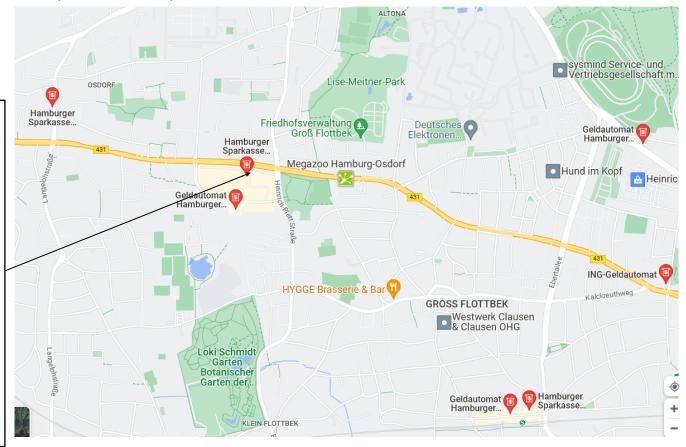
Sa. 10.00-16.00 Uhr

**Lunch break** 13.00-14.00 Uhr

E-Mail: <a href="mailto:haspa@haspa.de">haspa@haspa.de</a>

http://www.haspa.de

+49-40-3579-7799



## **Sports**

#### **Keeping fit and active**

- Numerous sports clubs and teams here at DESY! see <a href="https://sport.desy.de/index\_eng.html">https://sport.desy.de/index\_eng.html</a>
  - E.g. opportunities for <u>climbing and bouldering</u>, among others
- VAF is a gym with a swimming pool near DESY (Bertrand-Russell-Straße 4) <a href="https://vafev.de/">https://vafev.de/</a>
  - Typically one needs to join for a year, but in August you can join for just 1 month (€55)
- Also e.g. Sportspaß near Altona Bahnhof <a href="https://sportspass.de/">https://sportspass.de/</a>
  - 3 months membership periods, but "10-er" cards for 10 visits can be purchased
- Volkspark near DESY offers a pleasant open-air environment for sports, jogging, etc



# Interesting areas of Hamburg Where to go in the evenings and weekend

- Hamburg has many areas with lots of bars, restaurants, interesting shops, and nightlife just a small selection here, your group members (e.g. PhD students) can surely tell you some of their favourites!
  - Ottensen: Easy to reach with Bus 1 or 2
  - Sternschanze and Karoviertel: Bus 3
  - St. Pauli: includes the (in)famous Reeperbahn but also many interesting (and less gaudy/seedy) spots on the side streets
  - Beaches on the Elbe: 13km of beach on the river, from Oevelgönne to Wittenbergen. Strandperle beach bar is a popular favourite place to watch huge container ships with a drink in hand
  - "Planten un Blomen" large park and botanical garden close to the city centre
- Also many nice places for a quiet stroll close to nature
  - Klovensteen and Schnaakenmoor
  - Wittenberge Heide
  - Jenischpark and Hirschpark, Loki-Schmidt-Garten (botanical garden very close to DESY)
  - (A bit further east) Boberger Dünen, Sachsenwald
  - (Across river) Altes Land, Harburger Berge

# **Sightseeing Weather**

- Relative proximity to the coast means Hamburg has an Oceanic climate
  - Similar to the UK (think Manchester or Glasgow rather than London), New Zealand, or Vancouver
- Hamburg is a very green city with lots of trees and vegetation
  - You need a lot of rain to keep this healthy fortunately we get it ;-)
  - Recommend investing in an umbrella! (and keeping it with you)
- Not as sunny or warm in the summer as some other parts of Germany
  - Means that when it is sunny, everyone makes the most of it! Parks are full of people, lots of barbecues, etc, and everyone is in a good mood!

