

# Status of the Gentner Programme

25<sup>th</sup> Gentner Day

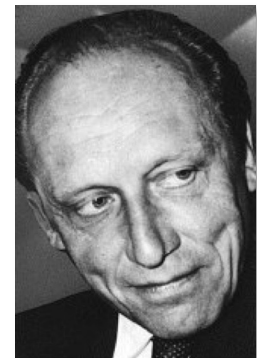
April 24<sup>th</sup>, 2024

Dominik Dannheim (CERN)

Manfred Fleischer (DESY)



- Wolfgang-Gentner scholarship provides funding for **technical doctoral students at CERN**:
  - 36 months **subsistence** + **travel** to home institute and national meetings
- Goals: **train students** and **strengthen links** between German universities and CERN;  
**increase technical staff from Germany** at CERN
- Fully **embedded in CERN doctoral-student programme**:  
nationals from EU member states inscribed at German Univ. are eligible
- until **2023: Selection of ~13 Gentner-funded students per year**,  
prior to CERN doctoral-student selection, **3 selection rounds per year**
- Based on **trilateral agreement** in effect from 2007 to 2026:
  - **BMBF** provides strategic funding (**39 students** on average)
  - **DESY** oversees project planning, execution, accounting, reporting
    - **Manfred Fleischer** (programme coordinator), **Stephanie Krause** (accounting, admin. support)
  - advisory committee: **Michael Hauschild**, **Kerstin Borrás**, **Bernhard Schmidt**
  - **CERN** provides technical framework, administrative and project-management support
    - **Dominik Dannheim** (programme coordinator), **Maria Kimpezi** (CERN DOCT recruitment),  
**Jan von der Brèlie** (CERN DOCT coordination)



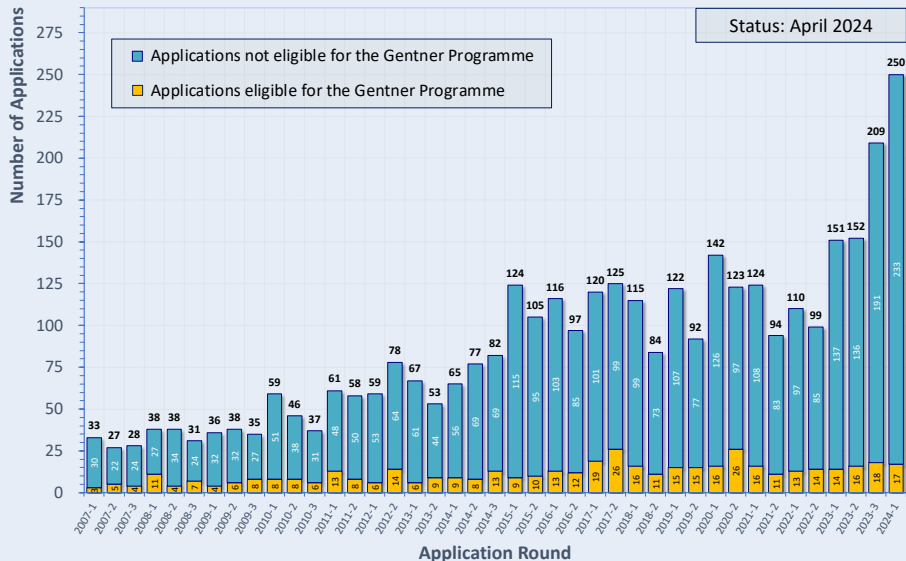
Wolfgang Gentner 1906-1980  
CERN synchro-cyclotron  
research director 1955-59



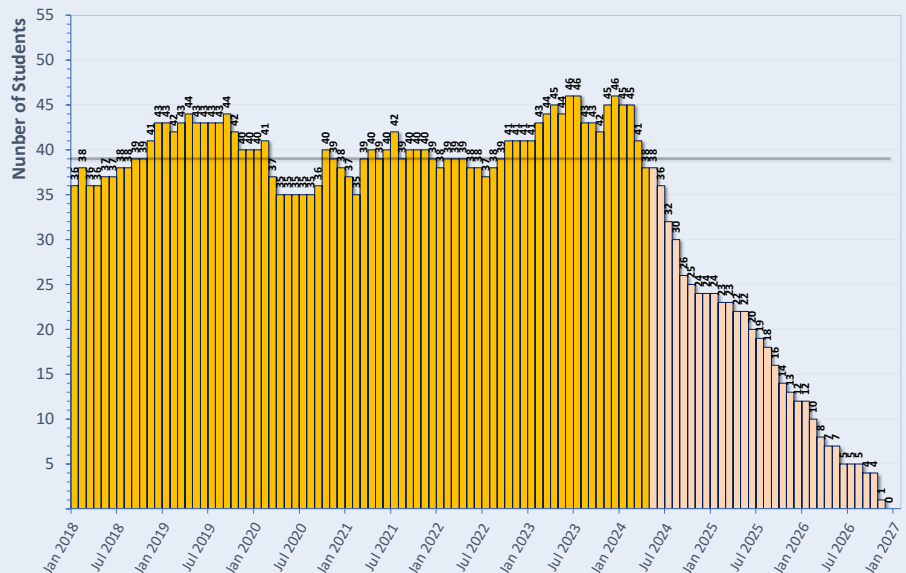
# Evolution of the current Gentner programme



