

We make materials fit for the future!



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Dear reader,

How can we develop customized solutions that meet the individual needs of industry and consumers alike, while at the same time enabling **sustainable consumption**? In this newsletter, you will learn how we can jointly shape a **plastic-based circular economy**.

With our concepts for lightweight construction, innovative approaches to recycling and our research on biopolymers, we at Fraunhofer IAP are advancing the goal of realizing circular value creation.

Our **annual report 2022** gives you more insights into current findings, projects and developments. Browse the e-book or click here to download the report.

Enjoy reading!

Your team at Fraunhofer IAP

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NEWS FROM RESEARCH AND DEVELOPMENT

Bioeconomy and Sustainability

Bioplastics become more attractive for industry



Together with 18 partners from industry and research, Fraunhofer IAP is developing new types of polybutylene succinate in the RUBIO project. The bioplastic is being optimized for new application areas. The first marketable product was created in collaboration with Polifilm Extrusion GmbH.

[MORE INFORMATION](#)

One million euros for new chemical systems to convert sustainable resources



In the idea competition "Century Project" of the Werner Siemens Foundation, a team of scientists from FU Berlin, BAM and Fraunhofer IAP was awarded one million Swiss francs (1.017 million euros) for the project "ChemSysCon". The aim is to develop and establish novel technologies for sustainable resource utilization. The focus at Fraunhofer IAP is the use of lignin as a renewable resource for new applications.

[MORE INFORMATION](#)

One hundred percent sustainable material



Dr. Hannes Hinneburg develops sustainable materials from fungal mycelium at Fraunhofer IAP. He appreciates the practical, application-oriented working environment at the institute. In the blog of the Potsdam Science Park, he talks about his research and personal goals.

[MORE INFORMATION](#)

Energy Transition and Mobility

Mobile spherical hydrogen storage



How can we store and transport volatile hydrogen molecules? Scientists in the research department PYCO are dedicated to this question in the "Mukran" project. This is part of the BMBF's hydrogen flagship project TransHyDE.

[MORE INFORMATION](#)

Reducing climate-damaging emissions with lightweight drive shafts



Drive shafts made of carbon-fiber-reinforced plastics can reduce climate-damaging emissions. At Fraunhofer IAP, we are developing a new, very lightweight drive and side shaft system for cars and trucks. The construction materials can be recycled and have an additional weight advantage.

[MORE INFORMATION](#)

Health and Quality of Life

Smart materials for aligner therapy



The demands on aligners for the therapy of malocclusions are high. A team at Fraunhofer IAP, in cooperation with the University Hospital of Düsseldorf, developed a highly functional material that enables completely new treatment concepts and reduces costs.

[MORE INFO](#)

Industry and Technology

SmartID – Detect product piracy quickly



Consumers hardly have a chance to verify the authenticity of products, especially in online commerce. Scientists at Fraunhofer are now developing a counterfeit-proof barcode system that allows products to be authenticated easily and quickly via smartphone.

[MORE INFORMATION](#)

Lightweight construction initiative launched in the capital region



Lightweight construction is becoming increasingly important for the future viability of the industry in the Berlin-Brandenburg region. Now an initiative of the economic departments of Berlin and Brandenburg has started. It supports young companies and start-ups so that they can bring their innovative ideas and products to the market faster. The PYCO research division of Fraunhofer IAP presented current projects and competencies.

[MORE INFO](#)

Fraunhofer establishes virtual application center for quantum computing



In Hamburg, a unique, application-oriented competence and knowledge center is being created. It deals with the opportunities of quantum computing for the development and optimization of products, materials and processes. The researchers at Fraunhofer IAP see possible applications in the development of catalysts for the hydrogen economy.

[MORE INFO](#)

Interview

Recycling of synthetic polymers



"Chemical recycling is a growing field of research and development. One of the major challenges is to recover monomers that have a high degree of purity."

Dr.-Ing. Marcus Vater heads the chemical and biological recycling working group at Fraunhofer IAP. In the interview, he talks about current developments and fields of action at the institute.

[TO THE INTERVIEW](#)

Latest insights, projects and developments

Online now!



The annual report 2022 is online. On the occasion of our 30th anniversary, we look back with great pride on the development of the institute and provide information about current projects, new insights and many exciting research findings.

[READ THE E-PAPER NOW](#)

[DOWNLOAD](#)

YOUR TEAM AT FRAUNHOFER IAP

Appointment as junior professor at BTU Cottbus-Senftenberg



Since April, Professor Dr. Ruben R. Rosencrantz teaches at BTU Cottbus-Senftenberg in the field of Biofunctional Polymer Materials. At Fraunhofer IAP, he conducts research on bioactive molecules and develops concepts for integrating biological functions into plastic-based materials. The appointment of Ruben R. Rosencrantz strengthens the technology transfer and the research in this field as well.

[TO THE RESEARCH DEPARTMENT](#)

Dr. Jens Balko takes over management of Processing Pilot Plant for Biopolymers Schwarzheide



Processing methods for bio-based plastics are the focus at the Schwarzheide site. With the help of industry-like technical facilities, the team transfers research results into practical applications. For example, in the development of bio-based flame retardants for bioplastics. Since May, Dr. Jens Balko

EVENTS

Meet the team of Fraunhofer IAP at congresses, trade fairs and workshops

Germany, Potsdam | September 5, 2023 - September 8, 2023

14th International Workshop on Polymer Reaction Engineering

[more information and registration](#)

Germany, Husum | September 12, 2023 - September 15, 2023

Husum Wind

Germany, Berlin | October 17, 2023 - October 18, 2023

TechBlick

Germany, Friedrichshafen | October 17, 2023 - October 21, 2023

Fakuma International trade fair for plastics processing

Online Workshop | October 19, 2023

Fraunhofer CCPE compact: Materials for circularity in efficient lightweight design

[more information and registration](#)

Hybrid Workshop | November 9, 2023

Fraunhofer @DESY - Focus on BioMed

[register now](#)

Germany, Potsdam | November 16, 2023

Technology Platform Microencapsulation Workshop: Encapsulation with natural materials

[more information](#)

Germany, Leuna and Schkopau | November 29, 2023

Fraunhofer-Technology Day: Scale up Green Chemistry NOW!

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 Science 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](#)

Contact

Andrea Schneidewendt

Press and public relations

Fraunhofer IAP
Potsdam Science Park
Geiselbergstraße 69
14476 Potsdam

Telephone +49 331 568-1150

→ [Send e-mail](#)

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[CONTACT](#)

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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
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Fraunhofer-Gesellschaft
zur Förderung der angewandten Forschung e.V.
Hansastraße 27 c
80686 München
Internet: www.fraunhofer.de
E-Mail: [info\(at\)zv.fraunhofer.de](mailto:info(at)zv.fraunhofer.de)

VAT Identification Number in accordance with
§27 a VAT Tax Act: DE 129515865

Court of jurisdiction
Amtsgericht München (district court)
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