NWERC 2025

Opening Ceremony

NWERC 2025

29th November 2025

KIT Karlsruhe Institute of Technology

CPUlm

icpc International Collegiate Programming Contest

Who of you...

- ... is taking part in their first NWERC?

Welcome
to you

Who of you...

- ... is taking part in their first NWERC?
- ... has already won an NWERC medal?

Welcome
to you

Who of you...

- ... is taking part in their first NWERC?
- ... has already won an NWERC medal?
- ... likes interactive problems?

Welcome
to you

Who of you...

- ... is taking part in their first NWERC?
- ... has already won an NWERC medal?
- ... likes interactive problems?
- ... will do geometry problems first?

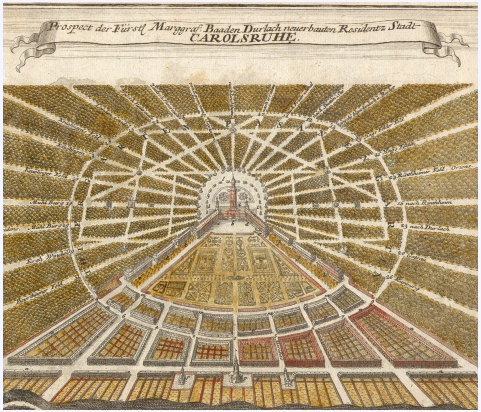
Welcome

Statistics

Together we are:

- 141 teams
- 76 institutions
- 4 company teams
- 419 participants
- 97 coaches
- 78 + 17 = 95 volunteers and organisers

Welcome
to Karlsruhe



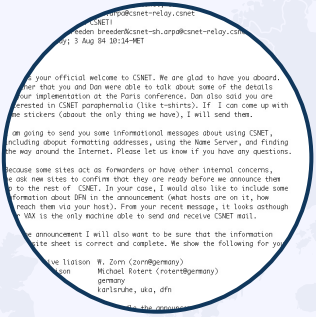
Karlsruhe (“Carolsruhe”), 1721

- **Fächerstadt**: city of the fans
- **Karlsruhe metric** on Wikipedia:
  `https://en.wikipedia.org/wiki/Karlsruhe_metric`
- Wanna try?
  BAPC 2017: Amsterdam Distance

Welcome
to Karlsruhe

1817: Karl Drais invents the first “bicycle”

1886: Heinrich Hertz discovers electromagnetic waves



1984: KIT receives first email in Germany

2025 NWERC

Prof. Dr. Oliver Kraft

Vice President
Academic Affairs

KIT
Karlsruhe Institute of Technology

NWERC in a Nutshell

- Solve the most problems in the least amount of time.
- Earn colourful balloons.
- Have fun! ...and win prestigious medals.
- Advance to the **Europe Championship** and the **World Finals**.

Europe Championship 2026

Warsaw, Poland

- Warsaw, Poland: 6.–8. February 2026
- The top 13 institutions will qualify.
  (Only one team per institution.)
- 8 additional slots for the World Finals.
- `https://euc.icpc.global/`

ICPC World Finals 2026

- Top 2 institutions will qualify directly.
  (Only one team per institution.)
- Location/date to be determined.
  - Fourth quarter of 2026.
- `https://wf.icpc.global/`

Who is Who?

T-Shirt Colors

Contestant

Coach

Runner

Systems

Orga

Jury

- Always wear your T-shirt on top.
- Wear your badge at all times.
  Also during activities.

Awareness
Code of Conduct

Our Code of Conduct

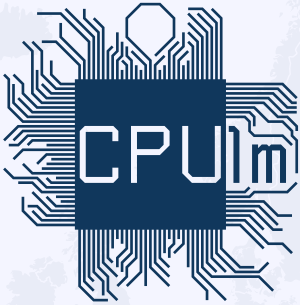
- We want a safe, welcoming, and inclusive environment for everyone.
- Feel free to talk to us or message us at **awareness@2025.nwerc.eu** — anytime.

Our Awareness Team:

Lucas and Schumi

NWERC 2025 Organisers

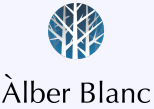
KIT & CPUlm

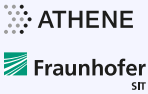


NWERC 2025 is organised by the KIT Computer Science Department...