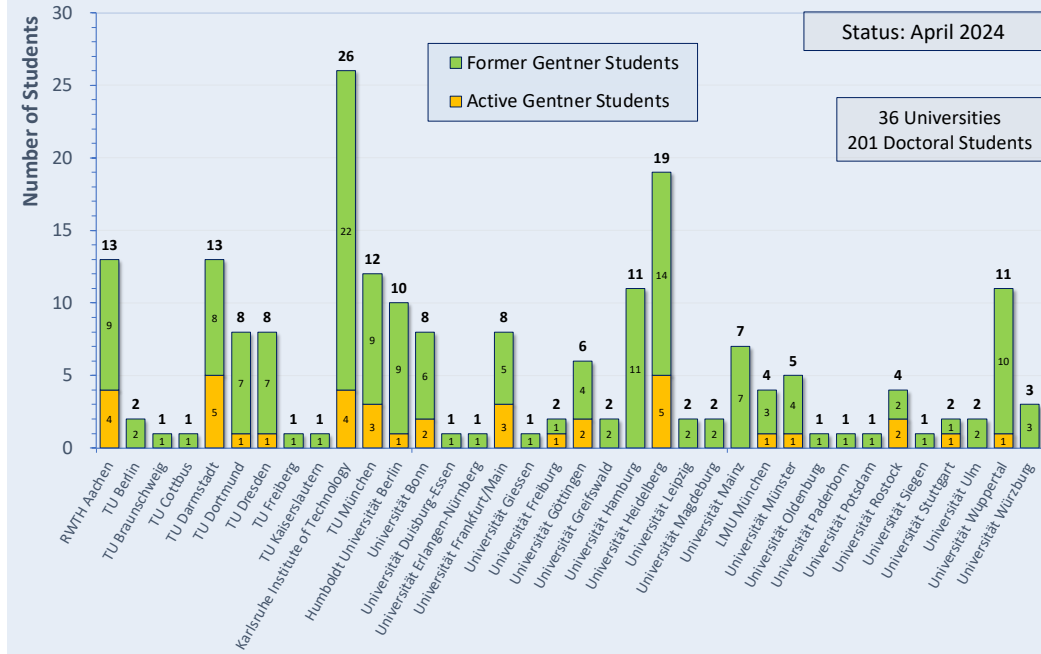
Applications for the CERN Doctoral Student Programme



Number of Gentner Doctoral Students [+ Projection]



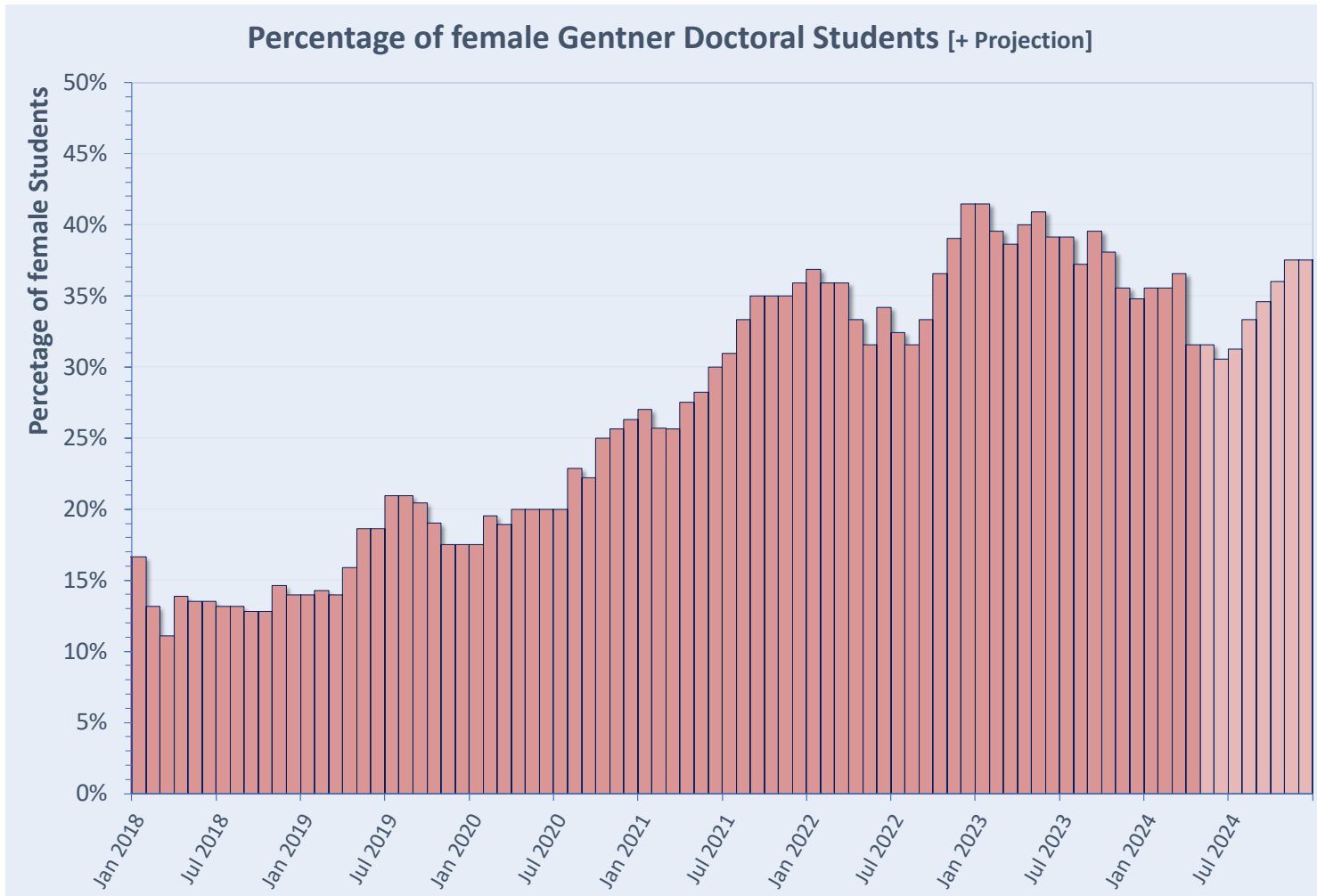
Home Universities of all Gentner Doctoral Students since 2007



