Theme

The study of holographic dualities is currently a broad area of research located at the confluence of several traditionally separate communities of physics and mathematics ranging from QCD, condensed matter, statistical physics and string theory, to numerical relativity and non-linear partial differential equations.

This workshop, which is the launching event of the Isaac Newton Institute programme "Mathematics and Physics of the holographic principle", brings together leading experts in these diverse fields in order to create the critical mass of knowledge and skills necessary for the opening of new research avenues in this problem.

Although the workshop is open to any major development in the field, research lines that stimulate cross-fertilization and push the remit of holographic dualities will be especially highlighted. A sample of topics of interests is given below:

- Holographic description of quantum matter, such as quark-gluon plasma, strange metals, Fermi-liquid emergence, topological matter, novel quantum phases
- Far from equilibrium dynamics and numerical relativity
- Entanglement, quantum information and holography
- Condensed matter applications: towards the description of real materials
- Novel gravity duals of large N vector and ABJM models

[From the workshop's website]

Videos of talks can be found at http://www.newton.ac.uk/programmes/HOL/holw01p.html