Conference report on the 46th German liquid crystal conference

The 46th German Liquid Crystal Conference was held from 27 to 29 March 2019 at Paderborn University. It was the third conference in this traditional series of meetings that was held in Paderborn. This year, it was chaired by Claudia Schmidt, Alexander Lorenz, Jürgen Schmidtke, and Heinz Kitzerow. Katrin Bandzio and a team of coworkers in the division of Physical Chemistry prepared the meeting. More than 80 participants from 7 different countries participated in the event (Figure 1). Twenty-one contributed oral presentations and 43 posters were given. Five invited speakers presented their latest findings in different fields of liquid crystal research. Three of them are from the very active liquid crystal community in Poland – Ewa Górecka (University of Warsaw), Lech Longa (Jagiellonian University, Kraków) and Pawel Perkowski (Military University of Technology, Warsaw). One invited speaker came from America – Peter Collings (Swarthmore College, USA) – and one from France – Pawel Pieranski (Université Paris-Sud). The oral presentations of the conference were sorted into six sessions and each invited speaker led a main topic. The conference began with Pawel Perkowski talking about dielectric spectroscopy of chiral smectic phases. In the subsequent session, Peter Collings introduced his work on a special type of lyotropic liquid crystals: chromonic liquid crystals. On the second day, Lech Longa demonstrated a chiral symmetry breaking in nematics, and Pawel Pieranski explained the effects of flow and electric fields on the generation, motion and annihilation of defects in the dowsers texture. On the last day, Ewa Górecka showed investigations on multilevel chirality of liquid crystalline structures made of achiral molecules. The topics in this conference ranged from different materials in liquid crystals to different structures. Many contributions described ionic liquid crystals, supramolecular liquid crystals induced by hydrogen bonding, complex mesophases of bolapolyphiles, lyotropic liquid crystals and gels or nanostructures made thereof and photochemical, photophysical and photovoltaic switching effects. Furthermore, new results about nanoporous metamaterials and nanocomposites containing, e.g. graphene, carbon nanocubes, graphene oxide or DNA nanostructures and elastomer actuators, muscles and microswimmers were reported. In addition, some current research about chirality, the fabrication and characterization of fibers, freely suspended films and bubbles, electroluminescence and organic electronics were also discussed.

A highlight of this conference was the presentation of the Alfred Saupe Prize 2019. The name of this prize commemorates the work and life of the great liquid crystal pioneer Alfred Saupe. This year, the Saupe Medal was awarded to Professor Pawel Pieranski in recognition of his outstanding contribution to the field of physics of liquid crystals. The prize ceremony was honoured by Mrs Brigitte Saupe’s participation (Figure 2). In addition, Young Researchers Awards by the German Liquid Crystal Society (Deutsche Flüssigkristall-Gesellschaft, DFKG) was given to Bingru Zhang from Paderborn University for her oral presentation on ‘DNA nano-composite with a lyotropic chromonic liquid crystal’, to Sebastian Marino from University of Stuttgart for his poster presentation on ‘Smectic clusters in the isotropic phase of ionic liquid crystals’ and to Lisa Gerbig from University of Würzburg for her poster presentation on ‘Star-shaped porphyrin-oligo(phenylenevinylene)-fullerene triads – new mesogens for organic bulk heterojunction materials?’ (Figure 3).

The organizing committee additionally offered an opportunity for students and PhD candidates to participate in a lottery at this conference by answering a liquid crystal question. Jakob Knelles from the University of Stuttgart was one of many who found the right answer and won the lottery prize.

Apart from the scientific program, the participants enjoyed a social program, which included visiting the German Museum of Tractors and Model Cars in Paderborn (Figure 4) and a conference dinner in the Hotel Aspethera.

In 2020, the German Liquid Crystal Conference will be held in Magdeburg and organized by Prof. Ralf Bandzio and a team of coworkers in the division of Physical Chemistry.
Figure 1. Conference participants at the 46th German liquid crystal conference in Paderborn 2019.

Figure 2. Alfred Saupe Prize laureate Pawel Pieranski (to the right) together with Brigitte Saupe and Heinz Kitzerow.

Figure 3. Bestowal of DFKG awards. From the left to right: Conference Chair Heinz Kitzerow; Young Researchers Award winner Bingru Zhang (Paderborn University); Matthias Bremer (Vice Chairman of the German Liquid Crystal Society); Young Researchers Award winner Sebastian Marino (University of Stuttgart); Young Researchers Award winner Lisa Gerbig (University of Würzburg).
Stannarius and Prof. Alexey Eremin (Otto von Guericke University Magdeburg). International participation is very welcome, and in particular participants from Poland are invited to come to Magdeburg.

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