- Number of Gentner-eligible applications has **increased** (note since 2023: 3 rounds per year instead of 2)
- **Current status** (as of April 2024):
  - **38** Gentner students from **17** Universities + further **9** German non-Gentner students
  - **4** new students since last Gentner day
  - In total **201** Gentner students from **36** Universities since 2007

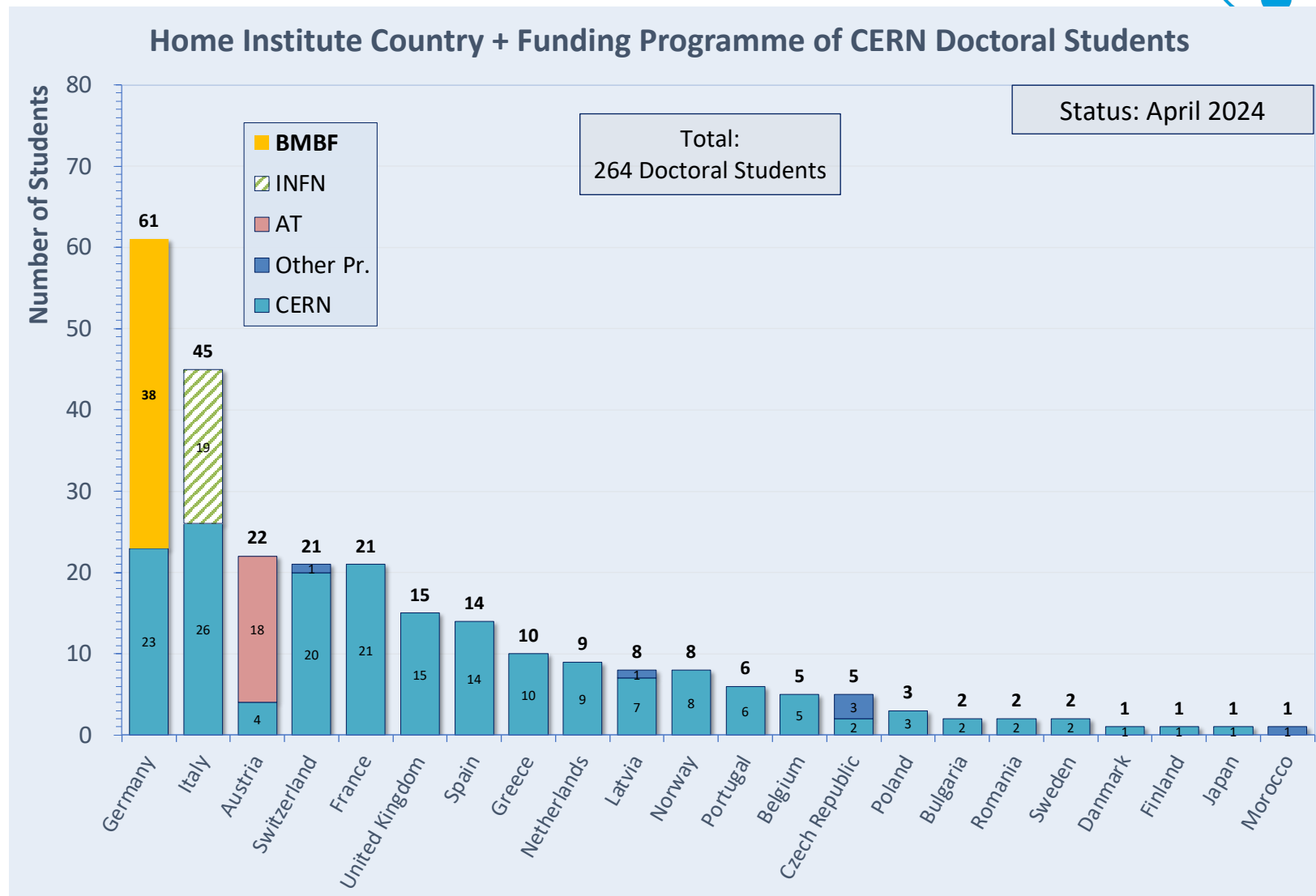


# Gender balance



- Steady increase of female Gentner students to currently **~35%** (CERN DOCT average is **36%**, average for Physics Phd in Germany in 2022 was **22%**)
- Thanks to increasing fraction of female applicants over the years

