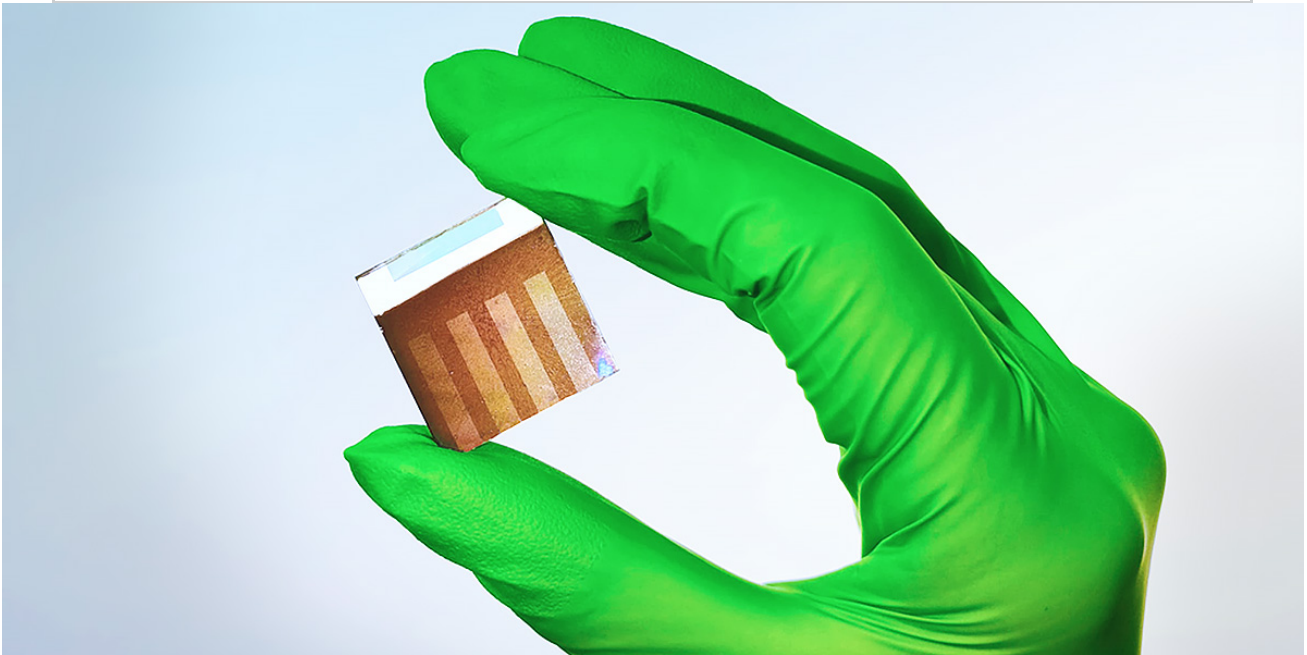


We make materials fit for the future!



Dear reader,

Anchored in the scientific landscape of Brandenburg, we at the Fraunhofer IAP develop customized solutions for the challenges of the present and the future. Holistic thinking and action characterize our work. Both within our team and beyond. The results we achieve in the field of sustainable technologies together with regional and European partners from industry and science are proof: We achieved initial successes in the development of bio-based flame retardants in bioplastics. They provide the opportunity to utilize plastics in the field of electronics and electrical engineering that are entirely composed of bio-based materials.

In the CCPE cluster, Fraunhofer IAP scientists developed new thermoplastic polyester elastomers based on biogenic raw materials. They represent an important step on the way to truly sustainable plastics made exclusively from renewable carbon. In the SUNREY project, 13 European partners collaborate to develop more sustainable, efficient and durable perovskite solar cells. The project drives the development of highly efficient solar cells based on non-critical raw materials and strengthens the innovation potential of the European industry. Fraunhofer IAP is coordinating this three-year project, which is funded by the European Union as part of the Green Deal Initiative.

More than 70 partners from science, industry and society are working together in the joint project SpreeTec neXt to develop climate-friendly processes for the generation, conversion and storage of energy with the overall aim to give future decentralized energy supply systems a high degree of variability and scalability. The team from the research division PYCO at Fraunhofer IAP is contributing its expertise in efficient lightweight structures as well as recycling and repair processes for highly stressed material systems. The project receives funding from the German Federal Ministry of Education and Research for a period of seven years.

Do you need support to achieve your goals in the future? Contact us at the Fraunhofer IAP.

Yours sincerely,

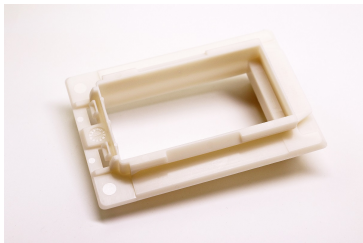


Prof. Alexander Böker

NEWS FROM RESEARCH AND DEVELOPMENT

Bioeconomy and Sustainability

Bio-based flame retardants for bioplastics in electrical engineering and electronics



Researchers at the Fraunhofer WKI and the Fraunhofer IAP, in collaboration with industrial partners, have achieved initial success in the development of bio-based flame retardants in bioplastics. In the future, they provide the opportunity to utilize plastics in electronics and electrical engineering that consist of 100 percent bio-based materials. Processing was tested by means of compounding, injection molding and additive manufacturing.

