

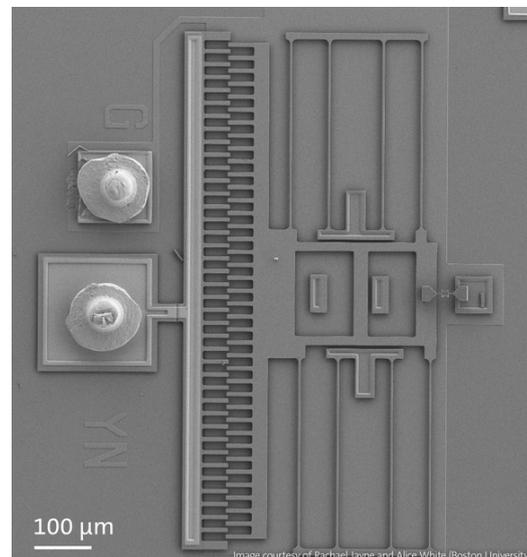
May 2018

This issue of our newsletter contains the latest advances on how 3D μ -printing gains ground in the production of diffractive optics, integrated photonics, biomimicking models for drug screening and MEMS actuated devices. As shown in these examples, additive manufacturing is more and more improving present design iteration as well as manufacturing processes. Hence, experts in science and industry are convinced, that additive manufacturing is currently in the transition from prototyping to production.

*Best regards,
Your Nanoscribe team*

MEMS Actuation of 3D Microstructures

At Boston University Professor Alice White and her team demonstrated the actuation of a 3D printed microstructure by using micro-electromechanical systems. They fabricated 3D bowtie-like structures directly on MEMS actuators and were able to deform their geometry. Potential applications involve deformable optics and cell scaffolds. [More](#)

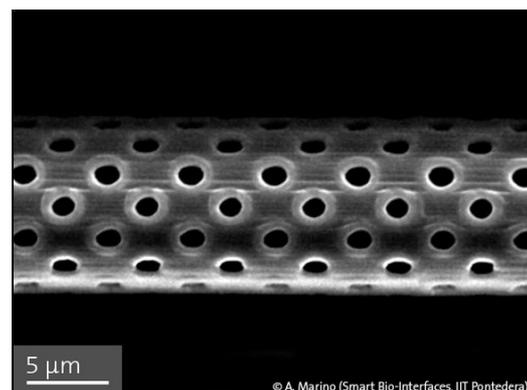


"Using our Nanoscribe system we have 3D printed microstructures directly on MEMS actuators to perform precision measurements and dynamic control in a straightforward and cost-effective way." Prof. Alice White, Chair of the Mechanical Engineering Department, Boston University



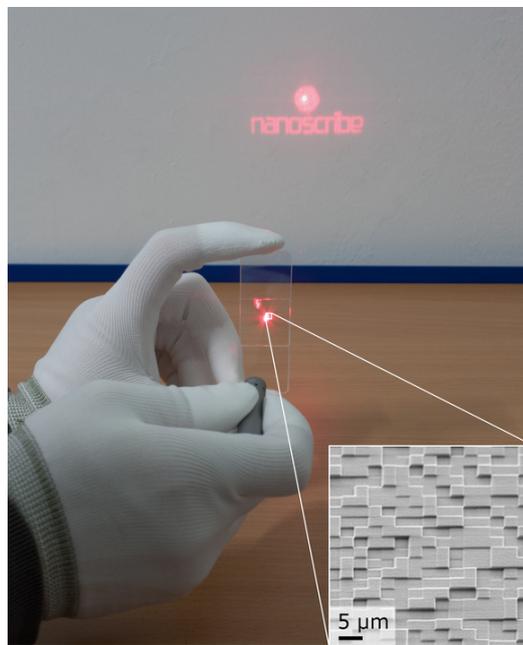
First Biohybrid Model of the Blood-Brain Barrier

