

**Programme on
“Nonlinear Flows”
May 30 – July 15, 2016**

organized by

Eduard Feireisl (Czech Academy of Sciences, Prague), Ansgar Jüngel (TU Vienna), Alexander Mielke (WIAS, Berlin), Giuseppe Savaré (U Pavia), Ulisse Stefanelli (U Vienna)

**Mini-Course 2
“Compressible fluid flows, new results and perspectives”
June 6 – 8, 2016**

• **Monday, June 6, 2016**

10:00 – 12:00 **Eduard Feireisl**

Compressible fluid flows, new results and perspectives: Lecture 1

• **Tuesday, June 7, 2016**

10:00 – 12:00 **Eduard Feireisl**

Compressible fluid flows, new results and perspectives: Lecture 2

• **Wednesday, June 8, 2016**

10:00 – 12:00 **Eduard Feireisl**

Compressible fluid flows, new results and perspectives: Lecture 3

All talks take place at the ESI, Boltzmann Lecture Hall!

Abstract: We discuss several new results concerning well/ill posedness questions in the context of compressible fluid flows. We identify a large class of problems describing the behavior of inviscid flows for which there exist infinitely many solutions or even infinitely many dissipative solutions satisfying the energy inequality. We relate these results to the theory of viscous fluids and identify certain problems in the inviscid theory as the vanishing viscosity limit. Finally, we discuss a proper choice of suitable admissibility criteria that would imply well-posedness of the problem.