HARVARD UNIVERSITY
17 Oxford Street
Cambridge, MA 02138

Tuesday, August 4, 2020, at 10:00 (Boston)
15:00 (UK/Eire) 16:00 (C.Europe) 22:00 (China)

Mathematical Picture Language Seminar
Zoom at: https://harvard.zoom.us/j/779283357

A non-nuclear C* algebra with the Weak Expectation Property (WEP) and the Local Lifting Property (LLP)

Gilles Pisier, Texas A & M University and Sorbonne Université

We describe the construction of the first example of a non nuclear C^*-algebra A with WEP and LLP. This gives a new example of non-nuclear A for which there is a unique C^*-norm on $A \otimes A^{op}$. This example is of particular interest in connection with the Connes-Kirchberg problem, that is equivalent to the question whether $C^*(\mathbb{F}_\infty)$ (or $C^*(\mathbb{F}_2)$), which is known to have the LLP, also has the WEP. Our C^*-algebra A has the same collection of finite dimensional operator subspaces as $C^*(\mathbb{F}_2)$ or $C^*(\mathbb{F}_\infty)$. The talk will start by a brief introduction to tensor products of C^*-algebras and to Kirchberg's conjectures in his 1993 Inventiones paper.