



Berlin
Mathematical
School

BMS Friday Colloquium

Friday 14 July 2017 at 14:15

Tea & Cookies starting at 13:00

BMS Loft, Urania, An der Urania 17, 10787 Berlin

Camillo De Lellis

(U Zurich)

The Onsager Theorem and folding papers

In the fifties, John Nash astonished the geometers with his celebrated isometric embedding theorems. A folkloristic explanation of his first theorem is that you should be able to put any piece of paper in your pocket without crumpling or folding it, no matter how large it is.

Ten years ago, László Székelyhidi and I discovered unexpected similarities with the behavior of some classical equations in fluid dynamics. Our remark sparked a series of discoveries and works which have gone in several directions. Among them, the most notable is Philip Isett's recent proof of Lars Onsager's long-standing conjecture in the theory of turbulent flows. In this talk, I will try to explain the connections between Nash's pioneering theorem and the most recent results in the theory of partial differential equations arising in fluid dynamics.

Camillo De Lellis is an Italian mathematician whose research focuses on geometric analysis and partial differential equations. De Lellis got his PhD in mathematics at the Scuola Normale Superiore in Pisa in 2002, and has held a full professorship in mathematics at the University of Zurich since 2005. In 2012, he was awarded an ERC Starting Grant, which supports up-and-coming independent research leaders. His honors include the Stampacchia Medal in 2009, the Fermat Prize in 2013 (awarded jointly with Martin Hairer), the Caccioppoli Prize in 2014, and the Amerio Prize in 2015. De Lellis was an invited speaker at the 2010 International Congress of Mathematicians and plenary speaker at the 2012 European Congress of Mathematics.



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