

L a u d a t i o

In recognition of many influential contributions to
quantum many-body physics,

Prof. Dr. Anushya Chandran

and

Prof. Dr. Christopher Laumann

have been awarded the

Martin Gutzwiller Fellowship 2025

of the Max Planck Institute for the Physics of Complex Systems.

Today, we recognize Anushya Chandran and Chris Laumann with the Martin Gutzwiller Fellowship of the Max Planck Institute for the Physics of Complex Systems for the year 2025. They have made – both individually and jointly – several important contributions to many-body physics, ranging all the way from traditional condensed matter physics to quantum information theory. In this, they very much embody the spirit of the scientific legacy of Martin Gutzwiller himself.

Their joint body of work on disordered and interacting quantum systems has provided several cornerstones of the edifice that has been constructed under the heading of many-body localization in the last 15 years. Representative achievements include the formulation of a notion of symmetry-protection and topological order in the many-body context, as well as a demonstration of the absence of many-body localization in a strict sense in higher dimensions. Another notable joint contribution is the analysis of the role of integrability in a phenomenon popularly known as quantum scars.

Particularly notably, the two have played an important role in identifying Clifford circuits as an eminently tractable setting for the study of quantum chaotic phenomena.

Anushya Chandran has also contributed widely to other topics in many-body dynamics, such as the physics periodically driven (so-called Floquet) systems, and the Kibble-Zurek mechanism; while Chris Laumann has branched out in a distinctly experimental direction, being closely involved in pinning down the existence of high-pressure superconductivity at otherwise reasonably ambient conditions.

Throughout, their work has been characterised by a level of intellectual rigour and clarity which can serve as a role model for the community.

Geographically, their trajectories intersected at Princeton University, having taken very different paths towards graduate studies there, Anushya Chandran via IIT Madras and Chris Laumann via both Cambridges. After joint postings to Perimeter, University of Washington, we are privileged to host the two here in Dresden for their sabbatical from Boston University.

We are grateful for their multifold input into the life – both scientific and beyond – of our Max Planck Institute for the Physics of Complex Systems, and we look forward to continuing exciting future collaborations.