Gemeinsames Mathematisches Kolloquium der Universitäten Marburg und Gießen

Am Mittwoch, dem 29. Juni 2022 spricht

Prof. Dieter Kotschick, D. Phil.

von der Ludwig-Maximilians-Universität München in Marburg über

Künneth geometry

16.30 Uhr   Tee und Kaffee im Seminarraum VII (Ebene 5, Raum 05 D 01)

17.00 Uhr   Vortrag im Hörsaal IV (Ebene 4, Raum 04 A 30)

Im Anschluss ist eine Nachsitzung geplant.

This lecture is devoted to the geometry and topology of manifolds equipped with symplectic structures together with a pair of complementary Lagrangian foliations. Such structures appear in many topics in mathematics, for example in the theory of affinely flat manifolds, in the theory of symplectic Anosov diffeomorphisms, and in hypersymplectic geometry. They also appear naturally in several different places in physics, including the Born geometry arising from T-duality in string theory. Corresponding to the many places where these structures appear there are many different names that have been attached to them: bi-Lagrangian, para-Kähler, Künneth, ...

I will discuss the basic geometry of these structures, which, unlike symplectic structures, or symplectic structures equipped with a single Lagrangian foliation, are rigid in the sense of Gromov. Finally, I will indicate the construction of some interesting examples on closed manifolds.