

# Fröhliche Weihnachten

MERRY CHRISTMAS  
JOYEUX NOËL

## News from Fraunhofer IFAM Dresden

### Events 2022

**EPMA Hot Isostatic Pressing Seminar**  
Dresden, 8 - 9-3-2022

**Additive Manufacturing Forum**  
Berlin, 14 - 15-3-2022

**Industry Workshop MoldJet Technology**  
Dresden, 6-4-2022

**Hannover Messe**  
Hannover, 25 - 29-4-2022

**DGM Fortbildung Einführung in metallische Hochtemperaturwerkstoffe**  
Dresden, 9 - 11-5-2022

**Dresdner Lange Nacht der Wissenschaften**  
Dresden, 8-7-2022

**Energy Storage Europe**  
Düsseldorf, 20 - 22-9-2022

**5th Industry Workshop Advanced Alkaline Electrolysis**  
Dresden, 28 - 29-9-2022

**World PM**  
Lyon, 9 - 13-10-2022

**CellMAT**  
Dresden, 12 - 14-10-2022

**Hydrogen Technology Expo**  
Bremen, 19 - 20-10-2022

**formnext**  
Frankfurt, 15 - 18-11-2022

**COMPAMED**  
Düsseldorf, 14 - 17-11-2022

**Hagener Symposium**  
Hagen, 24 - 25-11-2022

**MetFoam 2023**  
Dresden, 5 - 7-7-2023

We hope the events listed here can be realized. The dates listed are as planned in December 2021.

### AM@IFAM

In the free webinar series „AM@IFAM“, Fraunhofer IFAM offers insights into current issues of sinter-based AM processes at regular intervals. With the 1-hour online seminars you will always stay informed. Learn more about individual technologies and stay up to date. [➔](#)

### Contact

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Ladies and gentlemen, dear partners, customers and companions,

once again, we look back on a demanding year in which we all had to deal with special circumstances and challenges due to the pandemic. And yet the retrospective shows that 2021 had just as much positive to offer.

Join us in taking a look at a few highlights from the past few months that also make us optimistic about the future.

We would like to thank you for the good and trusting cooperation as well as your continuing interest in our activities! We hope to be able to meet you again in person in the new year, for example at one of our events.

But first of all, we wish you a Merry Christmas, a good start to the New Year and every success for 2021.

Above all, we wish you good health and personal well-being!

Yours sincerely,  
Dr. Thomas Weißgärber

### Otto von Guericke Award 2021

This year's Otto von Guericke Award went to the joint project „Development of porous paper-engineered titanium power distributors for PEM electrolysis“, in which Fraunhofer IFAM Dresden together with the Papiertechnische Stiftung (PTS), the Hydrogen and Fuel Cell Center ZBT GmbH, and the Institut für Energie und Umwelttechnik (IUTA) e.V. developed power distributors from the paper machine. [➔](#)



### Effectively eliminate viruses from interiors

In the AVATOR project, Fraunhofer researchers are investigating and optimizing various filter and air purification technologies. With the „virus grill“, Fraunhofer IFAM Dresden has chosen a very special approach: Air is heated to over 90 degrees Celsius, thus rendering the viruses harmless. Although the viruses remain in the air, they can no longer reproduce - they are inactivated - and can therefore no longer harm people.

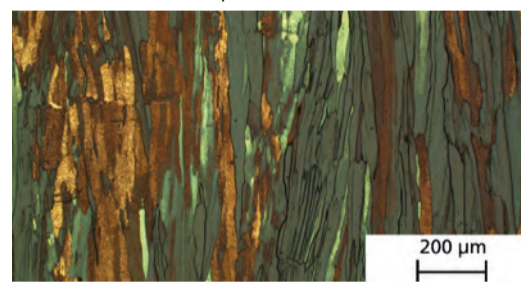
The approach is particularly relevant for use in classrooms, offices and other non-air-conditioned rooms. [➔](#)

### Finest metallic structures in 3D

When printing metals in 3D, the motto is often „Big is beautiful“. With the new processes of lithography-based metal manufacturing and 3D screen printing, on the other hand, Fraunhofer IFAM follows the motto „small and fine“. With structure sizes of a tenth of a millimeter, applications in microtechnology can be achieved which are impossible with classical laser processes - be it antennas for new mobile phone standards, micro heat exchangers for electronics, or filigree jewelry components. With this Fraunhofer IFAM in Dresden is a pioneer for new possibilities in additive manufacturing. [➔](#)

### Additive manufacturing of highly reflective materials

In his diploma thesis, Florian Häslich from Fraunhofer IFAM in Dresden demonstrated the processability of pure copper with SEBM. The material is characterized by the combination of high electrical conductivity with high thermal conductivity. He also presented the results at the Copper Symposium 2021 of the German Copper Institute and was awarded the 2<sup>nd</sup> prize. [➔](#)



### Best trainee

We are proud of our colleague Natalie Götzte and congratulate her on this year's „Prof. Joehnk Trainee Development Award“. She received this well-deserved honor for her training as a chemical laboratory technician for the best exam results and for exemplary commitment during her training at the opening of the new training year.



### Generating electrical energy from waste heat

In order to make sensible use of waste heat in industry and improve energy efficiency, specific thermoelectric modules are needed for the direct conversion of heat into electricity. During the development of the modules, characterization under conditions close to the application is necessary, such as under thermal alternating stress.

Fraunhofer IFAM Dresden has developed a dynamic test rig which operates under near-application conditions at temperatures of up to 600 °C. The test rig is equipped with a hot and a cold chamber. It has a hot and a cold side, which can be controlled and cycled independently of each other with respect to the temperature level. [➔](#)

### Electrical sheets for electric drives

Coordinated by Siemens, the „EffiBlech“ project is developing a complete process chain with production and testing methods together with partners from the Chair of Manufacturing Automation and Production Systems at the Friedrich-Alexander University of Nuremberg-Erlangen and the companies EKRA Automatisierungs GmbH, MUT Advanced Heating GmbH and Optonic GmbH, culminating in more efficient electrical sheets for electric drives. The aim is to produce thin electrical sheets using a printing route. Fraunhofer IFAM in Dresden is contributing its expertise in powder metallurgical manufacturing processes such as the metallic screen printing process to the project. [➔](#)

### Industry Workshops

We are very grateful that we were able to again host two industry workshops on site or hybrid this year despite the known limitations. Thanks to all participants and speakers who contributed to the success of „Advanced Alkaline Electrolysis“ and „Additiver Metallischer Filamentdruck für die Praxis“. In the event overview (left) you can find the planned trade shows and workshops for 2022 - we would be happy to meet you there! [➔](#)

