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ADVANCED MATERIALS SCIENCE

Fields of Expertise TU Graz

This summer, extreme weather events demonstrated the tremendous power of the elements.

Our society faces enormous challenges minimizing and tackling the consequences of global warming and the changing economic landscape. Thus, new materials and concepts are needed for more efficient energy conversion and storage, for lightweight construction, for waste reduction, but also for analytical or biomedical applications. Materials must be designed to maximize their use, re-use and recyclability. More than ever, materials research is a central key to a better sustainable future. Members of the FoE Advanced Materials Science are actively working on these challenges.

In the 21st call of the initial seed funding of TU Graz, we could finance six innovative project proposals in the areas of physics, chemistry and materials science: Oliver Hofmann, Institute of Solid State Physics;

Mohan Tamilselvan, Institute of Chemistry and Technology of Biobased Systems; Anna Galler, Institute of Theoretical and Computational Physics; Francesco Carraro, Institute of Physical and Theoretical Chemistry; Caterina Czubala, Institute of Bioproducts and Paper Technology; and Gean Henrique Marcatto de Oliveira, Institute of Materials Science, Joining and Forming. The project ideas range from density functional theory studies to develop new materials, research on biomedical materials, new innovative analytical tools, organic frameworks, and 3D printing of new composite materials.

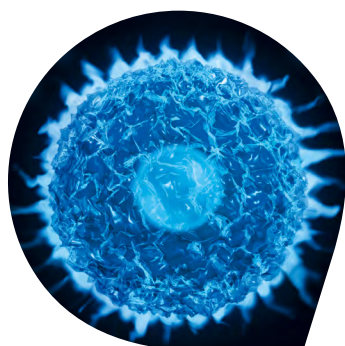
We wish all recipients good luck for their proposal submissions, and we look forward to more submissions at the next call. Finally, save the date for **Advanced Materials Poster Day 2025** taking place on **4 February 2025** at Campus Neue Technik, lecture hall H – “Ulrich Santner”. We are looking forward to discussing your research with your poster. ●



**Karin Zojer, Gregor Trimmel
and Sergio Amancio**

Source: Lunghammer – TU Graz

Advanced Materials Science



Thomas Rath

Advancing a Sustainable Future with Research on Emerging Solar Cell Technologies

Photovoltaic solar energy conversion holds a central role in a clean and renewable energy supply of the future. While silicon solar cell modules are already well established, emerging solar cell technologies such as perovskite and organic solar cells can significantly broaden the possible applications of photovoltaics due to many advantages, ranging from flexibility, light weight, or semitransparency to a very low carbon footprint. >