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Rolf Rascher
Oliver Fähnle
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Introduction

The Fifth European Seminar on Precision Optics Manufacturing took place in Teisnach (Germany) from 10–11 April 2018. Over 100 attendees from all over the world met to discuss topics surrounding manufacturing and measuring technology for precision optics and optical systems. In cooperation with SPIE, this conference became the biggest symposium on optics manufacturing in the German area. The organizers, Deggendorf Institute of Technology (Germany), and the Technology Campus Teisnach (Germany), express their thanks to our committee members, conference and session chairs, all the authors and speakers, and to the internal team behind the scenes. Their contribution of time and effort were the basis of the symposium's great success. We also thank the SPIE staff, who did everything correctly, on time, and in a professional way. Such a symposium is brought to life by the audience. Thanks to all the attendees who listened to the talks and gave feedback. The lively and intense discussions during the breaks and sessions indicate the need for a high-level communication platform for the experts in optics manufacturing technologies. Papers addressed a wide range of current tasks in industry and research and covered these main topics:

- **Manufacturing and measurement of optics from sub millimeter to large and giant dimensions and optical systems:**
  Processes for grinding, polishing, centering, assembly, handling tolerances, error budget and costs, surface modification, cleaning and coating of optics

- **Standards in optics manufacturing:**
  Techniques and approaches to generate, maintain and ensure high precision. Education in optics.

- **Advanced and next generation (future) technologies in high precision manufacturing:**
  Ultraprecision machining, kinetic abrasive polishing, additive manufacturing, molding, new and special materials, next generation of giant optics manufacturing and testing.

- **Smart manufacturing and industrial internet in the production of optics:**
  Lessons learned in industry and research institutes in environment, media control, process stability, data handling and data mining.

The presented contributions and discussions confirmed the high industrial relevance of the symposium. In these proceedings, the reader will find a great number of the presented talks and posters presented during the symposium.

We look forward to continuing this series of symposia with the 6th European Seminar on Precision Optics Manufacturing on 9–10 April 2019. Papers will be accepted until 31 December 2018.

Rolf Rascher
Oliver Fähnle