# CERN doctoral students (I)



- **23%** of CERN doctoral students enrolled at German Universities

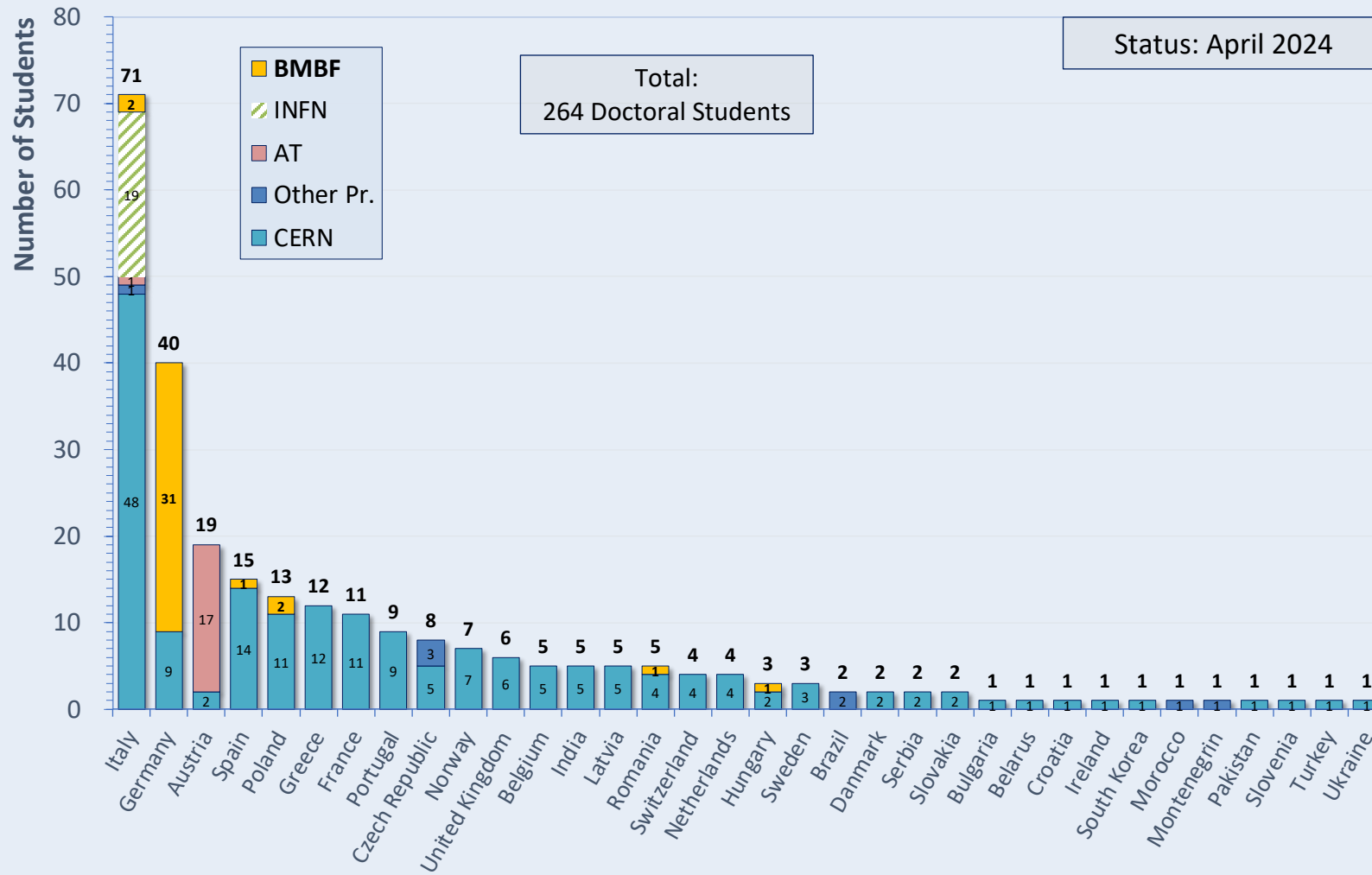


# CERN doctoral students (II)



Nationality + Funding Programme of CERN Doctoral Students

Status: April 2024



- Italians (**27%**) and Germans (**15%**) leading doctoral student nationalities

# Future of the Gentner programme



- **Full funding is secured for all current scholarships** through extension of Gentner contract with BMBF **until end of 2026**
- A **continuation** of the Wolfgang-Gentner scholarship programme **is being worked out but still under discussion / in reconciliation** with the BMBF
- The **selection procedure** and the **conditions** for new scholarships are currently being worked out: discussions with the BMBF are ongoing, but **not yet converged**.
- **New scholarships cannot** be awarded until a new contract is in place (we hope for mid 2025)
- On CERN side: Changes planned for the CERN DOCT **recruitment procedure** from 2025
  - **“continuous hiring”** with more more flexible application and selection deadlines
  - Similar as already implemented for Quest graduate programme
  - Implications for pre-selections by national funding programmes t.b.c.

