



9th German-Japanese | 9th International  
Symposium on Nanostructures  
*March 6-8, 2016*  
*Wenden, Germany*

**SCHOTT**  
glass made of ideas



welcoming address from

**Dr. Frank Heinrich**

**Chairman of the Board of Management of SCHOTT AG**

for the

**9th German-Japanese | 9th International Symposium on Nanostructures**

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Nanotechnology is considered to be a key technology in the 21st century and is already well on its way to attaining economic importance. Only rarely has a development in the area of science and technology met with such overwhelming interest in such a short period of time, and this is certainly not least due to the outstanding cross-divisional function of nanotechnology in the fields of optics, medicine, transportation, chemistry, materials, information and communication technology, but also automotive and mechanical engineering. In terms of its broad impact, these “versatile dwarfs” even surpass the computer and its economic significance is correspondingly enormous.

Although there is general consensus that we are still only at the beginning of a promising development, nanotechnology already plays an important role when it comes realizing faster, higher performance and more intelligent products. In this respect, physical principles are being explored at the same time that marketable products are being offered, which best describes the fast pace of innovation in this field.

This innovative area also already has several points of contact for SCHOTT as a technology group. To be more specific, we have been working on nanostructures for decades. All of our glass-ceramics, from ZERODUR® to CERAN®, contain 30 to 80 nanometer crystallites that are responsible for their outstanding properties, “zero thermal expansion,” for example. Here, the fascinating material glass-ceramic is indispensable not only for cooktop panels but also for modern astronomy in the form of mirror substrates for telescopes.

We have also been manufacturing so-called striking glasses for some time. After heat treatment, targeted growth of nanoscale crystallites in binary semiconductor materials takes place in a special multicomponent glass. Their band structure, which also depends on their size, is responsible for the spectral properties of these extremely sharp-edged band filters.

Our CoralPor™ is one final example. When a borosilicate glass is subjected to a special thermal treatment, nanometer-sized segregated areas form within the material. By using a selective etching process, we are able to produce nanoscale porosity in the material that is ideal for use in nanofiltration and as a substrate in biochemical process technology.

These examples show that the “dwarfs” often operate behind the scenes and that immense research efforts make good sense and can be equally successful. This is why we welcome the exchange of the latest findings by experts from around the world. The Symposium on Nanostructures will also make an important contribution in this regard. I am already quite familiar with this event series that is now being held for the ninth time. After all, a few years ago, I used a scooter powered by a hydrogen drive with nanostructured solid matter storage to drive on stage to present an “Innovation Award.”

I wish all of the participants a good and successful event here in Wenden and as many new ideas and solutions as possible.

A handwritten signature in black ink, consisting of the letters 'J.' followed by a stylized 'A'.