[MORE INFORMATION](#)

Bioeconomy and Sustainability

Next generation thermoplastic polyester elastomers



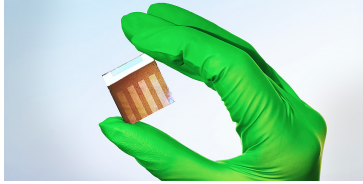
Truly sustainable plastics have to be built exclusively from so-called renewable carbon in the future. Recycling of plastics will play an essential role as an alternative carbon source. In addition, virgin materials from biomass is needed. A team at the Fraunhofer IAP has now developed new thermoplastic polyester elastomers based on biogenic raw materials.

[MORE INFORMATION](#)

Energy Transition and Mobility

EU project SUNREY: Sustainable and efficient perovskite solar cells with reduced lead content

Making perovskite solar cells more sustainable, efficient and durable – these are the goals pursued by 13 European partners in the project SUNREY. The project aims to further push the development of highly-efficient solar cells based on



non-critical raw materials and to strengthen the innovation potential of the European industry. Dr. Armin Wedel, head of the Functional Polymer Department at the Fraunhofer IAP, coordinates the project.

[MORE INFORMATION](#)

Energy Transition and Mobility

52.44 million euros for research on sustainable energy technology in the region Lusatia, Germany

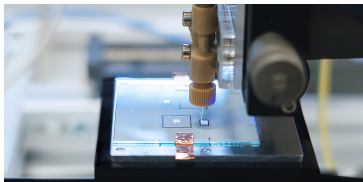


In the joint project SpreeTec neXt, researchers develop climate-friendly processes for the generation, conversion and storage of energy. The German Federal Ministry of Education and Research funds the project over a period of seven years. Prof. Dr.-Ing. Holger Seidlitz, Project Manager, considers the holistic approach of the entire value chain as key factor to develop and manufacture new products efficient and economical – starting with materials through maintenance, repair and recycling.

[MORE INFORMATION](#)

Industry and Technology

LOPEC 2023: Printed electronics - thin, brilliant, stretchable



Quantum materials for electroluminescent QD-LED displays, fast inline monitoring for thin film printing or stretchable printed electrodes. Scientists from the Fraunhofer IAP presented current projects in the field of printed electronics at LOPEC 2023.

[MORE INFORMATION](#)

ON OUR OWN ACCOUNT

New management at the Center for Applied Nanotechnology CAN

Since January 1, 2023, Dr. Christoph Gimmler heads the Center for Applied Nanotechnology CAN on an acting basis. The core competencies of the CAN research division at the Fraunhofer IAP are the production and characterization of materials made of inorganic nanoparticles as well as hybrid structures of nanoparticles and polymers. The team translates research results into solution strategies for new and improved products, primarily in the areas of functional materials, life science, as well as home and personal care. Dr. Neus Feliu Torres heads the Nanomedical Applications Department since the beginning of the year. The team develops e.g. diagnostic tools, biomarkers or

additives for cosmetic products.

[TO THE WEBSITE](#)



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Events

Paris, France | April 25, 2023 - April 27, 2023

JEC World



Join us at the world's leading International Composites Show in Paris from April 25th to 27th! Our team of the research division Polymer Materials and Composites PYCO will present customized lightweight solutions of the Fraunhofer IAP: a filament wound hydrogen tank, a 3D printed tool for manufacturing of rotor blades for small wind turbines, and much more.

[MORE INFORMATION](#)

Online | May 4, 2023

Recyclates in primary material quality - Status and perspectives of advanced recycling

Recycled plastics could already be used much more, but this would require more high-quality recyclates on the market. This will be addressed at the next Fraunhofer CCPE compact "Recyclates in primary material quality - Status and perspectives of advanced recycling" will address on May 4,

2023.

[CLICK HERE TO EXPLORE THE PROGRAM](#)

Düsseldorf, Germany | May 4, 2023 - May 10, 2023

interpack



How can we verify the authenticity of products? At interpack from May 4 to 10, we will present a SmartID demonstrator for the first time: A counterfeit-proof barcode system that can be used to authenticate products simply by smartphone without accessing a database.

[LEARN MORE ABOUT SMARTID](#)

Rathenow, Germany | May 5, 2023

Optics Day

From therapeutic contact lenses through corneal implants to 3D printing of eyeglass frames and lenses: Polymers show a wide range of applications. Prof. Dr. Christian Dreyer will present innovative solutions of the Fraunhofer IAP in the field of Eye Care.

[REGISTER HERE](#)

Potsdam, Germany | May 6, 2023

Potsdam Science Day

Already making plans for May 6, 2023? How about a day full of exciting science? We are at the Potsdam Science Day and look forward to presenting the world of polymer science to you. For children we offer hands-on experiments. Visit us on the Griebnitzsee campus of the University of Potsdam from 1 to 7 pm. The entry is free of charge.

[MORE INFORMATION](#)

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](#)

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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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