



Press release November 16th, 2015

BIOGRAPHY – INNOVATION WITH TOOLS BY SAUERESSIG

The development of new vaccines is expensive and lengthy. So far, biosensors for monitoring the cell development in a cost-efficient and reliable way did not exist.

As part of the interdisciplinary research project BIOGRAPHY, the companies SAUERESSIG, Haydale, cellasys and AiCuris as well as the Fraunhofer Institute IBMT are working on a method to print graphene color and proteins on a substrate in order to provide the breeding ground and measuring device for the cells. One advantage of the new biosensors is the possibility of online monitoring within the protected environment of the incubator. Measurements at different times can be made without damaging the cells.

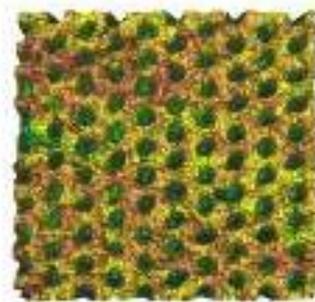
The BIOGRAPHY biosensors can be used in cell biology, virology or biosensorics. Saueressig is providing decisive input for the development of the printing processes and the structuring of the printing tools.

Thanks to SAUERESSIG's directly engraved rotogravure printing rollers and a printing machine that was developed specifically for this purpose, electrically conductive and biocompatible graphenes could be printed on first substrates. FREE-1 is a printing machine by SAUERESSIG that was originally developed for rotogravure and flexo printing. It comprises a gravure and flexo printing mechanism as well as a drying unit. SAUERESSIG perfected the system; so complete sensors can be printed on the plant in future.

The corresponding gravure rollers are structured using picosecond lasers. That way, cells of sufficient sizes for the proteins can be obtained.

In printing the proteins, SAUERESSIG is drawing on the experiences of the BIOREEL research project. As part of this research project, the optimum microstructure for protein-printing and the most suitable substrate were researched.

“We are pleased with the current progress in all areas and are proud that the graphene color can already be



Caption: 3D graphic of a BIOGRAPHY biosensor, size 150µm x 150µm



printed in rotogravure printing.”, says Renate Warmers, head of the project BIOGRAPHY at SAUERESSIG.



Caption: Graphene color in test printing



Caption: Renate Warmers, Head of the research project BIOGRAPHY at SAUERESSIG, applies the graphene color

Source: SAUERESSIG GmbH + Co. KG

The company

SAUERESSIG is a leading brand deployment company that supports its customers along the complex prepress process, from design to print, thereby maximizing the workflow efficiency of its business partners. The modular product and service portfolio covers design, reproduction, refinements and proofing, and the conceptualization and production of printing and embossing forms as well as special machine engineering. Brand owners, printers and converters profit from the solution-oriented innovations, with which the company addresses their challenges. With more than 60 years experience, Saueressig has established itself as a renowned expert in the market that can tackle complex challenges and offers efficient solutions.

The internationally expanding company serves its customers from nine production sites. Saueressig is part of the brand deployment group of SGK. SGK is a division of Matthews International Corporation (NASDAQ GSM: MATW). For more information visit:

www.saueressig.com

The project is supported by the Federal Ministry of Education and Research (BMBF).

Contact person:

Petra Wildenhaus
Marketing
email: petra.wildenhaus@saueressig.de

Please send a copy to:

SAUERESSIG GmbH + Co. KG | Marketing | Gutenbergstraße 1-3 | 48691 Vreden | Germany