

## Seminar im Rahmen des GRK 2078

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Datum: Do., 21.04.2016  
Uhrzeit: 15:45 – 17:15 Uhr  
Ort: KM-Seminarraum, Geb. 10.23, 3. OG

**Titel: Geometrically Exact Theory for Contact Interactions - New Developments**

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### Abstract

Geometrically exact theory of contact interactions is aiming on the development of the unified geometrical formulation of computational contact algorithms for various geometrical situations of contacting bodies leading to contact pairs: surface-to-surface, curve-to-surface, point-to-surface, curve-to-curve, point-to-curve, point-to-point.

The construction of the corresponding computational contact algorithms is considered in accordance with the geometry of contacting bodies in covariant and closed forms. These forms can be easily discretized within various methods such as the finite element method (FEM), the finite discrete method (FDM) independently of the order of approximation and, therefore, the result is straightforwardly applied within any further method: high order finite element methods, iso-geometric finite element methods etc.

Another achievement is an easy generalization into arbitrary interface law including e.g. anisotropy for elastic/sticking and plastic/sliding parts for all contact pairs.

As particular new development it is shown also the possibility to easy combine with the Finite Cell Method.

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Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Thomas Böhlke