



## WEBINARS

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# Fused Silica Tubes for Optical Fiber Manufacturing: Fiber Performance Sensitivity on Purity and Tube Geometry

Wednesday, June 14, 2023 1:00 PM - 2:00 PM EDT

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# Heraeus

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### .: About This Webinar

Optical fibers made of fused silica have many applications, such as communication, sensing, and laser systems. The performance of optical fibers is highly sensitive to the manufacturing processes and raw materials that are used in these applications.

Peter Bauer of Heraeus Conamic presents insights into the manufacturing processes for fused silica tubes. He shares about the influence of these processes on purity and geometry and provides essential background on impurities and how they influence the fiber performance. Next, he discusses how contaminations affect the attenuation and transmission performance along with how particles influence the mechanical strength of the fiber and breakage rate in the fiber drawing process. Bauer shares the root causes of impurities in the manufacturing process of raw materials and why they can't be eliminated in later production steps. Finally, he explains how tube geometry determines fiber performance, which is a main influencing factor. The preform manufacturing process for optical fibers is sensitive to geometrical variations which can cause beam distortion or misalignments, where fibers are spliced against each other and losses can result.

The presentation concludes with a live Q&A, for which Bauer is joined by his colleague Andreas Langner.

#### Who should attend:

Optical fiber designers, engineers, research scientists, and purchasing agents who are interested in optimizing the performance of their optical systems that contain optical fibers. Manufacturers of optical fibers who want to learn how to select the right material to achieve the best performing optical fibers. Those who utilize detectors, electronics, displays, lasers, and spectroscopy in industries such as aerospace, agriculture, automotive, biophotonics, medicine, environmental research, and energy.

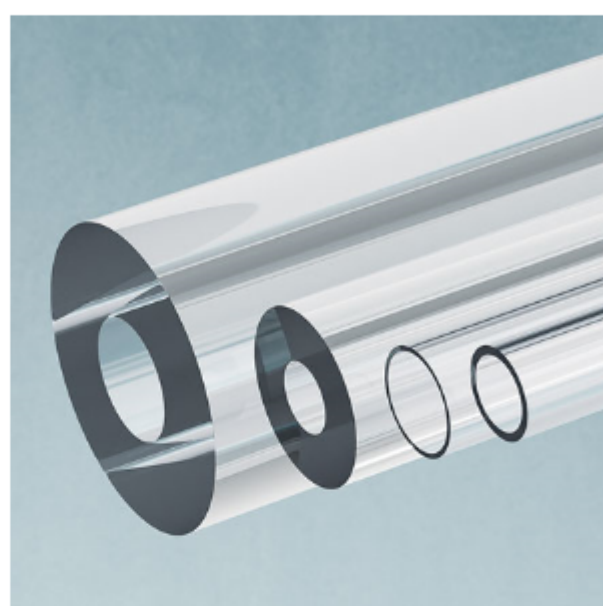
#### About the presenters:

Peter Bauer is product manager for specialty fiber at Heraeus Conamic in Kleinostheim, Germany. He has a background in physics and marketing and started his career in fused silica fiber optics more than 20 years ago in R&D for telecom fibers at Heraeus. He was the project manager at Heraeus in a European Union (EU)-funded project on photonic crystal fibers and he received a Heraeus Innovation Award in 2003. He holds nine patents in the field of optical fibers.

Andreas Langner, Ph.D., is head of the specialty fiber optics R&D team at Heraeus Conamic in Hanau, Germany. With a background in physics, he started his career in specialty fiber optics in 2005 as project leader of multiple funded projects dedicated to the development of a rare earth-doped bulk silica for laser fibers. For this development, he earned first prize in the Heraeus Innovation Awards in 2013.

#### About Heraeus:

Heraeus, a technology group headquartered in Hanau, Germany, is a leading international family-owned portfolio company. The Heraeus group includes businesses in the environmental, electronics, health, and industrial applications sectors. Heraeus Conamic is a global business unit of the Heraeus group. They are a technology leader and a leading-edge material specialist for the manufacturing and processing of the industry's highest purity fused silica and other high-end materials such as ceramics and composites.



### .: Mark Your Calendar

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