



# Seminar

## Colloquium Mathematical Physics

**Tamara Grava**

University of Bristol

### **Integrability and Universality in nonlinear waves**

What is an integrable system? Intuitively, an integrable system is a dynamical system that can be integrated directly. While in principle integrable systems should be very rare, it happens that in nature, a lot of fundamental systems are integrable such as many models of nonlinear waves, models in statistical mechanics and in theory of random matrices. The study of nonlinear waves has led to many remarkable discoveries, one of them being 'solitons', found some 50 years ago. Solitons motivated the development of the Inverse Scattering Transform (IST). History and some examples will be discussed. Finally I will present some universality results about small dispersion limits and semiclassical limits of nonlinear dispersive waves.

**Friday, 05 February 2021, 1615 hrs CET**

Zoom Konferenzschaltung— Please contact Gernot Akemann  
(akemann@physik.uni-bielefeld.de) for details regarding access