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### **The Heat Transport Law In Thermal Convection**

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This talk will survey the outstanding elements of the heat transport law in thermal convection. It will particularly focus on the author's work on this problem carried out in collaboration with a number of his colleagues and students. From a combination of experimental and numerical studies, which have pushed the limits of Rayleigh (Ra) and Prandtl (Pr) numbers, we deduce the dependence of the Nusselt number (Nu) on Ra and Pr. These studies include the consideration of non-Boussinesq effects, imperfect boundary conditions, the role of aspect ratio, and so forth. Our conclusion is that Nu is proportional to the one-third power of Ra for large Ra, and that the so-called asymptotic form, which stipulates a  $1/2$  power instead of the  $1/3$ , does not arise in thermal convection in the presence of solid boundaries. Some remarks will be made also about the dependence of Nu on Pr.