#### From <a href="https://en.wikipedia.org/wiki/Hamburg#Climate">https://en.wikipedia.org/wiki/Hamburg#Climate</a>

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	15.7	18.9	23.5	29.7	33.5	34.8	39.1	37.3	32.3	27.1	20.2	15.7	39.1
	(60.3)	(66.0)	(74.3)	(85.5)	(92.3)	(94.6)	(102.4)	(99.1)	(90.1)	(80.8)	(68.4)	(60.3)	(102.4)
Mean maximum °C (°F)	10.9	11.9	16.6	22.3	26.8	29.6	31.1	31.0	25.6	20.0	14.5	11.4	32.2
	(51.6)	(53.4)	(61.9)	(72.1)	(80.2)	(85.3)	(88.0)	(87.8)	(78.1)	(68.0)	(58.1)	(52.5)	(90.0)
Mean daily maximum °C (°F)	4.2	5.2	8.7	13.9	18.0	20.9	23.2	23.0	18.8	13.6	8.2	5.0	13.6
	(39.6)	(41.4)	(47.7)	(57.0)	(64.4)	(69.6)	(73.8)	(73.4)	(65.8)	(56.5)	(46.8)	(41.0)	(56.5)
Daily mean °C (°F)	2.1	2.4	4.9	9.1	13.0	16.0	18.3	18.0	14.4	10.0	5.7	2.9	9.7
	(35.8)	(36.3)	(40.8)	(48.4)	(55.4)	(60.8)	(64.9)	(64.4)	(57.9)	(50.0)	(42.3)	(37.2)	(49.5)
Mean daily minimum °C (°F)	-0.5	-0.5	1.1	4.0	7.6	10.8	13.3	13.1	10.1	6.3	2.9	0.4	5.7
	(31.1)	(31.1)	(34.0)	(39.2)	(45.7)	(51.4)	(55.9)	(55.6)	(50.2)	(43.3)	(37.2)	(32.7)	(42.3)
Mean minimum °C (°F)	-9.5	-8.1	-5.5	-2.7	0.7	5.5	8.6	7.9	4.2	-0.9	-3.7	-7.4	-11.6
	(14.9)	(17.4)	(22.1)	(27.1)	(33.3)	(41.9)	(47.5)	(46.2)	(39.6)	(30.4)	(25.3)	(18.7)	(11.1)
Record low °C (°F)	-22.8	-29.1	-15.3	-7.1	-5.0	0.6	3.4	1.8	-1.2	-7.1	-15.4	-18.5	-29.1
	(-9.0)	(-20.4)	(4.5)	(19.2)	(23.0)	(33.1)	(38.1)	(35.2)	(29.8)	(19.2)	(4.3)	(-1.3)	(-20.4)
Average precipitation mm (inches)	66.7	54.9	56.7	39.2	57.8	74	81.8	77.5	64.7	63.0	61.1	72.6	770.5
	(2.63)	(2.16)	(2.23)	(1.54)	(2.28)	(2 93)	(3.22)	(3.05)	(2.55)	(2.48)	(2.41)	(2.86)	(30.33)
Average extreme snow depth cm (inches)	3.9 (1.5)	4.3 (1.7)	4.1 (1.6)	trace	0 (0)	0 (0)	0)	0 (0)	0 (0)	0 (0)	1.0 (0.4)	2.8 (1.1)	8.8 (3.5)
Average precipitation days (≥ 1.0 mm)	17.7	16.2	15.2	12.8	13.8	15.7	16.0	15.8	14.5	16.2	16.9	18.0	188.4
Average snowy days (≥ 1.0 cm)	5.9	5.0	2.9	0	0	0	0	0	0	0	1.2	3.5	18.5
Average relative humidity (%)	85.8	82.6	77.7	71.0	70.8	72.1	72.6	74.3	79.4	83.4	87.1	87.6	78.7
Mean monthly sunshine hours	44.9	66.8	119.9	1825	221.2	210.3	218.8	202.7	152.4	109.3	51.4	36.1	1,616.7
Average ultraviolet index	0	1	2	4	5	6	6	5	4	2	1	0	3

