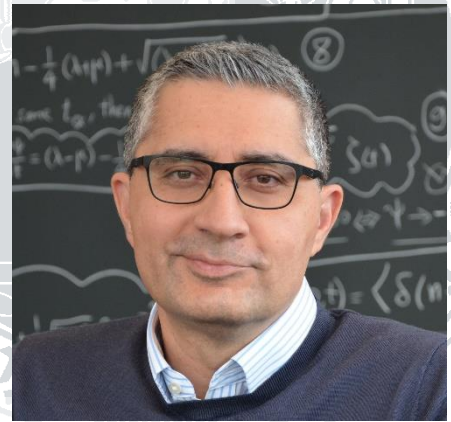


Großes Physikalisches Kolloquium an der Universität zu Köln



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Göttingen

Non-reciprocal active matter

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16³⁰ Uhr
HS III

Non-reciprocal interactions (NRIs) are quite natural among higher organisms including humans, as we all know that the way two humans act towards each other does not derive from a mutual translationally symmetric "interaction potential" that gives rise to action=–reaction. It is, however, a remarkably surprising that NRIs can exist at the microscopic scale among brain-less particles, in particular enzymes, when they are catalytically or metabolically active, i.e. under non-equilibrium conditions. In this Colloquium, I will introduce the topic and discuss some of its non-trivial consequences, following the developments in the field over the last decade. In particular, we discuss how non-reciprocal active matter can provide a paradigm within which we can understand how it may have been possible to form self-organized metabolic cycles at the early stages of life formation in a fast and robust manner.