DOCT recruitment calendar for 2024:


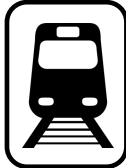

| Application Deadline                                   | TSC committee | Start dates     |
|--|---------------|-----------------|
| 06.11.2023   | 01.02.2024    | 04/2024-07/2024 |
| 11.03.2024   | 06.06.2024    | 08/2024-11/2024 |
| 29.07.2024   | 17.10.2024    | 12/2024-03/2025 |
| Plan to change to <b>“continuous hiring”</b> from 2025 |               |                 |





# Changes to travel regulations



- Further adjustment of Gentner travel rules is needed, to comply with budget constraints and with specifications/definitions in the BMBF/DESY/CERN Gentner contract   
- New sharing of travel expenses between CERN and Gentner, from today:
  - For Students:
    - Travel to **home university** (1x per year, reimbursement of transport cost only) and to German **national symposia** (1x during DOCT, including allowance) financed **by Gentner** through DESY
    - Travel to **home university** (1x per year, including allowance) may be reimbursed by **CERN group** \*)
    - At least **one conference participation** during DOCT time is reimbursed **by CERN group** \*)
  - For Supervisors (coming from Germany):
    - Travel from Germany to CERN (including allowance) is reimbursed 1x per year **by CERN group** \*)
  - For CERN supervisors:
    - Travel from CERN to student's home university for thesis defence (including allowance) reimbursed **by Gentner** through DESY
- Please see updated travel FAQ for further details, and carefully follow the instructions: <https://wolfgang-gentner-stipendien.web.cern.ch/wolfgang-gentner-stipendien/en/faq.php>

\*) see <https://admin-eguide.web.cern.ch/node/1298> for general CERN DOCT travel rules





# Awards (I)



- **Joshua Beirer** (Georg-August-Universität Göttingen) received the **ATLAS PhD thesis award** for his thesis *Novel Approaches to the Fast Simulation of the ATLAS Calorimeter and Performance Studies of Track-Assisted Reclustered Jets for Searches for Resonant  $X \rightarrow SH \rightarrow bbWW^*$  Production with the ATLAS Detector*

ATLAS Thesis Awards 2023



## Awards (II)

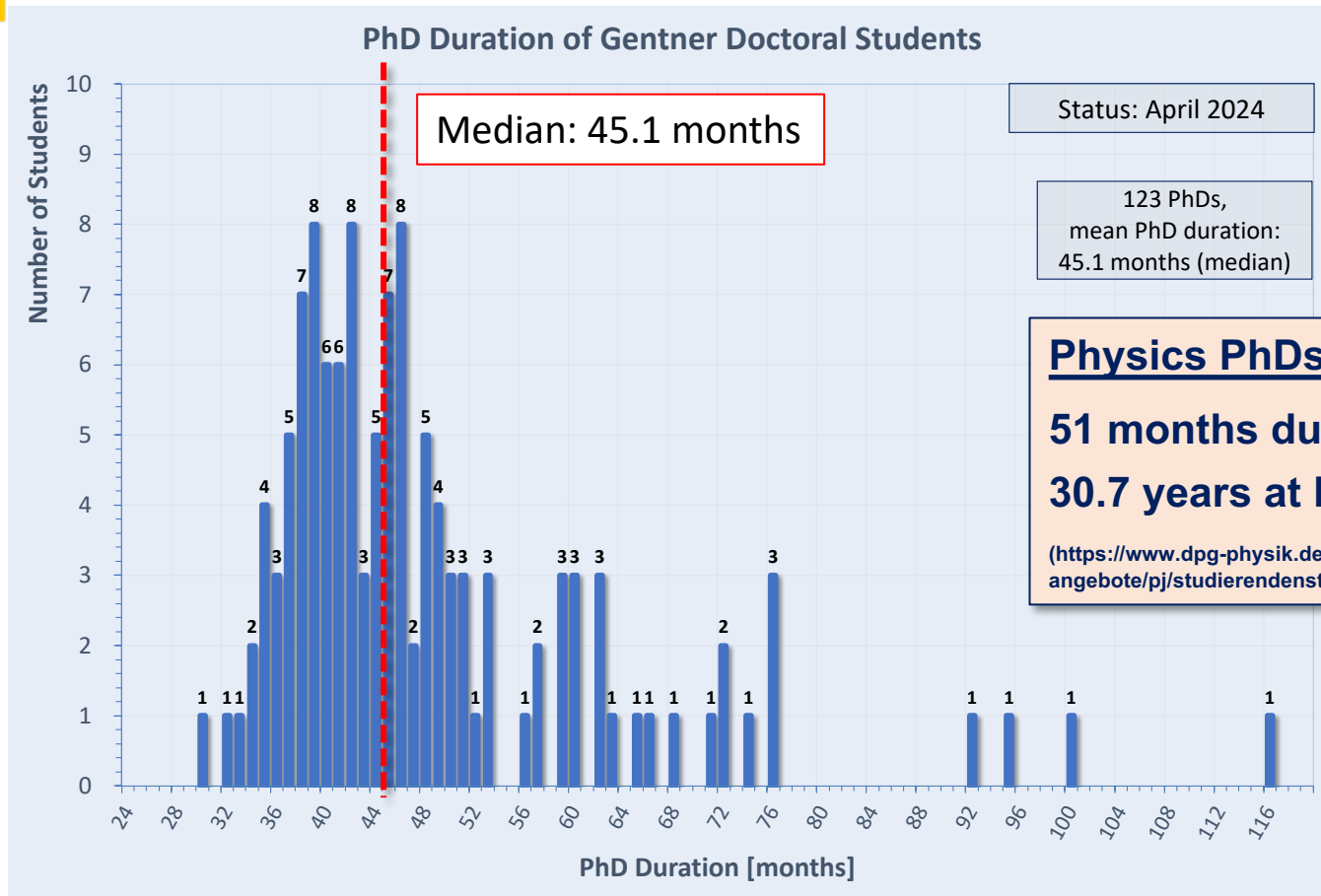


- **Tim Lellinger** (TU Darmstadt) received the **Best Young Speaker Award** for his contribution to the ISOLDE workshop and users meeting 2023





