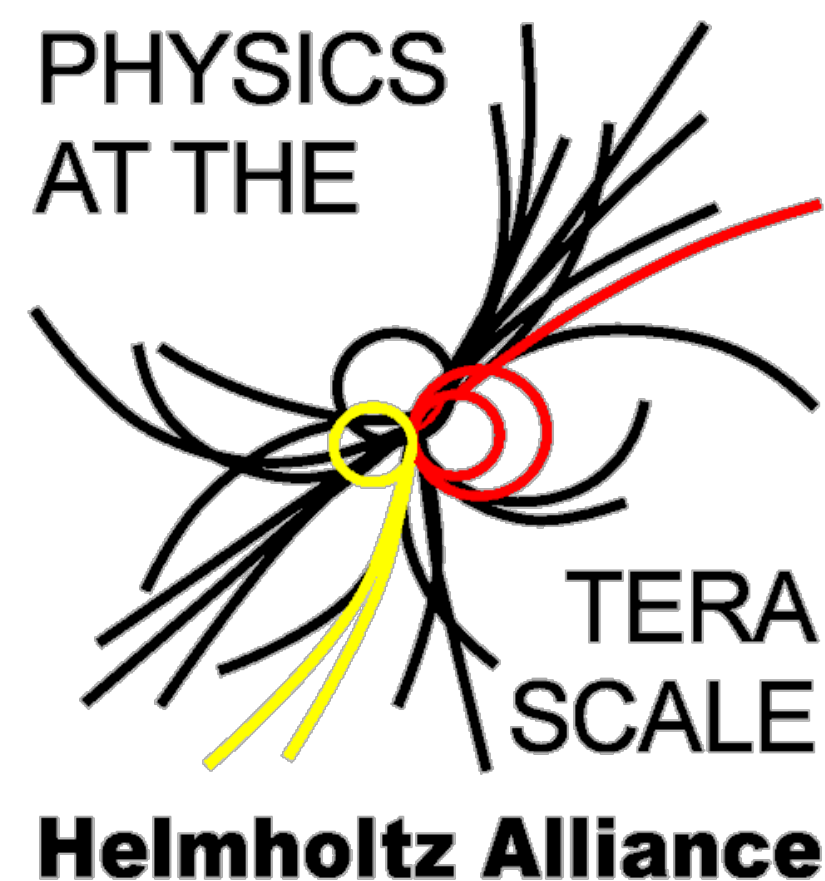


Terascale Alliance Statistics School

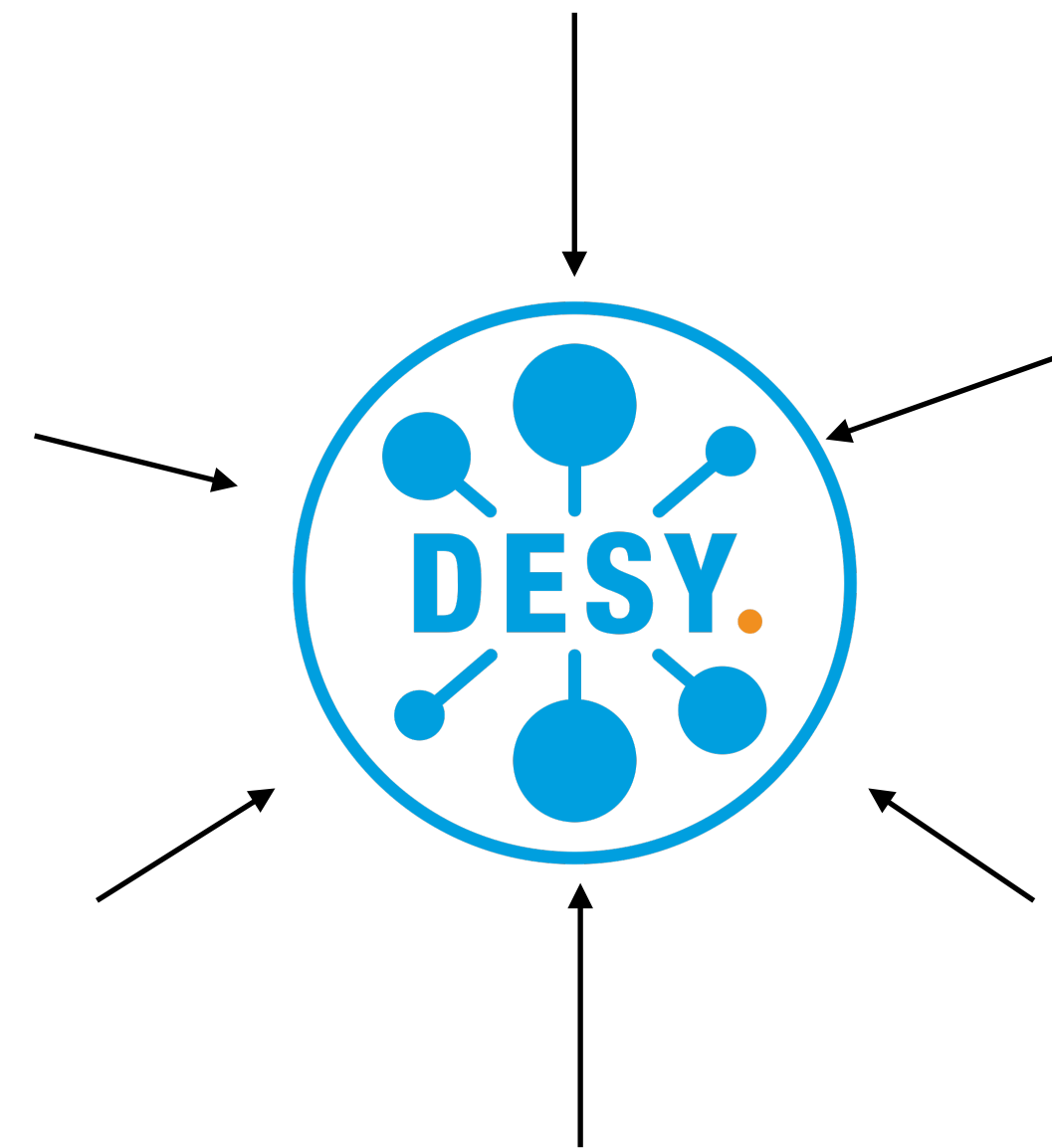
DESY Hamburg, 24-28 February 2025

INTRODUCTION





you, the 60+ participants
coming from various places!



DESY orga team: Olaf Behnke, Andreas Hinzmann, Isabell Melzer-Pellmann, Inna Henning (secretary)

Tutorial support: Sara Taheri Monfared, Kuan-Yu Lin, Dirk Kruecker, Louis Morieux (Uni HH)

For any questions/suggestions/comments write email to: anacen@desy.de, olaf.behnke@desy.de

Program

<https://indico.desy.de/event/46667/timetable/>

Motto: Walk through statistical tasks in physics data analysis

Topics:

- Probability
- Hypothesis testing
- Parameter estimation
- Confidence intervals
- Systematic uncertainties
- Theory uncertainties
- Machine Learning
- Unfolding
- Bayesian inference

Monday, February 24, 2025	Tuesday, February 25, 2025	Wednesday, February 26, 2025	Thursday, February 27, 2025	Friday, February 28, 2025
	9:00 AM Parameter Estimation - Roger Barlow (Huddersfield)	9:00 AM Bayesian Parameter Estimation - Intro + Tutorial - Glen Cowan (RHUL)	9:00 AM Machine Learning II - Tilman Plehn (Heidelberg University) Tilman Plehn (Heidelberg University)	9:00 AM Machine Learning III - Tilman Plehn (Heidelberg University) Tilman Plehn (Heidelberg University)