...and would not have been possible without the volunteers from CPUlm.

NWERC 2025 Sponsors





NWERC 2025

Veronika Soboleva

ICPC

icpc International Collegiate Programming Contest

2025 NWERC

Marek Neumann

Vice President

Heisenberg Research Center

HUAWEI

NWERC 2025

Margarita Shadrina

Team Lead in
ICPC Collaboration

JETBRAINS

NWERC 2025

Varun Patro

Software Engineer

Jane Street

2025 NWERC

Annalise Field

Campus Recruiter

Jump TRADING

2025 NWERC

Tikhon Evteev

Àlber Blanc

2025 NWERC

Practical Information

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Schedule

Saturday

9:00 – 10:00	Opening Ceremony	Audimax
10:30 – 12:30	Test Session	Dining Hall
12:30 – 14:00	Tech Talks	Audimax
14:00 – 15:00	Q&A Session	Audimax
15:00 – 18:30	Company Market and Activities	Audimax
18:30 – 20:00	Dinner	Dining Hall

- Company Market: 11:00 – 18:30 in the Audimax foyer.
- Lunch is available there starting from 11:30.

Schedule

Sunday

8:30 – 9:30	Final Remarks	Audimax
10:00 – 15:00	Contest	Dining Hall
15:30 – 17:00	Solutions and Award Ceremony	Audimax

Lunch will be available in the Snack Areas.

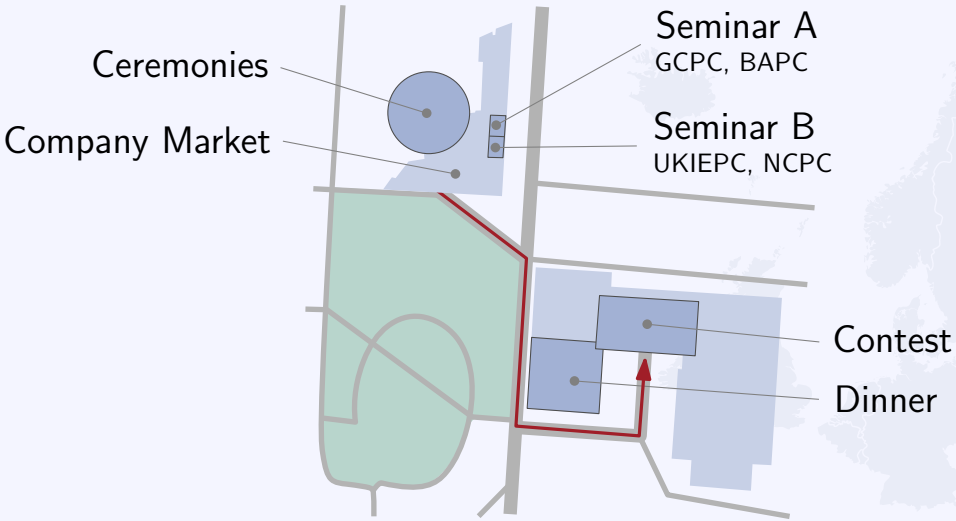
Schedule Coaches

Sunday

10:00 – 11:00	Coach Seminar	Audimax
11:00 – 12:00	GCPC Meeting	Seminar A
11:00 – 12:00	UKIEPC Meeting	Seminar B
12:30 – 13:30	BAPC Meeting	Seminar A
12:30 – 13:30	NCPC Meeting	Seminar B
13:30 – 14:30	General Coaches Meeting	Audimax

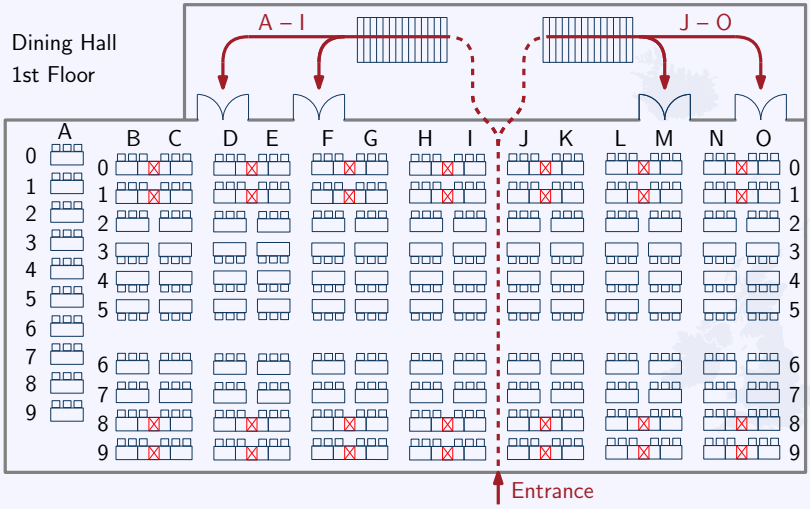
Remember: Coaches are **not** allowed in the Dining Hall on Sunday!

