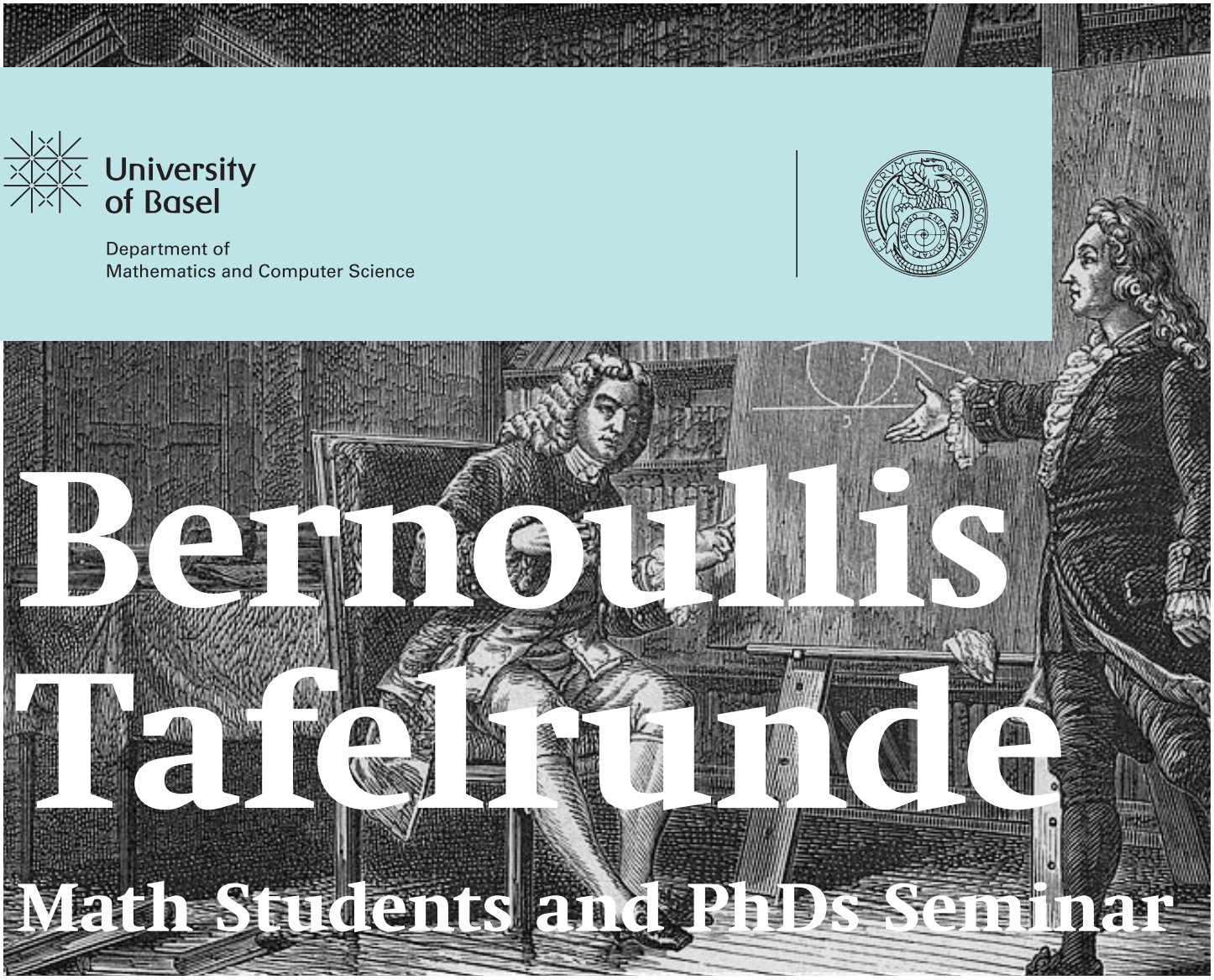
University of Basel

Department of
Mathematics and Computer Science



Bernoullis Tafelrunde

Math Students and PhDs Seminar

Strong Ill-Posedness for the Incompressible Porous Media Equation

Bernat Ramis Vich (ETH Zurich)

Abstract

Many active scalar fluid equations are locally-in-time well-posed in Hölder spaces $C^{k,\alpha}$ ($k \geq 1$, $0 < \alpha < 1$), by the classical particle trajectory method. On the contrary, in the endpoint C^k spaces ($k \geq 1$), there are examples of initial data in C^k for which no solution remains bounded in C^k, even for a short time. In this talk, we will unpack the mechanisms behind ill-posedness with the example of the Incompressible Porous Media equation, which exhibits this phenomenon despite its partial dissipation effects.

November 16, 2026 at 12:15

DMI, Spiegelgasse 5, SR 05.002

Scan the QR code to register for lunch