# PhD statistics



**Physics PhDs in Germany (2011-2021 avg.)**

**51 months duration of PhD**

**30.7 years at PhD defence**

(<https://www.dpg-physik.de/veroeffentlichungen/magazine-und-online-angebote/pj/studierendenstatistiken/>)

List of all Gentner theses:  
<https://wolfgang-gentner-stipendien.web.cern.ch/wolfgang-gentner-stipendien/de/theses.php>

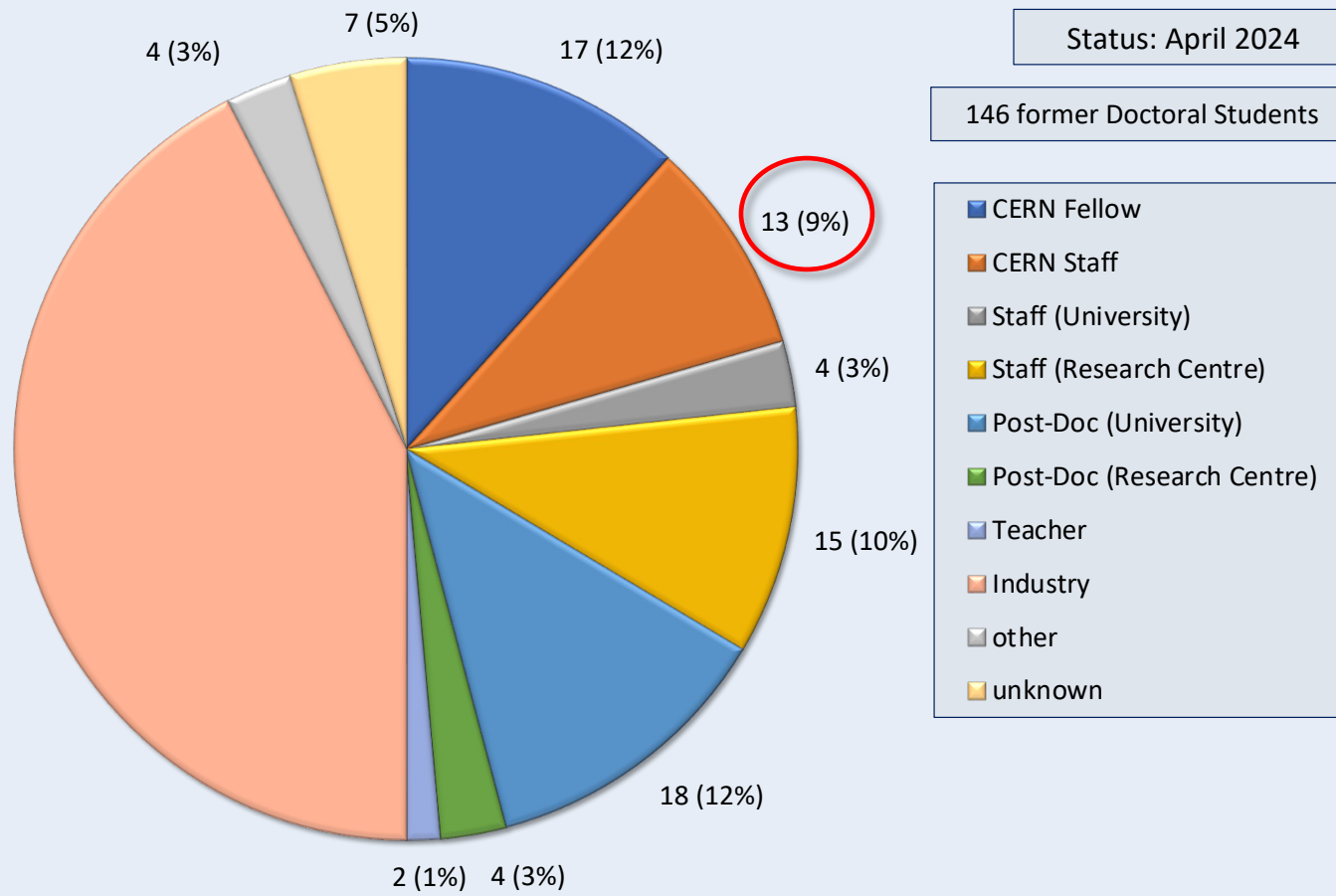
- Since 2007: **123** finished Gentner PhDs, **21** cancelled PhD (15%)
  - Duration for PhD: **45.1** months (median) → **9 months** after end of 3-years contract
  - Age at PhD defence: **30.7** years (median)



# Whereabouts of former Gentner students



Current Employment of former Gentner Doctoral Students



→ today's guest speaker:

