

IA

WE MAKE MATERIALS FIT FOR THE FUTURE!

Fraunhofer Institute for Applied Polymer Research IAP

Potsdam Science Park

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Fraunhofer IAP - News

We make materials fit for the future! 3D printer Leg Bone Printing ink with Cartilage body's own Cartilage damage cartilage cells Precise 3D bioprinting of the damaged area Jadwiga Galties Implant insertion IAP, hofer I OF.

Dear reader,

"Potsdam Science Park is a magnet for companies, especially in the biological and medical field. We want to ensure that materials companies also settle here and benefit from the exchange with science", emphasizes Professor Alexander Böker his commitment as newly appointed <u>ambassador of the Potsdam Science Park</u>. Developing individual solutions for medicine and medical technology is one of the focal points of Fraunhofer IAP.

Researchers from the Fraunhofer IAP and BTU Cottbus - Senftenberg are working on <u>personalized</u> <u>cartilage cell implants</u> that are intended to help treat joint injuries or osteoarthritis in the future. This project demonstrates how technology and medicine go hand in hand to promote health and improve quality of life. The BMBF supports the initiative with 2 million euros.

A major topic at Fraunhofer IAP, as well as in the Potsdam Science Park, is the <u>circular economy</u>. Fungi offer great potential for producing sustainable, biodegradable materials with various properties. Depending on their intended use, they are hard-wearing, stretchy, tear-resistant, dense, elastic, soft, fluffy or open-pored, making them ideal for a wide range of applications such as packaging, textile upholstery, furniture or insulation panels for interior design.

You can also experience new developments of Fraunhofer IAP at events from our event tips. For

health topics, we recommend the PSP Conference 2024 on October 14 and 15 at Fraunhofer Conference Center in the Potsdam Science Park. Meet the staff of our team and let us work together to create a sustainable, environmentally friendly, and worthwile future.

Your team at Fraunhofer IAP

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NEWS FROM RESEARCH AND DEVELOPMENT

Health and Quality of Life

Knee reinforcement: 3D bioprinting with the body's own cartilage cells



Personalized cartilage cell implants from 3D printers are intended to replace damaged cartilage in the future. This is achieved using special printing inks that contain the body's own cartilage cells. In a four-year project, a research team is developing the bio-inks for 3D printing.

MORE INFO

Bioeconomy and Sustainability Fungal mycelium as the basis for sustainable products



Fungi can replace fossil resource sources: for example, as a sustainable alternative to plastics in packaging, innovative building materials, or versatile materials. Researchers at Fraunhofer IAP are developing recyclable products based on fungal mycelium and processes for industrialized production methods.

MORE INFO

Chemically recycled bioplastic achieves the quality of virgin material



Bio-based polybutylene succinate (PBS) is a promising development on the road to more sustainable plastics. Thanks to chemical recycling, recycled PBS now also achieves the quality of virgin material. This was successfully implemented in the production of blown films and injection moulding.

MORE INFO

ON OUR OWN ACCOUNT

»High Five« for the Potsdam Science Park



Professor Alexander Böker is newly appointed ambassador for the Potsdam Science Park. Read the portrait to find out why he cherishes the growing innovation location and aims to promote it with his commitment.

TO THE BLOG POST OF THE POTSDAM SCIENCE PARK

Sustainable energy supply at Fraunhofer IAP



A state-of-the-art photovoltaic system has been installed on the roof of the Fraunhofer IAP in Potsdam Science Park since July. The system helps to cover the institute's electricity requirements. In this way, we are making the infrastructure for our research and science even more sustainable.

MORE INFO

Events Meet the Fraunhofer IAP team

Nuremberg, Germany | September 24 - 26, 2024 FACHPACK

> Together with our partners, we will be presenting the SUGRA project - our sustainable alternative to conventional adhesives for folding cartons and corrugated packaging. You can meet us at the joint stand of the Fachagentur Nachwachsende



Rohstoffe e.V. in Hall 4A, Booth 115.

MORE INFO

Eindhoven, The Netherlands | September 24 - 26, 2024 MicroLED Connect



Quantum dot materials are a promising solution for the development of high-resolution micro-LED RGB displays. Dr. Manuel Gensler and Dr. Yohan Kim will present Fraunhofer IAP's progress in the field of QD material and ink development for high-resolution EHD jet printing in the sub-10 µm range on September 25. The presentation starts at 15:10. Will you be there?

MORE ABOUT INK FORMULATION

Potsdam, Germany | September 27, 2024 Workshop | Self-organizing Polymers



The topic of the workshop is the self-organization of polymers in the presence of water, whether in solutions, at interfaces or as colloidal dispersions. We are also saying goodbye to Professor André Laschewsky. The renowned polymer researcher has been working at Fraunhofer IAP for more than 20 years as a jointly appointed professor with the University of Potsdam.

GO TO THE PROGRAM AND REGISTRATION

Potsdam, Germany | October 14 - 15, 2024 PSP Conference 2024 – HEALTH



This year's PSP Conference at the Potsdam Science Park is all about health. You can look forward to an exciting two-day program with the latest research results, product innovations and fresh impulses from the Berlin-Brandenburg capital region. The High-Performance Center for Functional Integration is a partner of the conference.

GO TO THE PROGRAM AND REGISTRATION

Potsdam, Germany, October 22 | Berlin, Germany, October 23 - 24, 2024 TechBlick: Tour of the Fraunhofer IAP in Potsdam | Conference



Participants in the TechBlick event will gain exclusive insights into the fascinating world of science at Fraunhofer IAP. On October 22, we invite you to the Company Tour in Potsdam. The guided tour through the state-of-the-art pilot plants and laboratories provides a unique look behind the scenes: from the clean room area for printed electronics to the pilot plant for fiber technology and the laboratories for polymer and quantum dot synthesis. Up close to the pulse of modern research and development.

It continues on October 23 and 24, 2024 at the TechBlick Exhibition. We will be presenting our latest developments at booth A03: color-stable quantum materials, printing inks for displays, innovative display components, OLED displays and solar applications with perovskite technology.

MORE INFO

We make materials fit for the future!

Creative solutions are the key to overcoming the challenges of the present and the future - whether they be climate change, pandemics, the energy transition, structural change or new mobility concepts.

Fraunhofer IAP tackles these challenges through innovative materials, processes and technologies, targeting the entire value chain - from the idea to the customized prototype.

Our subject areas:

- BIOECONOMY and SUSTAINABILITY
- ENERGY TRANSITION and MOBILITY
- HEALTH and QUALITY of LIFE
- INDUSTRY and TECHNOLOGY



TO THE HOMEPAGE

Potsdam Sciene Park

Fraunhofer IAP is part of the largest science location in the state of Brandenburg: the Potsdam Science Park. Just 30 minutes from the center of Berlin, more than 12,500 people research, work and study in the fields of biotechnology, medical technology, optics, geosciences, astrophysics and gravitational physics. On an area of more than 50 hectares, the innovation- and founder-friendly park continues to offer office and laboratory space for startups and ready-to-build plots for small and medium-sized companies. We live science!

TO THE HOMEPAGE OF THE POTSDAM SCIENCE PARK

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Fraunhofer is Europe's largest application-oriented research organization. Our research efforts are geared entirely to people's needs: health, security, communication, energy and the environment. As a result, the work undertaken by our researchers and developers has a significant impact on people's lives. We are creative. We shape technology. We design products. We improve methods and techniques. We open up new vistas. In short, we forge the future.

Fraunhofer Institute for Applied Polymer Research IAP

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