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Page: 1 of 2  
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### **Outstanding research results shown at the OPTATEC**

**The Fraunhofer IOF will present excellent research results, e.g. anti-reflection structures used on plastic optics, compound eye based array projectors, and the world's largest multilayer coated collector mirror. The OPTATEC trade fair will take place in Frankfurt, starting May 22nd to 25th.**

Nanostructures are able to create anti-reflective properties on high performance optics. The Fraunhofer IOF has developed a specific plasma etching process which enables cost effective anti-reflection coating on plane and curved plastic optic surfaces. The result is the creation of stochastic structures similar to those located on the nocturnal moth's eyes. On this kind of treated surface the reflection rate is minimized. Applications for anti-reflection structures for display panels, solar panels, or optics for illumination devices, medical technology devices and for the automotive industry. Recently, Dr. Ulrike Schulz and Dr. Peter Munzert, both researchers of the Fraunhofer IOF, were awarded the Thuringia Research Prize for 2012.

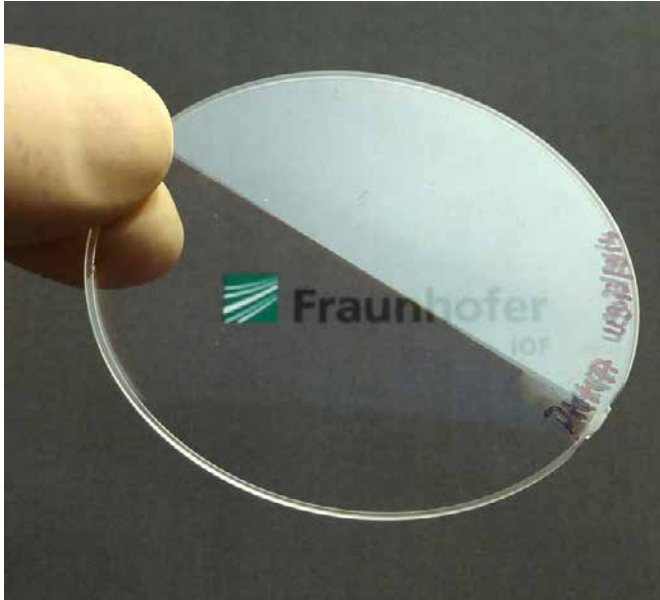
Insects were the model of another development, which can be seen at the Frankfurt trade fair. Microoptics were inspired by the compound eye of the insect. Similar to those of the insects, the optics consist of hundreds of tiny lenses in an array pattern. Together they produce a complete picture and enables very thin and also very bright LED-projection system with unique imaging features. For their ideas and realizations the Fraunhofer Researchers were awarded the *Germany - Land of Ideas Award* in 2012.

66 centimeters is the diameter of the world's largest multilayer coated collector mirror for EUV-lithography. This strongly curved collector surface consists of a multilayer thin film system. Dr. Torsten Feigl was recognized with the Joseph-von Fraunhofer Prize in 2012 for its development. Important is that the mirror functions under extreme heat conditions and its reflective qualities remain. The mirrors will be used in the semiconductor industry of tomorrow, which will enable computers, tablets, and smartphones to run faster and with higher performance.

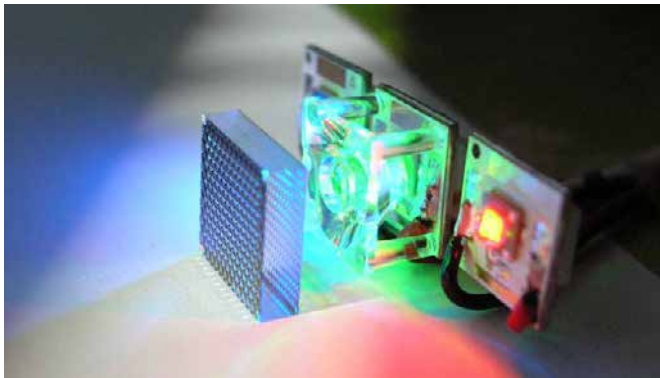
You will find these and many more exhibits at the Fraunhofer booth at the OPTATEC 2012, Frankfurt fair, hall 3, D50/D51.

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Anti-reflection of optics can be obtained very quickly and cost effectively through a specific plasma etching process (Source: Fraunhofer IOF).



The novel mini-projector of the Fraunhofer IOF consists of an array of hundreds of tiny micro-projectors (Source: Fraunhofer IOF).



Coated EUV-collector mirror for high performance laser plasma sources used in lithography (Source: Fraunhofer IOF).