



TU Graz Researcher Annette Mütze and Her Team Win the Houska Prize 2025

With the development of new, efficient small electric drives and a high-precision measurement method, the electrical engineer was able to secure the 150,000-euro prize in the university research category.

Falko Schoklitsch

This year's Houska Prize in the University Research category goes to TU Graz. Annette Mütze from the Institute of Electric Drives and Power Electronic Systems won Austria's largest privately-funded prize for application driven-research at the awards ceremony in Vienna on 9 April with her project on the development of more efficient and cost-effective small electric drives in cars. She will receive prize money totalling 150,000 euros, which she can use for future research. The Houska Prize is awarded annually by the B&C Private Foundation.

"Congratulations to Annette Mütze and her team on winning the Houska Prize," says Horst Bischof, Rector of TU Graz.

"The award-winning project is a perfect example for the impact of research at TU Graz."

"The development of sustainable technologies is one of the strategic focus areas at our university and Annette Mütze's research work is receiving well-deserved recognition with this award."

SMALL DRIVES WITH BIG OVERALL SAVINGS POTENTIAL

Annette Mütze and her team impressed the jury with their project to reduce the energy consumption of small drives in cars. There are currently around 30 billion of these small drives in vehicles worldwide. The further advancements developed by the research team could save an estimated 1.5 TWh of electricity per year. The developments include two new motor designs: a new claw-pole motor and a PCB motor with a ferrite core. They are both easy and inexpensive to manufacture and enable efficiency increases of up to 20 per cent.

In addition to these new motors, Annette Mütze's team has developed the first method for experimentally determining the theoretically predicted cogging torques in the sub-milli-Newton metre range as well as the iron losses of the micro-motors during operation. This has opened up completely new possibilities in measurement ranges previously considered unattainable.

The project was carried out as part of the Christian Doppler Laboratory for Brushless Drives for Pump and Fan Applications, headed by Annette Mütze, which expired in 2024.