Campus Map


Ceremonies
Company Market
Seminar A
GCPC, BAPC
Seminar B
UKIEPC, NCPC
Contest
Dinner

Contest Hall

How to find your desk?



Take correct stairs:

- A – I: left
- J – O: right

Don't go back if you turned wrong.

Before the Contest

...and the Test Session

Rules:

- Do not touch the computer, keyboard, mouse or problem set!
- Don't bring bags, jackets, phones, watches, or other unnecessary equipment.
- Don't bring your own paper.

Remember: Wear your T-shirt and badge on top.

Problem set:

- Today: Single printout on your desk.
- Tomorrow: Envelope with three problem sets.

During the Contest

...and the Test Session

At your workstation:

- Paper and pens will be provided.
- Prints will be brought to you.
- Limited balloons during test session.

Rules:

- Only speak with your teammates.
- Only speak at your workstation.
- Do not discuss in the corridors/toilets/snack areas.

Questions?

- Toilets, snacks, directions: Ask a runner.
- About problem set or system: Send a clarification request.

Coaches:

- Take photos of your teams today.
- No access to dining hall tomorrow!

After the Test Session

Leave behind:

- Your Team Reference Documents.
- Pens and mascots.
- Other items allowed by the Jury.

Take with you:

- Your prints.
- Problem statements.
- Any waste.

The jury:

- Will check all desks.
- Will re-image your computers.

Lunch:

- From 11:30, Audimax foyer.

Goodie Bags

You got two mugs:

- Use one for coffee/tea.
- Use the other for snacks (nuts, etc.).

Earplugs:

- Part of the festival kit (Athene Fraunhofer).

Bingo:

- NWERC is a great place to make new friends.
- Return your cards tomorrow before the contest (Audimax).
- We will draw a random winner during the award ceremony.

Livestream

Livestream

- `https://nwerc.eu/live`
- Contest + Ceremonies
- Send this to you friends and family!
- Will be shown in Audimax during the contest.

@KITINFORMATIK

2025 NWERC

Systems Introduction

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Your workstation

General information

- Based on the setup for World Finals 2025
- Ubuntu 24.04
- Xfce desktop
- Various IDEs and editor
- No internet access
- Autologin on contest start
- Ctrl and Fn are in the correct positions

DOMjudge

- Firefox
- Autologin
- Submit

Submit client

- `submit A.java`
- Explained in team manual
- `submit --help`

Documentation

- C
- C++
- Python
- Java
- Kotlin
- DOMjudge
- Search from your browser

Printing

- Print through DOMjudge
- `printfile A.java`
- `submit --print A.java`

Languages

Compile commands

- C11 (GCC 13.3.0)

  mygcc `gcc -x c -std=gnu11 -Wall -O2 -static -pipe -g -lm`

  judgegcc `gcc -x c -std=gnu11 -Wall -O2 -static -pipe -DONLINE_JUDGE -DDOMJUDGE -lm`

- C++20 (GCC 13.3.0)

  myg++ `g++ -x c++ -std=gnu++20 -Wall -O2 -static -pipe -g`

  judgegcc `g++ -x c++ -std=gnu++20 -Wall -O2 -static -pipe -DONLINE_JUDGE -DDOMJUDGE`

