**OTWorld**

**International Trade Show and World Congress**

**(14 to 17 May 2024)**

Leipzig, 30 November 2023

**Nature as a Role Model: Keynote Speaker Presents a Carbon Neutral "Green Carbon" Process at OTWorld 2024**

**In May 2024 at the next edition of OTWorld in Leipzig, the leading world get-together for the prosthetics and orthotics industry, Professor Thomas Brück will be presenting an innovative technology for use in medical applications called "Green Carbon". The carbon-neutral process for manufacturing algae-based carbon fibres could possibly replace traditional carbon fibres in medical technology applications in the future.**

Keynote Addresses by renowned experts are among the highlights of the World Congress at OTWorld. Alongside AI and robotics expert Prof Claudio Castellini and happiness researcher Prof Ricarda Rehwaldt, Prof Thomas Brück has also agreed to give an address at the upcoming event in May 2024. He currently holds the positions of Werner Siemens-Chair of Synthetic Biotechnology and Director of the Algae Research Centre at the Technical University of Munich.

In his research, Professor Brück focuses on innovation and sustainability. Nature serves as a role model in his work because it is a circular system that leaves no waste. His vision of tomorrow's bio-economy is based on carbon neutrality and the efficient use of resources. „If we want to secure the future of our children while at the same time ensuring our industries remain competitive, we need to move towards a sustainable circular bioeconomy that is bio-based, uses CO2 as a raw material and adopts a measured approach to the use of our available resources", says Professor Brück.

In his keynote at OTWorld 2024 entitled "Green Carbon Fiber – A Sustainable Material for High-Performance Applications in Medical Technology”, Professor Brück will present a carbon-neutral process for manufacturing algae-based carbon fibres and demonstrate how this groundbreaking technology can be beneficially applied in prosthetics and orthotics.

**Potential for Sustainable Medical Technology**

„Green Carbon” could replace the traditional carbon fibres used in medical technology that cannot be classified as sustainable due to the manufacturing and waste disposal processes involved. The new technology not only promises better-performing features but also an environmentally-friendly production process.

Carbon as an industrial material is here to stay, particularly in the field of prosthetics and orthotics. "Carbon fibre is not only very light and stable, but even more stable than steel, which gives it a clear advantage over alternative materials. Originally, products in prosthetics and orthotics were made from wood. Although this was a sustainable solution, wood is not really durable enough for everyday use. The ongoing demographic shift means that the field of orthotics is becoming increasingly significant. These products are increasingly playing a supportive, rather than a substitutionary role. This presents new challenges in material technology, and this is where carbon fibre shows its strength", Professor Brück emphasizes.

In his expert view, green carbon has great potential in the construction of artificial limbs: "Carbon fibre is usually a component in most prostheses, especially where the lower extremities are concerned. Our bio-based carbon fibre is just as resilient as traditional fibres, if not better", Professor Brück continues.

He says the response from the industry has generally been positive. However, it will take time and persuasion for the process to reach commercialisation.

The editorial office of our OTWorld media partner, Verlag Orthopädie.Technik, interviewed Prof Thomas Brück. You can read the interview here (only available in German): <https://360-ot.de/otworld-2024-mit-algen-richtung-zukunft/>

**About the Speaker**

Professor Dr Thomas Brück studied chemistry, biochemistry and molecular medicine at Keele University in England. From 2002 to 2006, he held an assistant professorship for marine proteomics and biocatalysis at the Center of Excellence for Marine Biotechnology and Biomedicine at Florida Atlantic University (USA) and worked on the biosynthesis of bioactive natural products in marine macroorganisms. In 2006 he moved to Süd-Chemie AG (now called Clariant Produkte Deutschland GmbH). Brück has been a full professor at the Technical University of Munich (TUM) since 2011. He holds a position as the Werner Siemens Chair of Synthetic Biotechnology and is Director of the interdisciplinary TUM Algae Research Centre.

**About OTWorld**

OTWorld is the largest leading international industry platform for all manufacturers, distributors and service providers in the field of modern orthopaedic treatment and care. The OTWorld International Trade Show and World Congress offers a unique range of products and services aimed at prosthetists, orthotists, orthopaedic footwear professionals, rehabilitation technicians as well as therapists, doctors, engineers and employees in medical retail and health insurance companies. The German Association of Orthopaedic Technology (BIV-OT) is OTWorld's conceptual partner. The holder of the OTWorld brand and organiser of the Congress is Confairmed GmbH. Leipziger Messe GmbH is responsible for the industry trade show. The next OTWorld will take place from 14 to 17 May 2024 in Leipzig.

**About the Leipziger Messe**

The Leipziger Messe is one of the ten leading German trade fair companies and one of the top 50 worldwide. It organises events in Leipzig and at various locations all over Germany and abroad. With its five subsidiaries and the Congress Center Leipzig (CCL), Leipziger Messe is a comprehensive service provider covering the entire chain of the events business. It is due to this level of professionalism, that customers and visitors in 2023 voted the Leipziger Messe the service champion of the trade fair industry in Germany's largest service ranking for the tenth time in a row. The Leipzig fairgrounds comprise an exhibition area of 111,900 m² and an open-air exhibition area of 70,000 m². Every year, over 270 events take place – from trade fairs, exhibitions and congresses to events. Leipzig was the first German trade fair company to be certified according to the Green Globe standards. Sustainability is a recurring theme in the Leipziger Messe's corporate activities.

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