**Eva Sicking**

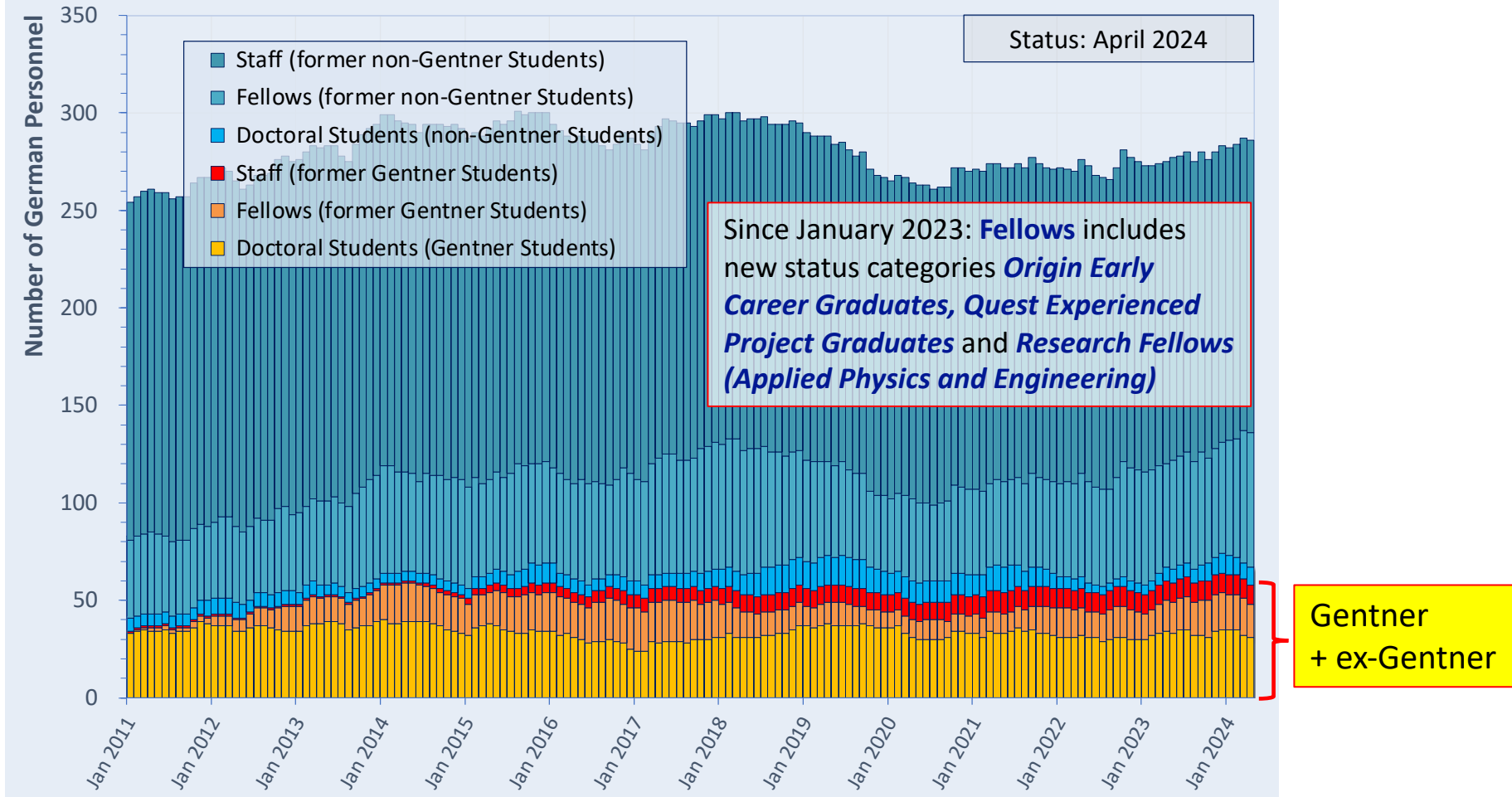
- Gentner student in PH-AIP-PH 2009-2012
- PhD in physics Münster Univ. on *Multiplicity Dependence of Two-Particle Angular Correlations in Proton-Proton Collisions Measured with ALICE at the LHC*
- Fellow in EP-LCD 2012-2015
- Postdoc at Freiburg Univ. 2016
- CERN staff in EP-DT since 2016, main focus: CMS-HGCAL

•49% of former Gentner in academic research (CERN, Universities, research centres)  
 •42% in industry

# CERN careers of Gentner students



German Doctoral Students, Fellows and Staff at CERN



- **286** German Doctoral students, fellows and staff in total
- Of those: **31** current and **27** former Gentner students (**20%**)



# CERN graduate programs



CERN graduate programs targeting PhD holders:

- The **QUEST** Programme (Experienced Project Graduates), for nationals of Member or Associate Member States with a MSc degree and between 2 and 6 years of experience or PhD with up to three years of relevant experience.  
→ application for specific job openings, continuous hiring process w/o fixed deadlines
- The **Research Fellowship** Programmes:
  - Theoretical and Experimental Physics Research Fellowship, for researchers in the fields of theoretical and experimental physics holding a PhD and up to six years experience in the field after obtaining their PhD;  
→ open application 2x / year; usually reserved for candidates with experience in physics analysis
  - Applied Physics and Engineering Research Fellowship, for candidates holding a PhD in the field, with a maximum of 3 years of experience after obtaining their PhD.  
→ open application 2x / year; groups select candidates for specific projects
- Conditions for QUEST / Research Fellowships are equivalent for PhD holders
- **55%** of Gentner students become CERN Fellow / Quest
  - Currently **14** Fellows + **3** QUEST ex-Gentner

→ Look out for opportunities, also outside your immediate work environment!