Scientists at the Italian Institute of Technology (IIT) in Pontedera created the first realistic model mimicking the blood-brain barrier. They used their Nanoscribe's 3D printer for the fabrication of an artificial tubular scaffold and cultivated endothelial cells forming a biological barrier around it. The device will pave the way of future drug screening. [More](#)



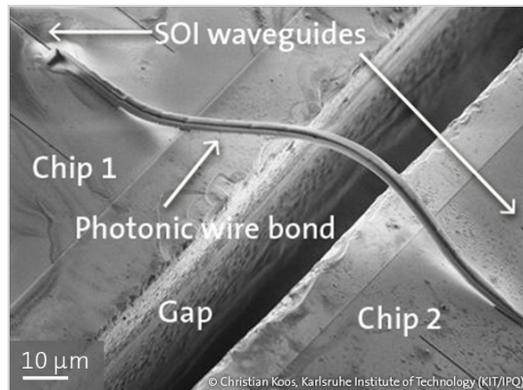
3D Printing of Diffractive Optical Elements

Diffractive optical elements are a great challenge in microfabrication. They have complex relief structures and feature sizes at the scale of the wavelength of light. Nanoscribe's 3D printers are capable of fabricate DOEs in one printing step. They offer the resolution required for diffractive optics and tools to handle DOE designs in a similar way as the print preparation of 3D models. [More](#)



Photonic Integrated Circuits

A wide variety of applications in optical communication, medical imaging, environmental sensing and autonomous driving benefits from photonic integration. Nanoscribe's two-photon-polymerization based 3D microprinters allow for the fabrication of micro-optics and photonic devices directly on pre-structured chips. Find application examples in our new section: "[Integrated Photonics](#)". [More](#)



+++ COMPANY NEWS +++

Two Awards Honoring Nanoscribe's Technology

Together with the Institute of Nanotechnology and the Innovation- and Relations-Management at the Karlsruhe Institute of Technology (KIT), Nanoscribe won the **DPG Award** for successful transfer of scientific research into commercial products.

The **Best Paper Award** was announced at Photonics West in San Francisco. The jury acknowledged Nanoscribe as "3D tool manufacturer that has pushed the limits of printing photonics".



Groundbreaking for ZEISS Innovation Hub @ KIT

On 6th of April the official first cut of the spade took place at the KIT Campus North near Karlsruhe (Germany) and laid the foundation for a €30 million project. Nanoscribe looks forward to move into its new premises in the ZEISS Innovation Hub by the end of 2019. [More](#)



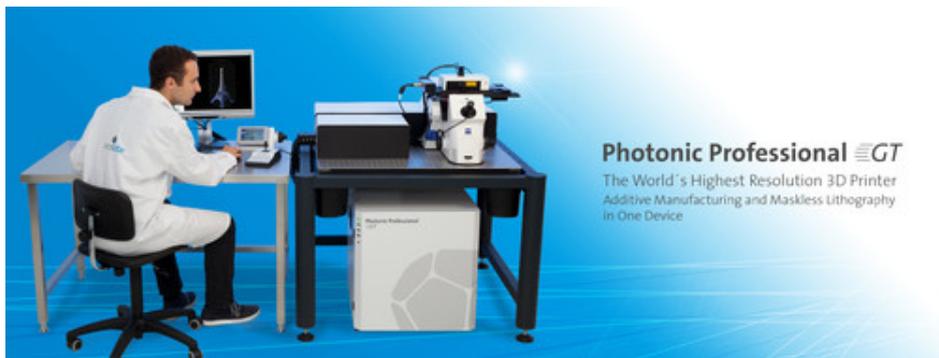
Upcoming Exhibitions

**Nanotechnology
Materials and Devices
Workshop (NMD)**
Cincinnati, OH (US)
May 21 - 22

EIPBN
Puerto Rico (US)
May 29 - June 1

LOAC
Rotterdam (NL)
June 5 - 6
Booth: 18

Send us an [e-mail](#) and tell us what challenges you face! We are happy to support you.



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