Report on the 18th András Mester Nuclear Summer Camp

The 18th András Mester Nuclear Summer Camp of the Hungarian Nuclear Society took place in Keszthely, 5–10 July 2026. The Summer Camp turned nuclear science into a hands-on, social experience. The 2026 program combined expert lectures, laboratory work, simulation, a scientific visit, and outdoor activities—giving 27 high-school students a chance to move from fundamental concepts to gaining deeper understanding in diverse nuclear topics.



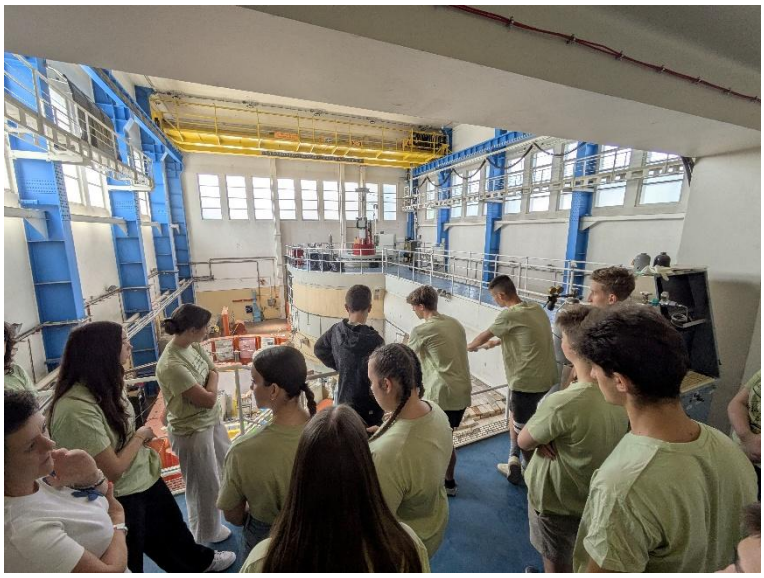
Participants during the visit to the HUN-REN Centre for Energy Research

The mornings formed the scientific core: 13 speakers delivered 14 lectures. Three foundation sessions introduced younger participants to the physical concepts of radiation, radioactive decay, and binding energy, while the wider scientific program ranged from particle physics and nuclear astrophysics to the operation of nuclear power plants. Among the most popular talks were neutrinos, nuclear power-plant operation, and the Chernobyl accident. Students could also present their own work; participant Huba Bugyi gave a talk on the sensitivity of beam-emission spectroscopy systems to beam energy and plasma temperature.



Presentation about neutrinos

The most immersive day was the scientific visit to the HUN-REN Centre for Energy Research, Budapest. In small groups, students toured the Budapest Research Reactor, visited the 3D-printing laboratory and pellet-injection equipment of the Fusion Plasma Physics Department, explored the Radiation Safety Laboratory, and heard about ongoing reactor research.



Inside the reactor hall of the Budapest Research Reactor

The next day, back in Keszthely, the local high school's laboratories hosted a measurement of Planck's constant using the forward voltage of LEDs as well as a PET tumor-search simulation. Two lively experimental shows—experiments with lasers and DIY equipment—added an element of surprise and play.

A problem-solving contest ran throughout the week. On the final evening, students competed in nuclear-themed team- and individual challenges. The nuclear quiz was based on the presentations given during the camp. The Nuclear Summer Camp provided a great opportunity for students to prepare for the 2027 National Leó Szilárd Physics Competition.

Activities continued beyond the classroom. On the first day the Youth for Nuclear team of HNS organized a lighthearted and playful introduction and team-building session on the shore of Lake Balaton. A walk in town, some cultural education and sports (beach volleyball and beach football) competitions added to the fun.

This year, we presented the András Mester Award for the third time; the recipient is chosen based on votes from both organizers and participants. This year, the award went to Eszter Bakaity—the first girl in the award's history to receive it. On the final day we also had a closing discussion, during which we gave participants a chance to reflect on the program and suggest future topics.



Presentation of the András Mester Award to Eszter Bakaity

After the camp, participants were asked to fill in a satisfaction survey. The feedback was overwhelmingly positive, with 18 of the 19 respondents expressing their wish to return next year, if possible. The participants were invited to make suggestions for future camps. They asked for more fusion, particle physics and history of science, as well as more measurements and a longer research-centre visit—clear signs that the camp succeeded in making them want to go deeper.

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