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## **Theoretical and numerical analysis of fundamental models in nonlinear acoustics**

*Thursday, 7 November 2019 10:50 (40 minutes)*

In this talk, I will present joint work with Barbara Kaltenbacher on fundamental models in nonlinear acoustics. In a first part, I will introduce a hierarchy of nonlinear damped wave equations that arise in the modelling of sound propagation in thermoviscous fluids. In a second part, I will discuss a rigorous result which implies that two classical models, the Kuznetsov and Westervelt equations, are retained as limiting systems for vanishing thermal conductivity and consistent initial data. In addition, I will present numerical illustrations that complement the theoretical findings.

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