

Press release**Universität Bayreuth****Christian Wißler**

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<http://idw-online.de/en/news800588>Contests / awards, Research projects
Medicine, Nutrition / healthcare / nursing, Sport science
transregional, national**Physiologist from Bayreuth receives European Diabetes Research Award: New app enables safe exercise in type 1 diabetes**

Professor Othmar Moser (University of Bayreuth) has been awarded by the European Association for Diabetes Research (EASD) in cooperation with its foundation, the EFSD, for a research project that will assess opportunities for safe exercise in people with type 1 diabetes. The award is endowed with 100,000 euros.

Othmar Moser, head of the Department of Exercise Physiology and Metabolism at the University of Bayreuth, will conduct a clinical trial to investigate an exercise app together with Professor Harald Sourij from the Medical University of Graz and Professor Nick Oliver from Imperial College London. The aim of this study is to assess an already developed app that will enable people with type 1 diabetes to perform safe exercise. The app will be able to decrease the risk of dysglycaemia around exercise, especially prevent against life-threatening hypoglycaemia.

During exercise, people with type 1 diabetes immediately recognize when a severe drop – or, conversely, an equally problematic rise – of their glucose level is imminent. A sensor inserted under the skin continuously measures the glucose level and sends the respective values to the app. This in turn triggers an alarm in critical situations much earlier than with commercially available devices: If glucose levels begin to drop, the app signals how many grams of carbohydrates the person with type 1 diabetes should consume to stabilize glucose levels. If glucose levels are about to rise, the app signals whether and – if so – how much insulin should be given. In both cases, the detailed recommendations are based on the measured rate at which glucose levels change.

"We hope that people with type 1 diabetes will be able to exercise without fear of dysglycaemia when using this app. In the future, they will have the chance to achieve the similar glucose levels as people without diabetes. In the longer term, this will potentially lead to significantly more people with type 1 diabetes being physically active and live healthier. This may reduce the risk of diabetes complications so that the app could ultimately contribute to cost reductions in the healthcare system," explains the award winner from Bayreuth.

The upcoming study, funded by the European Association for the Study of Diabetes (EASD), will initially involve testing the app under different types of exercise. The results obtained in the process will play a key role in further optimizing the app. With its basic functions, the app has already been fully developed by the start-up GLAICE, which was founded by students from the Technical University of Munich. The clinical guidelines used for the programming come from a position paper published in 2020 by EASD and the International Society for Pediatric and Adolescent Diabetes (ISPAD), written by Othmar Moser as first author. Preliminary studies on the app have shown that people with type 1 diabetes achieve significantly better glucose levels if they follow the recommendations made in this position paper: Almost no hypoglycaemia occurs.

A total of 22 people are currently being sought for the tests planned at the University of Bayreuth, who will be testing the new app under strict sports medicine supervision in the coming months. At the same time, Professor Othmar Moser's

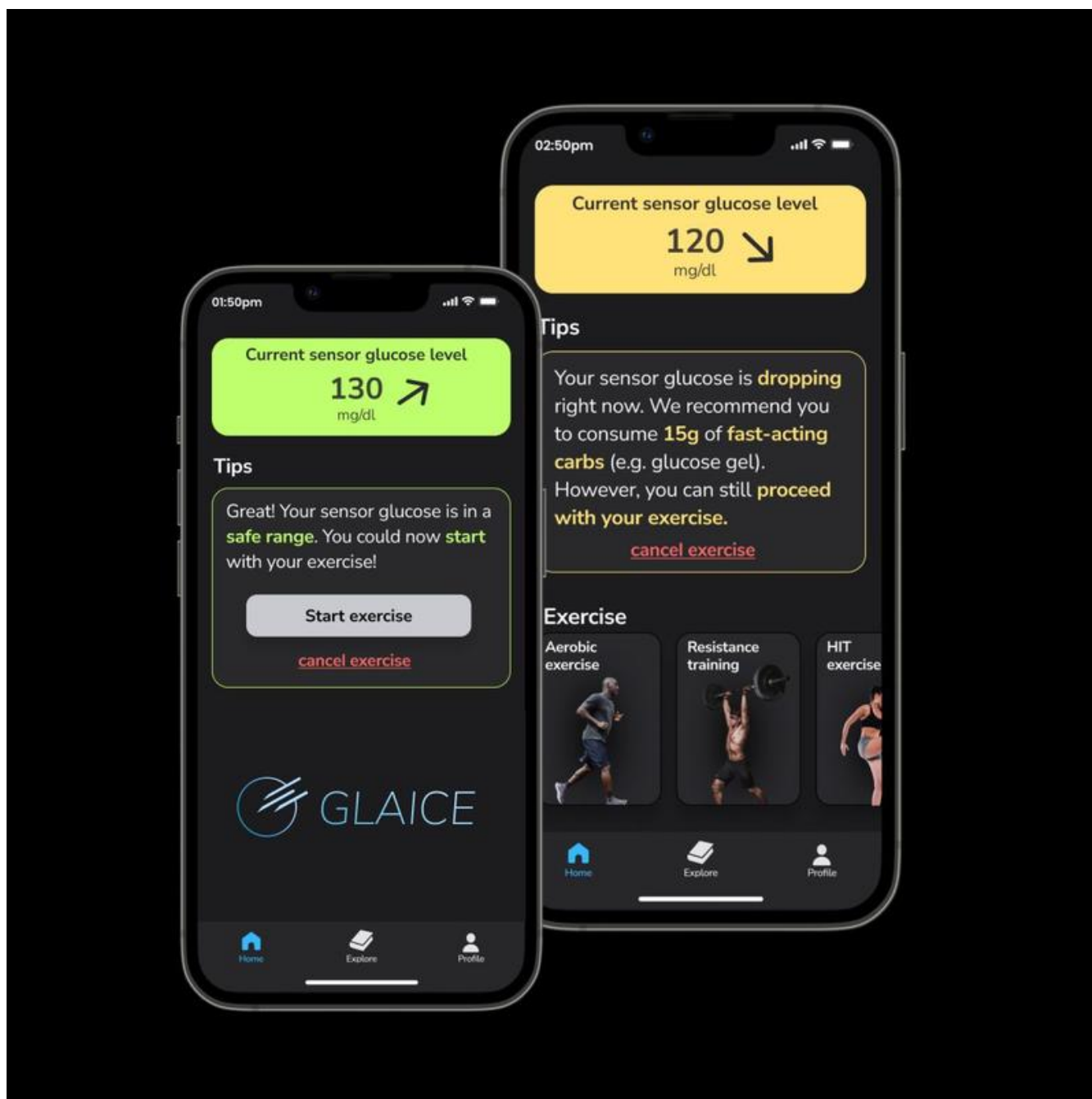
research team is interested in establishing contacts with companies that can support the market launch of the app with their expertise in the field of diabetes technology. However, before the app can be made available to all people with type 1 diabetes worldwide, it must go through a series of approval procedures – like all other products that have the status of a Medical Decision Support System.

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Prof. Dr. Othmar Moser, University of Bayreuth.
Photo: UBT.



The new app informs people with type 1 diabetes about their current glucose levels and provides appropriate recommendations for action.

(C) GLAICE.