2025 NWERC

Digital Booklet

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Photo: Max Langerak

Foreword

Dear Contestants, Coaches, and other participants of NWERC 2025,

We are happy to welcome you to Karlsruhe. The NWERC 2025 is organized by the *Scalable Algorithms Group* at KIT, and would not have been possible without the help of all the awesome volunteers from *CPUlm*.

In this digital booklet, you can find useful information about NWERC 2025, the university, Karlsruhe, and our sponsors.

An enthusiastic group of former NWERC participants made it possible to host NWERC in the GCPC region after 14 years. But we were not alone, and we thank everyone who contributed to this NWERC for their work. This includes especially:

- Our volunteers
- The jury
- The *DOMjudge* developers
- *KIT Department of Informatics*
- *Scalable Algorithms Group* led by T.T.-Prof. Dr. Thomas Bläsius
- *Scientific Computing Center*
- *Student Council Mathematics and Computer Science at KIT*
- *Studierendenwerk Karlsruhe*
- *Arbeitskreis Kultur und Kommunikation*
- *General Students Committee at KIT*
- *Hans-Dickmann-Kolleg*
- *CHipCie*

We wish you a wonderful contest weekend and hope you will enjoy your time in Karlsruhe.

– The organization committee of NWERC 2025

Karlsruhe

Welcome to Karlsruhe, the “Fan City” (*Fächerstadt*) with its distinctive radial layout! Founded in 1715 by Margrave Karl Wilhelm of Baden-Durlach, the city was planned as a baroque city with the palace at its center and 32 streets radiating outward like the ribs of a fan – hence its nickname. With a population of approximately 310 000, Karlsruhe is Baden-Württemberg’s second-largest city and serves as the seat of Germany’s Federal Constitutional Court and Federal Court of Justice, earning it the title “Residence of Law” (Residenz des Rechts). Check out the Activities section for the best tips on what to see and do in Karlsruhe!

Karlsruhe Institute of Technology (KIT)

Karlsruhe Institute of Technology (KIT) is one of Germany's largest and most renowned institutions for research and higher education in the natural sciences, engineering, economics, and the humanities. Established in 2009 through the merger of the University of Karlsruhe (founded in 1825) and the Karlsruhe Research Center, KIT combines the missions of a university and a large-scale research organization within the Helmholtz Association. It offers a wide range of degree programs and conducts internationally recognized research in areas such as energy, mobility, information, and materials. With approximately 22 000 students and over 9 000 employees, KIT plays a pivotal role in the German and European research landscape, maintaining extensive collaborations with academic and industrial partners worldwide.

The KIT Department of Informatics

The Department of Informatics at the Karlsruhe Institute of Technology (KIT) is one of Europe's most distinguished academic institutions in the field of computer science. Founded in 1972 as Germany's first independent department of informatics, it has played a pioneering role in shaping research, education, and innovation in the digital age.