	10:00 AM Coffee Break	10:30 AM Coffee Break	10:30 AM Coffee Break	10:45 AM Coffee Break
	10:30 AM Parameter Estimation - Tutorial - Glen Cowan (RHUL)	11:00 AM Systematics: Errors on Errors - Glen Cowan (RHUL)	11:00 AM Theory Uncertainties - Frank Tackmann (T (Phenomenology))	11:15 AM Modern Bayesian inference in practice - Kevin Kröninger (TU Dortmund)
12:30 PM Registration	12:30 PM Lunch Break	12:30 PM Lunch Break	12:30 PM Lunch Break	12:15 PM Closing of school
1:15 PM Welcome				12:30 PM Lunch Break
1:20 PM Basics (Probabilities, Distributions, CLT) - Roger Barlow (Huddersfield)	2:00 PM Hypothesis Testing - Limit Setting - Glen Cowan (RHUL)	2:00 PM Machine Learning I - Tilman Plehn (Heidelberg University) Tilman Plehn (Heidelberg University)	2:00 PM Unfolding - Lydia Brenner (Nikhef)	
3:00 PM Coffee Break	3:30 PM Coffee Break	4:00 PM Coffee Break	4:00 PM Coffee Break	
3:30 PM Hypothesis Testing - basics - Glen Cowan (RHUL)	4:00 PM Systematics - Roger Barlow (Huddersfield)	4:30 PM Disasters in Statistical Inference in Particle Physics - Roger Barlow (Huddersfield)	4:30 PM Asymmetric uncertainties - Roger Barlow (Huddersfield)	
4:30 PM Hypothesis testing - Tutorial - Glen Cowan (RHUL)				
		6:30 PM School Dinner		

