

A poster for a colloquium. The background is dark with a red circular shape on the left. The text is white. On the right, there is a square image of a rainbow with a red border.

COLLOQUIUM DFA
JUNE, 8TH 2022- 4 PM
MICHAEL BERRY
UNIVERSITY OF BRISTOL - UK
"Geometric phases old and new"
IN PRESENCE - ZOOM MEETING - YOUTUBE STREAMING

Geometric phases old and new

The waves that describe systems in quantum physics can carry information about how their environment has been altered, for example by forces acting on them. This effect is the geometric phase. It occurs in the optics of polarised light, where it goes back to the 1830s; it influences wave interference; and it provides insight into the spin-statistics relation for identical quantum particles. The underlying mathematics is geometric: parallel transport, explaining how falling cats turn, and how to park a car. Incorporating the back-reaction of the geometric phase on the dynamics of the changing environment exposes an unsolved problem: how can a system be separated from a slowly-varying environment? The concept has a tangled history.

Speaker:
Michael Berry



IN PRESENCE REGISTRATION FORM
ZOOM MEETING
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<https://indico.dfa.unipd.it/event/458/>
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