Languages

Compile commands

- Python 3 (3.9.18) with PyPy (7.3.15),

mypython3	`pypy3`
judgepython3	`env ONLINE_JUDGE=1 DOMJUDGE=1 pypy3`

- Java (OpenJDK 21.0.8)

myjavac	`javac -encoding UTF-8 -sourcepath . -d .`
judgejavac	`javac -encoding UTF-8 -sourcepath . -d .`
myjava	`taskset -c 3 java -Dfile.encoding=UTF-8 -XX:+UseSerialGC -Xss65536k -Xms1966080k -Xmx1966080k`
judgejava	`taskset -c 3 java -Dfile.encoding=UTF-8 -DONLINE_JUDGE -DDOMJUDGE -XX:+UseSerialGC -Xss65536k -Xms1966080k -Xmx1966080k`

Languages

Compile commands

- Kotlin (kotlinc-jvm 1.9.24)

mykotlinc	`kotlinc -d .`
judgekotlinc	`kotlinc -d .`
mykotlin	`taskset -c 3 kotlin -Dfile.encoding=UTF-8 -XX:+UseSerialGC -Xss65536k -Xms1966080k -Xmx1966080k`
judgekotlin	`taskset -c 3 kotlin -Dfile.encoding=UTF-8 -DONLINE_JUDGE -DDOMJUDGE -XX:+UseSerialGC -Xss65536k -Xms1966080k -Xmx1966080k`

Miscellaneous

Questions:

- About the **problem set**: Send a clarification request.
- About the **systems**: Send a clarification request.
- All **other** questions: Ask a runner.

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Notes from the Jury

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Scoring

- 10–15 problems, not sorted by difficulty
- The team that solves the most problems wins
- Ties are broken by lower *penalty time*
  - sum of time-to-solve over all problems
  - +20 minutes for each incorrect submission on a problem that was later solved by that team

Verdicts

Possible results of a submission:

- Accepted
- Wrong Answer
- Time Limit Exceeded
- Run Time Error
- Compile Error (no time penalty)

If more than one non-accepted verdict, only one of them is shown

Click on your submission in DOMjudge to see compiler output and results on samples.

Freeze

- During the scoreboard freeze, submissions will be shown as “Pending” on the public scoreboard
- You will still see the verdicts of your own submissions
- Results will be revealed during the award ceremony

Notes

- Guarantee: all problems are solvable in C++, Python, Java, Kotlin
- There will be at least one multi-pass problem, both in the test session and in the main contest
- More hints and advice: https://2025.nwerc.eu/jury
  - Also available as PDF on your contest machines

Multi-Pass Problems

- For each test case, your code is run multiple times
- In each pass after the first, your input may depend on the output of the previous passes
- For each multi-pass problem:
  - The expected protocol is described in the statement
  - There is a `testing_tool.py` available from DOMjudge
  - The testing tool simulates running multiple passes. Look inside for documentation.
- The output validator decides how many passes there are. This may be more than two!
- The time and memory limit apply to each pass individually

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Questions?

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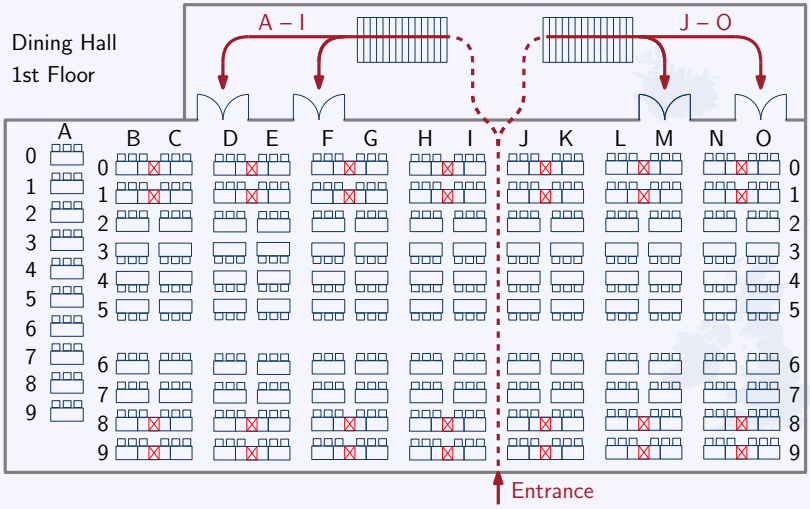
Next Up



Test Session

- Start: 10:30
- End: 12:30

Lunch (Audimax):

- from 11:30

Company Market:

- from 11:00

Tech Talks:

- from 12:30