Your Chef's team:

Roger Barlow

Glen Cowan

Tilman Plehn

Alsterfood

Lydia Brenner

Frank Tackmann

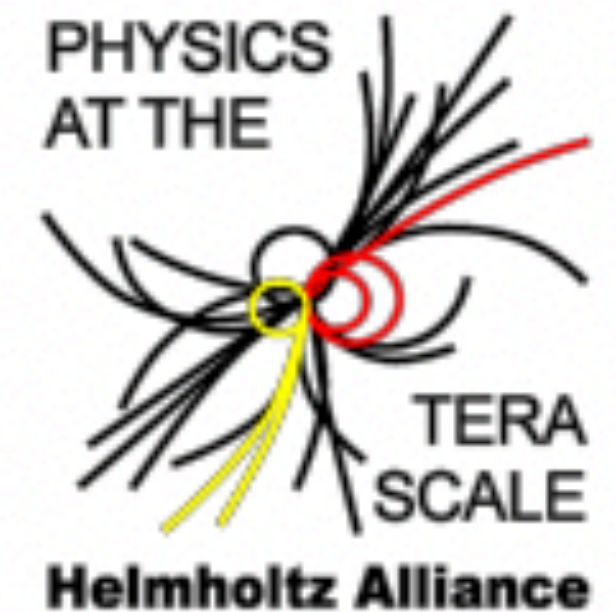
Kevin Kroeninger



Computing information

- WLAN: connect to “Science-Hotspot” (easy registration) or “Eduroam”
- Glen Cowan’s tutorials: Basic computing set up is described at <https://indico.desy.de/event/46667/page/5356-setup-for-exercises>
- Link to Tutorial files: <https://www.pp.rhul.ac.uk/~cowan/stat/exercises/Description/Tasksheet> https://www.pp.rhul.ac.uk/~cowan/stat/exercises/cowan_stat_exercises.pdf
- We will **not** stream the School in ZOOM

Code of conduct



- The Helmholtz Alliance 'Physics at the Terascale' consists of members with varied national origin, ethnic background, race, gender identity, sexual orientation, gender, age, physical ability, and religion.
- As a community, we are committed to being positive and inclusive in all regards. Members of the Terascale Alliance and participants of all Terascale events must maintain a professional environment in an atmosphere of tolerance and mutual respect and abstain from all forms of harassment, abuse, intimidation, bullying, and mistreatment of any kind.
- This includes, but is not limited to, intimidation, sexual or crude jokes or comments, inappropriate anonymous emails, offensive images, and unwelcome physical conduct.
- Keep in mind that behavior and language deemed acceptable to one person may not be to another.
- We commit to helping our community adhere to this code of conduct and speak up when we see possible violations of it.
- In the event that the letter or the spirit of this code has been violated, appropriate action will be taken.

https://indico.desy.de/event/33888/attachments/80565/105358/Code_of_Conduct_Terascale_Slide.pdf

DESY map:

https://indico.desy.de/event/46667/attachments/93692/131109/TerascaleSchoolFeb2025_map.pdf

