

## Optical Materials Day

Thursday 14 April 2016

Cranfield University, Bedfordshire, UK

### Agenda

- 09.00-10.00**      **Arrival and Registration**
- 10.00-10.10      **Welcome Talk**  
Dr. Peter Hartmann  
Schott AG
- 10.10-10.50      **Optical glass: Definition, glass program, Eco-, classical-, Low Tg – and high transmission glass types, special optical glasses and trends in glass developments**  
Dr. Peter Hartmann  
Schott AG
- 10.50-11.20      **Overview of silica glass manufacturing methods and some typical properties**  
Dipl.-Phys. Mark Stamminger  
Heraeus Quarzglas GmbH & Co. KG
- 11.20-11.40**      **BREAK**
- 11.40-12.30      **Optical glass: Properties and their measurement, refractive index dispersion, homogeneity, transmittance, inclusions, striae, stress birefringence**  
Dr. Peter Hartmann  
Schott AG
- 12.30-13.00      **Optical filter glass: Glass types program and special properties**  
Prof. Dr. -Ing. Steffen Reichel  
Schott AG
- 13.00-14.00**      **LUNCH**
- 14.00-14.30      **Optical properties of selected quartz glasses in the UV and IR**  
Dr. Ursula Klett  
Heraeus Quarzglas GmbH & Co. KG
- 14.30-15.00      **High end coated filters: Applications, specifications and production processes**  
Prof. Dr.-Ing. Steffen Reichel  
Schott AG
- 15.00-15.30      **Calcium fluoride and barium fluoride: Crystalline materials for applications from DUV to IR**  
Dr. Gordon von der Gönna  
Hellma Materials GmbH
- 15.30-16.00**      **BREAK**
- 16.00-16.30      **Infrared materials and low expansion glass ceramic ZERODUR®**  
Dr. Peter Hartmann  
Schott AG
- 16.30              **Closing Remarks**
- 16.45              **Laboratory Tours**  
Mr Martin O'Hara, National Strategy Manager  
EPSRC Centre in Ultra Precision, Cranfield University

*Delegates who have registered for the tours should meet in the reception area at 16.45 pm ready for departure.*

[ultraprecision.org](http://ultraprecision.org)

## Event Information

Optical materials such as optical glass, fused silica, calcium fluoride and glass for infrared (IR) wavelengths are the enabling materials for many diverse optical technologies. The transparency of a glass, and its ability to refract light precisely, enables high resolution imaging. Optical materials are available for applications in the wavelength range from ultraviolet and visible light, up to near and middle infrared. For designing high quality optical systems for a wide range of wavelengths, combinations of different optical glass are necessary due to dispersion.

The large variety of applications makes it essential to develop different types of glass with specific optical properties. Additionally, some materials such as fused silica, calcium fluoride and optical infrared glass, also open wavelengths in the UV and IR range. Designing with high transmission rate and blocking of light in a specific wavelength range can be performed by use of optical filters.

Information about material types, production, optical properties as well as its characterisation methods helps to determine the right material for individual applications. This event offers considerable depth of information about optical materials, particularly optical glass, and gives an overview of upcoming development trends. Furthermore the participants get information about long-term availability of the different materials.

The [EPSCRC Centre for Innovative Manufacturing in Ultra Precision](#) is pleased to be collaborating with **Optence e.V** (Germany) to deliver this one day meeting in the UK in conjunction with **SCHOTT AG, Heraeus Quarzglas GmbH & Co. KG** and **Hellma Materials GmbH**.

Optence e.V is a photonic network in Hesse and Rhineland-Palatinate, whose members represent the whole optical value added chain from materials over optical components to optical systems and machines. It has successfully delivered this one day meeting over the past three years in Europe. Its members are very interested in extending contacts in Europe, therefore holding this event in the UK is an ideal opportunity to initiate and support mutual contacts between the UK photonic industry, UK photonic networks and German companies and networks.

**Optence e.V:** [www.optence.de](http://www.optence.de)

**SCHOTT AG:** [www.schott.com](http://www.schott.com)

**Heraeus Quarzglas GmbH & Co. KG:** [www.heraeus-quarzglas.com](http://www.heraeus-quarzglas.com)

**Hellma Materials GmbH:** [www.hellma-materials.com](http://www.hellma-materials.com)