

Fachbereich Mathematik und Informatik der Universität Münster  
<http://www.uni-muenster.de/FB10/>

# 12. John von Neumann Lecture

## The Onsager's Theorem and beyond



### Prof. Dr. Camillo De Lellis University of Zurich

In 1949 the famous physicist Lars Onsager made a quite striking statement about solutions of the incompressible Euler equations: if they are Hölder continuous for an exponent larger than  $1/3$ , then they preserve the kinetic energy, whereas for exponents smaller than  $1/3$  there are solutions which do not preserve the energy. The first part of the statement has been rigorously proved by Peter Constantin, Weinan E and Endriss S. Titi in the nineties. In a series of works László Székelyhidi and myself have introduced ideas from differential geometry and differential inclusions to construct nonconservative solutions and started a program to attack the other portion of the conjecture. After a series of partial results, due to a few authors, Phil Isett fully resolved the problem one year ago. However this has not stopped the growing of the subject, which affects several other equations of fluid dynamics and, perhaps most surprisingly, even the incompressible Navier-Stokes equations.

*Camillo De Lellis ist ein italienischer Mathematiker, der sich mit partiellen Differentialgleichungen und geometrischer Maßtheorie beschäftigt.*

*Er erhielt die Stampacchia Medaille (2009), den Fermat Preis (2013) und den Caccioppoli Preis (2014). Er war eingeladener Sprecher der ICM (2010) und Plenarsprecher der ECM (2012). Im selben Jahr erhielt er ein ERC-Grant.*

**Donnerstag  
11.01.2018  
16.30 Uhr  
Hörsaal M5**

**Einsteinstr. 62, 48149 Münster**

Ab 16.00 Uhr wird Tee und Kaffee im SR0 gereicht.  
Nach dem Vortrag wird zum Stehempfang ins Foyer (SRZ) geladen!

Organisatoren: Prof.Dr. Joachim Cuntz, Prof. Dr. Angela Stevens, Prof. Dr. Dr. Katrin Tent