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Leo Kadanoff's legacy for turbulent thermal convection DETLEF LOHSE[1], University of Twente — Rayleigh-Benard (RB) convection the buoyancy-driven flow of a fluid heated from below and cooled from above is a classical problem in fluid dynamics. It played a crucial role in the development of stability theory in hydrodynamics (Rayleigh, Chandrasekhar) and had been paradigmatic in pattern formation and in the study of spatial-temporal chaos (Ahlers, Libchaber, and many other). It was Leo Kadanoff and his associates in Chicago who, in the 1980s and 1990s, propagated the RB system as paradigmatic for the *physics* of fully developed turbulence and contributed tremendously to todays understanding of thermally driven turbulence. He and his experimental coworkers (Libchaber et al.) revealed the importance of the thermal plumes and the large-scale wind, and elucidated the interplay between thermal boundary layers and bulk. His scaling analysis laid the basis for our present understanding of turbulent convection, which I will review in this talk, highlighting Leos trailblazing contributions.

[1]Kadanoff session

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