Contribution Title:	H–PRINCIPLE AND FLUID DYNAMICS
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The Euler equations are perhaps the oldest system of partial differential equations derived in fluid dynamics. The h principle is a concept introduced in the seventies by Gromov to unify several counterintuitive phenomena in differential geometry. Two famous instances of the h–principle are the Nash-Kuiper C^1 isometric embeddings and the Smale's Eversion Theorem.

In the nineties Scheffer and Shnirelman have produced complicated examples of solutions to the Euler equations which display a very surprising and patological behavior. In a recent joint work with Laszló Székélyhidi we have shown that these examples have a rather simple interpretation as a kind of h–principle. Our approach allows to go beyond the examples of Scheffer and Shnirelman and shows interesting connections to some aspects of the theory of fully developed turbulence.