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Sala de Grados, F. Ciencias

INMA

Coloquio



Tangible chirality from motorized liquid crystals

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Liquid crystals are known for their well-controlled molecular organization and electro-optical responses which is used to the benefit of liquid crystal displays, Chirality enhances their trigger-controlled complexity as used in diffractive optics and smart windows. In our work we combine liquid crystal amplified chirality with motor molecules. This leads to light- or electricity actuated effects that can be seen, can be felt or can perform mechanical actions with new applications in soft robotics and haptics and human interactivity.

Dirk J. Broer is a polymer chemist, with a PhD from the Univ. of Groningen, who has spent the majority of his career at Philips Research in Eindhoven, the Netherlands. Throughout his career, he has focused on the development of materials and technologies for the manufacture of liquid crystal, optical and biomedical devices. From 2003 to 2010, he was vice president at the Philips Research Labs. and he holds the record of Philips patents, most of them exploited. In 2010, he was appointed as full time professor at the Eindhoven University of Technology to chair the research group Functional Organic Materials and Devices. Since 2020, he holds the position of professor emeritus.