



# Lothar-Collatz-Kolloquium für Angewandte Mathematik

**Donnerstag, den 16. Januar 2020, um 17:15 Uhr, im Hörsaal 5**

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## *Nonlinear Peridynamic Models*

### **Zusammenfassung/Abstract:**

Some materials may naturally form discontinuities such as cracks as a result of scale effects and long range interactions. Peridynamic models such behavior introducing a new nonlocal framework for the basic equations of continuum mechanics. In this lecture we consider a nonlinear peridynamic model and discuss its well-posedness in suitable fractional Sobolev spaces.

Those results were obtained in collaboration with S. Dipierro (Perth), F. Maddalena (Bari) and E. Valdinoci (Perth).

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