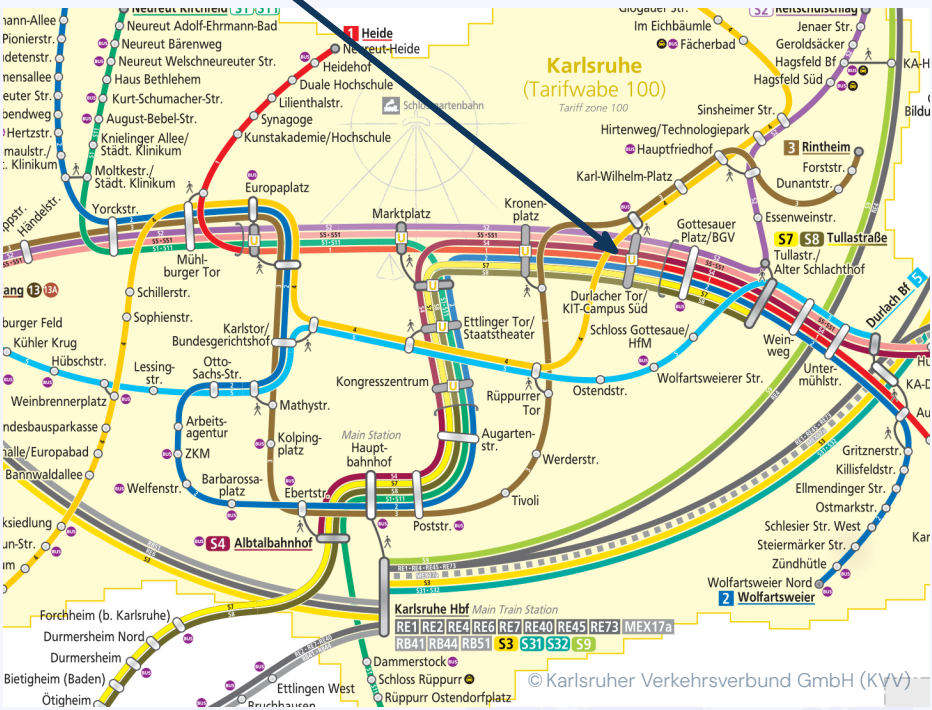
The department's research covers a wide range of areas, including artificial intelligence, cybersecurity, software engineering, data science, robotics, algorithmics, chip design, health tech, and human-computer interaction. Through strong collaboration with industry partners and international research institutions, it makes significant contributions to scientific progress and technological development.

In education, the Department of Informatics offers a comprehensive portfolio of study programs. Students can pursue degrees in Informatics, Information Systems, or Informatics Teacher Education at both the undergraduate and graduate levels, as well as the Master of Science in Computer Science (English-taught). The department also provides excellent opportunities for doctoral studies within its renowned research groups and graduate schools.

Combining solid theoretical foundations with practical and research-oriented training, these programs prepare graduates for leading roles in academia, education, industry, and the public sector, reflecting the high academic standards and innovative culture of KIT.

Public Transport

To reach the contest site, we recommend getting off at “Durlacher Tor/KIT Campus Süd”. You can find a route planner *here*.



Tickets are available online, at ticket machines at the stops and/or in the trams. A single ticket for Karlsruhe (2 zones) costs €3.50 (€2.60 with BahnCard). Please note that a 1-zone ticket is insufficient for Karlsruhe. A daypass is available for €7. When travelling with your team you might also want to consider the multi-person daypasses (e.g., €14 for 3 people).

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quantco

Congratulations on participating in NWERC! As a special quest, our colleagues have crafted a series of intriguing puzzles for you. Enjoy!

QuantCo is a leading applied AI company. We build scalable systems that enhance decision-making and automate complex processes with measurable economic impact - with a focus on regulated industries such as insurance and healthcare. Our technology fuses state-of-the-art generative AI with rigorous econometric optimization, enabling optimized decisions and automation grounded in both structured and unstructured data while maintaining explainability and traceability where it matters. Our teams of top AI researchers, software engineers, and data scientists operate from hubs including Berlin, Munich, Zurich, London, San Francisco and Boston.

Activities

If you have some free time, Karlsruhe offers plenty of attractions to explore on your own. Here are some recommendations to make the most of your visit:

***Christmas Market*:** Experience the festive atmosphere of Karlsruhe's Christmas market. Watch out for *Santa* when he is flying over the market square with his sledge.

***ZKM (Center for Art and Media)*:** Free entry on Fridays 14:00 - 18:00. This museum focuses on the intersection of art, technology, and society and has the GamePlay exhibition about the history of computer games.

***Natural History Museum*:** Free entry on Fridays 13:00 - 17:00. A museum on natural history, geology, and biology. It also has aquariums and terrariums with many different animals.

***Karlsruhe Botanical Gardens*:** Free access to the outdoor areas of the botanical gardens of the Karlsruhe palace. Take a stroll around the Karlsruhe palace while you are there!

***Zoo*:** The zoo is home to over 6 500 animals from around the world. Highlights include the tropical house (Exotenhaus) and the red pandas.