→ You can apply for several posts, even simultaneously

<https://careers.smartrecruiters.com/CERN/graduates>



# How to stay connected



## LinkedIn:

<https://www.linkedin.com/groups/8511060/>

The screenshot shows the LinkedIn group page for 'Wolfgang Gentner Scholarships'. The header includes 'The High-Energy Network' and 'Le Réseau des hautes énergies'. The main content area features a chalkboard background with the text 'E.O.L. has Nobel Prize'. Below this, there is a 'Write a post' section with a text input field and a 'Post' button. A post by Michael Hauschild is visible, mentioning 'Jonas Karthein receives the Wilhelm and Else Heraeus Dissertation Prize 2020'. The 'About' section states that the German Federal Ministry of Education and Research (BMBF) is supporting technical Doctoral Students from Germany at CERN. The 'Partners' section lists the Federal Ministry of Education and Research (BMBF), CERN, and DESY.

The screenshot shows the Facebook group page for 'German Doctoral Student Programme at CERN (Wolfgang Gentner Scholarships)'. The cover photo is a chalkboard with the text 'Unconfirmed E.O.L. has Nobel Prize' and 'Confirmed'. The group has 78 members, including Henning Weiler and 76 other connections. There is a 'Start a conversation in this group' section with options for Photo, Video, and Poll. The 'About this group' section states that the German Federal Ministry of Education and Research (BMBF) is supporting technical Doctoral Students from Germany at CERN. The 'Partners' section lists the Federal Ministry of Education and Research (BMBF), CERN, and DESY.

## CERN Alumni:

<https://alumni.cern/topics/597/feed>

Please help us with **updates** after your active Gentner time:

- Join **LinkedIn** and **CERN Alumni** Gentner groups
- Let us know your **PhD defence date**
- Publish your thesis on **CDS** (category CERN-theses)
- Let us know of any **honors** and **awards** for your thesis
- Keep us posted on your **future jobs** and **email-address changes**



## Successes of the Gentner programme:

- **Opportunities:** 201 Gentner students from 37 German universities at CERN since 2007;
- **Scientific output:** 123 Gentner PhDs;
- **Diversity:** steady increase of female Gentner students to currently ~35%;
- **Networks:** majority of CERN doctoral students are from German institutes (23%);
- **Careers:** 55% of Gentner students become CERN fellow, 15% of ex-Gentner fellows become staff.

## Outlook:

- Conditions for new Gentner programme currently under discussion
- Change of CERN DOCT recruitment to “*continuous hiring*” from 2025

**Next Gentner Day:** 30.10.2024  
and **cheese fondue** on 29.10.2024!



# Additional material



# Overview table



| Overview: Wolfgang-Gentner-Programme              |                                       |                  |                 |                    |
|---|---------------------------------------|------------------|-----------------|--------------------|
| Status: April 2024                                |                                       |                  |                 |                    |
| <b>38 active Gentner Students</b>                 |                                       |                  |                 |                    |
|   | male:                                 | 26               |                 |                    |
|   | female:                               | 12               | (32%)           |                    |
| <b>163 former Gentner Students</b>                |                                       |                  |                 |                    |
|   | male:                                 | 123              |                 |                    |
|   | female:                               | 40               | (25%)           |                    |
|   | PhD uncertain:                        | 3                |                 |                    |
|   | PhD cancelled:                        | 21               | (15%)           |                    |
| <b>201 total active + former Gentner Students</b> |                                       |                  |                 |                    |
|   | male:                                 | 149              |                 |                    |
|   | female:                               | 52               | (26%)           |                    |
| <b>123 finished PhDs</b>                          |                                       |                  |                 |                    |
|   |                                       |                  | (75%)           |                    |
|   | average PhD duration:                 | 45.1             | months (median) |                    |
|   | average age at PhD:                   | 30.7             | years (median)  |                    |
| <b>Whereabouts of former Gentner Students</b>     |                                       |                  |                 |                    |
|   |                                       | first employment |                 | present employment |
|   | CERN Fellow:                          | 81               | (55%)           | 17 (12%)           |
|   | CERN Staff (indefinite):              | 1 (0)            | (1%)            | 13 (6) (9%)        |
|   | Staff (University) (indefinite):      | 1 (0)            | (1%)            | 4 (4) (3%)         |
|   | Staff (Research Centre) (indefinite): | 1 (1)            | (1%)            | 15 (5) (10%)       |
|   | Post-Doc (University):                | 24               | (16%)           | 18 (12%)           |
|   | Post-Doc (Research Centre):           | 4                | (3%)            | 4 (3%)             |
|   | Teacher:                              | 1                | (1%)            | 2 (1%)             |
|   | Industry:                             | 29               | (20%)           | 62 (42%)           |
|   | Other fields:                         | 2                | (1%)            | 4 (3%)             |
|   | Unknown:                              | 2                | (1%)            | 7 (5%)             |
|   |                                       | <b>146</b>       |                 | <b>146</b>         |
|   | PhD Preparations:                     | 17               |                 | 17                 |
|   |                                       | <b>163</b>       |                 | <b>163</b>         |