Unfortunately you are here in the "rainy season"

## **Sightseeing**

#### **Food and Drink**

List of restaurants and bars here: <a href="https://indico.desy.de/event/49320/page/5568-restaurant-and-bar-list">https://indico.desy.de/event/49320/page/5568-restaurant-and-bar-list</a>

- A few local food specialities you might want to try:
  - Labskaus corned beef hash with beetroot, pickled herring, and fried egg
  - Fischbrötchen Sandwich with various types of fish (often pickled), onion, remoulade
  - Matjes pickled herring, often served "Hausfrauenart" with potatoes, onions, and a creamy dill sauce (sometimes with apple)
  - Franzbrötchen Sweet pastry flavoured with cinnamon
- Germany is of course famous for loving beer Hamburg is no exception! Lots of local types
  - Astra cheap, tastes OK if cold, "cult" beer due to advertising campaigns and associated with FC St. Pauli
  - Holsten cheap, not much else to say...
  - Ratsherrn large craft brewery with its beers widely available in Hamburg, "Oat White IPA" is a favourite
  - Many other local craft breweries (many with their own bars) Überquell (nice location by river with good pizza), Landgang, Buddelship, Wildwuchs, Gröninger (very traditional cellar bar), ...
- Fritz-kola is a local Hamburg soft drink company making cola and other nice sodas
  - Anjola (pineapple & lime) is a favourite
- Gin Basil Smash is a popular cocktail invented at the Hamburg bar "Le Lion" in the city centre
- NB most bottles have deposits on them that can be redeemed at supermarkets don't throw them away!
  - If you don't want to take them with you, put them next to a bin: "Pfand gehört daneben"

# Sightseeing - Olaf's Touristic Marathon If you feel energetic...

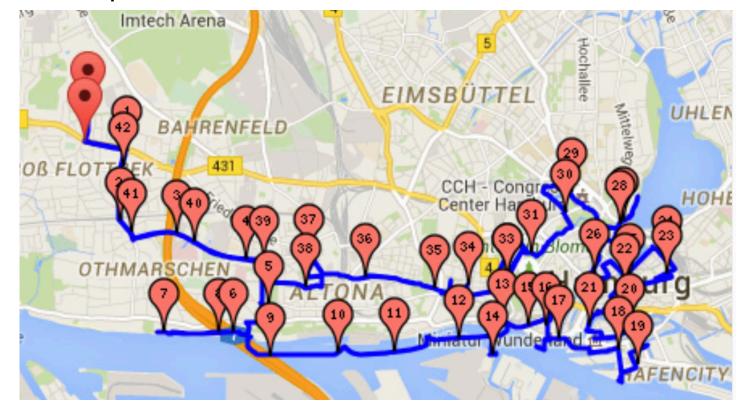
- Olaf has compiled a full marathon (yes all 42 km!!!) of tourist attractions in Hamburg
  - Don't necessarily need to do them all in one go or by foot ;-)
- Lots of suggestions for places worth seeing in the links below

• Elbphilharmonie, Michaelis Kirche, Speicherstadt, Rathaus, Miniatur Wunderland,

etc, etc

https://indico.desy.de/event/37353/contributions/137876/attachments/79826/104113/obehnke190719.pdf

https://indico.desy.de/event/37353/ contributions/137876/attachments/ 79826/110775/ video1037041438.mp4



## **Hamburg Event Calendar**

#### Things happening in the coming weeks

- Hamburg Pride Week from 26th July 3rd August
  - Many events across the city, e.g. Christopher Street Day festival around City Centre 1st to 3rd August
  - https://www.hamburg-travel.com/see-explore/events/csdstreet-festival/
- Sommerdom large fun fair in St Pauli
  - Heiligengeistfeld from this Friday until 24th August
- MS Dockville festival
  - Music festival in Wilhelmsburg (across river) 15th and 16th August
- Plus many other events