DESY Hamburg: Places of Terascale Statistics School 24-28 Feb 2025

<https://campus.desy.de/en/>

SR2: (02a ground floor)
We-Fr 26-28 February
• Lectures/Tutorials

SR4 (01b upper floor side tract)
Mo-Tu 24-25 February
• Lectures/Tutorials
Mo-Fr 24-28 February
• Coffee breaks

Canteen Extension
(School Dinner)

Canteen Bld 9
(Lunch Breaks)

Bus stop

Hostels



Venue & Food

- You can buy Lunch and Breakfast in DESY Canteen & Cafeteria

<https://desy.myalsterfood.de/>

- Only Cash or special rechargeable DESY payment card
- School Dinner takes place Wednesday 6.30–9 pm in Canteen extension

Dinner places

<https://indico.desy.de/event/46667/page/5168-restaurants-in-the-vicinity-of-desy>

Terascale Statistics School 2025

Feb 24 – 28, 2025
DESY Hamburg
Europe/Berlin timezone

Enter your search term



Please take note: this is just
a small selection, based on personal
experiences

Overview

Timetable

Contribution List

My Conference

My Contributions

Registration

Participant List

Setup for exercises

Accommodation

Code of conduct

Restaurants in the
vicinity of DESY

Travel direction to DESY

Terascale School Support

✉ anacen@desy.de

Restaurants in the vicinity of DESY



Most of the Restaurants below are situated in Ottensen, the nearest downtown quarter ~5km from DESY, reachable by bus, e.g. lines 1 and 2, within ~20-30 minutes.

It maybe worthwhile to buy a daily group ticket for 14,10 Euro, valid for up to 5 persons.










Timetables can be found [here](#). Please take note that the Hamburg City Centre is not the most lively place for going out in the evening, the "action" is mostly in other places like Ottensen, Schanzenviertel, Portuguese quarter or St. Pauli.

- [Elbwein](#) (Flammkuchen)
- [Panda's Kueche](#) (Asian)
- [Farina meets Mehl](#) (exquisite Pizza)
- [Da Michele](#) (Best Pizza in Hamburg?)
- [Scotty's](#) (Typical Hamburg Kneipenrestaurant)
- [L'Orient](#) (modern libanese kitchen)
- [Green Papaya](#) (Asian)
- [Otto's Burger](#) (The name says it)
- [Il Gambero](#) (italian)
- [Burgerlich](#) (in city centre)

Please take note that the above list is just a small selection of recommended restaurants, based on our personal experiences, there is much more to find/discover in Hamburg!

Program of today

Enjoy!

MON, FEBRUARY 24				
12:30 PM	→ 1:15 PM	Registration	🕒 45m	📍 Seminarraum 4a/b 
1:15 PM	→ 1:20 PM	Welcome	🕒 5m	📍 Seminarraum 4a/b 
		Speakers: Andreas Hinzmann (CMS (CMS Fachgruppe Searches)), Olaf Behnke (CMS (CMS Fachgruppe TOP))		
		 obehnke250224.pdf		
1:20 PM	→ 3:00 PM	Basics (Probabilities, Distributions, CLT)	🕒 1h 40m	📍 Seminarraum 4a/b 
		Lectures + Discussions		
		Speaker: Roger Barlow (Huddersfield)		
		 Barlow_250224.pdf		
3:00 PM	→ 3:30 PM	Coffee Break	🕒 30m	📍 Seminarraum 4a/b
3:30 PM	→ 4:30 PM	Hypothesis Testing - basics	🕒 1h	📍 Seminarraum 4a/b 
		Lecture + Discussion		
		Speaker: Glen Cowan (RHUL)		
4:30 PM	→ 5:30 PM	Hypothesis testing - Tutorial	🕒 1h	📍 Seminarraum 4a/b 
		Tutorial:		
		Link to files: https://www.pp.rhul.ac.uk/~cowan/stat/exercises/		
		Description/Tasksheet (file is also attached):		
		https://www.pp.rhul.ac.uk/~cowan/stat/exercises/cowan_stat_exercises.pdf		
		Today: Exercises on hypothesis testing 1a-1g, see p.32 ff		
		Speaker: Glen Cowan (RHUL)		
		 cowan_stat_exercis...		