

History, present and future – the 124th annual conference of the German Society for Applied Optics (DGaO) in Berlin.

On the ceremonial occasion of the 100th anniversary of the founding of the DGaO, conference chair Prof. Dr. Dirk Oberschmidt invited guests to Technische Universität Berlin in the city where one hundred years ago, the historical founding of the society took place. The special conference venue provided an excellent setting to celebrate, reminisce, discuss current research topics and look at future issues of technical optics.

Let's start with the current topics in technical optics. A total of 84 technical papers were presented in 17 sessions. The main topics of the day were introduced in 6 keynote lectures. Prof. D. Oberschmidt (TU Berlin) presented an outline of the various research topics of his department with his lecture on the processing of different materials for optical components. Dr. R. Jedamzik (Schott AG) provided fascinating insights into the history of optical glass and its industrial production with the help of glass diagrams from different decades. Dr. H. Rehn (Fisba AG) presented important aspects of energy conservation and the function of illumination optics with the presentation of phase diagrams in illumination optics. B. Jähne (University of Heidelberg) explained in his lecture the further development of linear camera models towards more general models and discussed their relevance in camera selection for specific applications. Bernd Dörband illustrated the development of interferometry and its relevance, e.g. for the confirmation of Einstein's theory of relativity up to being a key technology in the semiconductor industry. F. Siewert (Helmholtz Zentrum Berlin) showed how the development of modern radiation sources on the one hand drives the demands on optical elements, but also enables novel experiments. Prof. Völker (TU-Berlin) presented how research for modern traffic lighting addresses current trends such as the reduction of light pollution and safety risks.

In addition to the presentations, there was also a poster session with lively discussions on a total of 33 posters. The prize for the best poster went to Anja Bartelmei (Fraunhofer IOF) on the concept and design of a multi-aperture 2π panoramic camera.

On the occasion of the 100th anniversary of the founding of the DGaO, there was a special colloquium on historical topics on Friday. Gerd Häusler and Rainer Schuhmann took us through the history of the society, also highlighting the connection to the Optical Institute of the TU Berlin. Besides at times surprising historical facts and backgrounds, various photos and anecdotes from the different decades provided plentiful entertainment. Afterwards, P. Karbe presented the development history of Leica's Apo photo lenses with sectional views and systematic analyses. The colloquium was rounded off by M. Bolt and M. Korey with a vivid description of their – in part quite surprising – research on historical telescopes.

After all these historical topics, the “Nachwuchspreise der DGaO” are firmly rooted in the present and point beyond it into the future. The prize for the best diploma thesis was awarded to David Krause (TU Dresden). He contributed to the determination of the transformation matrix of multimode fibers, which is essential for the use of these fibers in safe communication networks. The price for the best doctoral thesis was awarded to Babak Zandi (TU Darmstadt), who further developed the modelling of physiological vision with respect to the dynamics of the pupil diameter and its dependence on the spectrum of different light sources.

Currently, in optics as in all STEM subjects, a worrisome decline in the number of first-year students is seen. To address this problem, there were two special program items at the conference. The "DGaO-Nachwuchsförderung" put together a session entitled "Inspiring young people for optics!". In a total of five contributions, ideas and experiences were shared on how to successfully address schoolchildren today to spark and promote interest in optics. For example, optics kits, a digital-remote lab or a mobile photonics lab were presented. In a panel discussion, diverse career paths in optics were discussed that are interesting for students and graduates.

This year's General Assembly of the DGaO voted for RWTH Aachen as the conference venue in 2024. As a result, Prof. Dr. C. Holly (Optical Systems Technology) will be next year's conference chair. Later Prof. Gerd Häusler and Dr. Rainer Schuhmann have been appointed as new honorary members for their various contributions and many years of service to the DGaO. Stefan Bäumer (Principal Scientist of TNO) pointed out their diverse accomplishments in a well-worded laudatory speech.

To conclude this report, a few points of the extensive and varied social program should be mentioned. On Tuesday evening, as part of the welcome reception, Professor Mappes had given a lecture on the conception, reconstruction and exhibits of the German Optical Museum in Jena. On Thursday, there was an inspiring and very entertaining science slam before the conference attendees gathered on the banks of the Spree for a river cruise. A boat took us along the waterways of the city of Berlin. The Westhafen, the "Kanzleramt" and "Museumsinsel" are just a selection of the city's special places. In the most beautiful evening sun, there were good conversations on the upper deck and of course a rich buffet.

At this point we would like to thank Prof. Dr. Dirk Oberschmidt and his team. We experienced a very good organization and implementation of the event. The technical discussions and the supporting program were excellent. Some surprises in the course of events were professionally mastered. With these good impressions, we are looking towards next year's conference at the RWTH Aachen, where preparations are in full swing by Prof. Dr. C. Holly and N. Grubert.