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Schedule

Friday, November 28th

17:30 - 20:30	Registration	Audimax (30.95)

Saturday, November 29th

08:00 - 09:00	Late Registration / Walk-in	Audimax (30.95)
09:00 - 10:00	Opening Ceremony	Audimax (30.95)
10:30 - 12:30	Test Session	Dining Hall (01.13)
11:00 - 18:30	Company Market	Audimax (30.95)
11:30 - 13:00	Lunch	Audimax (30.95)
12:30 - 14:00	Tech Talks	Audimax (30.95)
14:00 - 15:00	Q&A Test Session	Audimax (30.95)
18:30 - 20:00	Dinner	Dining Hall (01.13)

Sunday, November 30th

08:00 - 08:30	Walk-in	Audimax (30.95)
08:30 - 09:30	Final Remarks	Audimax (30.95)
10:00 - 15:00	Contest	Dining Hall (01.13)
15:30 - 17:00	Solutions and Awards Ceremony	Audimax (30.95)

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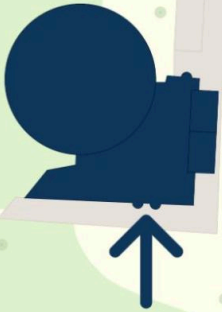
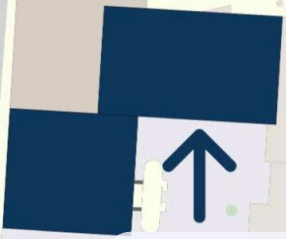
Campusplan



Audimax

- Registration
- Opening Ceremony
- Tech Talks
- Company Market
- Final Remarks
- Coach Meetings
- Solutions & Award Ceremony



Dining Hall

- Test Session
- Contest
- Dinner

Durlacher Tor/KIT-Campus Süd

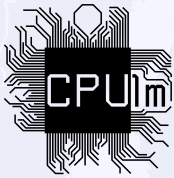
Map Data from: *OpenStreetMap*

Is this your last NWERC?

This is how you can get involved in the future:

- Organise a contest site for your subregional
- Ask the organiser of your local contest site what you can do to help
- Join the jury of BAPC, GCPC, NCPC, UKIEPC (or all 😄)
- Join the jury of NWERC
- Become coach
- Help organise an NWERC
- Join your subregional community

NWERC 2025 is organized by KIT



And would not have been possible without all the awesome volunteers of CPUlm.

Lucas Alber
Brutenis Gliwa
Andreas Grigorjew
Paul Jungeblut
Nathan Maier
Jannik Olbrich
Pascal Weber
Paul Wild
Michael Zündorf
Sebastian Angrick
Miriam Goetze
Sebastian Holler
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Daniela Novac
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Marcel Wienöbst
Wendy Yi

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As developers of the Kotlin programming language and creators of professional development products like IntelliJ IDEA, CLion, and PyCharm, as well as educational tools that help people learn and teach computer programming, we are dedicated to supporting individuals throughout their software development journeys. Sponsoring ICPC has special significance for JetBrains and aligns with our commitment to nurturing promising young talent and working with the brightest minds.

Visit *jb.gg/icpc* to learn about JetBrains' involvement with the ICPC and find materials on how the company supports the brilliant minds of the ICPC community.

ICPC Titanium Multi-Regional Sponsor

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Jane Street also runs various educational programs in London, Hong Kong, and New York to help educate students on how Jane Street applies mathematical and computer science concepts in everyday work. For more information, check out their educational initiatives:

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Jump's culture of continuous learning and innovation has attracted some of the most brilliant minds from around tech, trading, and research. They have built one of the largest supercomputers in the world to allow their team to test the most sophisticated ideas, and continuously develop custom software and hardware to maximize the impact of our strategies.

Jump Trading is proud to have many former competitive programmers among its researchers, developers, and traders, including many ICPC World Finals winners, medalists, and participants.

Jump Trading Official Website: *https://www.jumptrading.com/*

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