

Dear colleagues, research partners,
and those interested in our research,



Andrea Höglinger
Vice Rector for Research

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There is a lot going on in research at Graz University of Technology (TU Graz), and that is an excellent thing. In this issue of TU Graz research we take a look at innovative materials for the energy transition, and find out about improved battery concepts and completely new energy storage options. Together, we also examine the work at the Battery4Life competence centre, look deep inside materials at two institutes, and find out about the new research focus at the Battery Innovation Centre. In his commentary, Robert Schürhuber explains the importance that large battery storage systems could have for the stability of our electricity grids.

As you probably already know, TU Graz was delighted about the award of an ERC Proof of Concept Grant to Birgitta Schultze-Bernhard and two ERC Starting Grants to Theresa Rienmüller and Robert Winkler in the second half of 2025. On pages 10 and 11, you can find out what exactly the three of them are conducting research on. Congratulations once again!

Last but not least, we present the newly built circuit at the Institute of Logistics Engineering, which the company SSI Schäfer has handed over to TU Graz for further research projects.

A year of research at TU Graz is drawing to a close. Thank you for the many successes and exciting research projects at TU Graz.

I wish you a joyous holiday season and Happy New Year, and of course an enjoyable read of this new issue of TU Graz research.

Impressum/ masthead: Owner: TU Graz. Publisher: Vice Rector for Research. Editor-in-Chief: Birgit Baustädter, Communications and Marketing, Rechbauerstraße 12/1, 8010 Graz. E-Mail: TU-research@tugraz.at Design/layout: TU Graz. Translation and proofreading: Andrew Peaston. Printing: Druckhaus Thalerhof. Print run: 2,000 copies. Our thanks go to the authors for providing the texts and photos. The editors reserve the right to make minor changes. Cover picture: Adobe Stock, TU Graz research is published twice a year. © TU Graz Publishing 2025, www.tugraz-verlag.at, ISSN 2074-9643. www.tugraz.at/go/research-journal

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BUILDINGS WITH VELCRO FASTENER

An interdisciplinary research team at TU Graz has developed a hook-and-loop fastening system for buildings in the ReCon project together with company partners. This allows different parts of a building to be resiliently connected and, if necessary, easily separated from each other. The system developed with hook-and-loop components made from raw building materials works in the same way as a conventional hook-and-loop fastener – only on a slightly larger scale. Mushroom heads or hooks are incorporated directly into the components in. In which hook-and-loop elements (specially produced using 3D printing) are firmly hooked. The fastening systems developed in the project showed good adhesive tensile strength comparable to industrial products in tests in the Laboratory for Structural Engineering at TU Graz.