

## **Prof. Andreas Tünnermann**

Fraunhofer IOF, Jena

Plenary talk

### **The laser - enabler of innovations for more than 50 years**

In the past 50 years, the laser - a light source with special properties and result of the first quantum revolution - has developed from a gimmick without any application to an indispensable carrier of energy and information. With photonics, a new industry emerged since the first realization of the laser in sixties of the last century. From today's perspective, photonics is an enabling technology, an important driver of innovation in all future fields of a modern economy. Worldwide sales of more than 600 billion US \$ are impressive proof of the importance of this industry. Due to the possibility of using the results of the second quantum revolution, we are today facing a further leap forward in the use of light that will change our society in the long term. This creates special opportunities for the photonics industry. This contribution reviews important developments in photonics as well as perspectives for the industry through the possibilities of the second quantum revolution.

### **About the speaker**

Andreas Tünnermann was born in Ahnsen, Germany, on June 10th, 1963. He received the diploma and Ph.D. degree in physics from the University of Hannover. He was head of the department of laser development at the Laser Zentrum Hannover from 1992 to 1997. In the beginning of 1998 he joined the Friedrich-Schiller-University in Jena, Germany as a Professor and Director of the Institute of Applied Physics. In 2003 he became the Director of the Fraunhofer Institute of Applied Optics and Precision Engineering. His research activities are focused on photonics and quantum technology.