



Ali Javili

Visiting Assoc Prof

Civil and Environmental Engineering

Bio

ACADEMIC APPOINTMENTS

- Visiting Assistant Professor, Civil and Environmental Engineering

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Erlangen-Nuremberg (2012)

Publications

PUBLICATIONS

- **General imperfect interfaces** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
Javili, A., Kaessmair, S., Steinmann, P.
2014; 275: 76-97
- **Surface electrostatics: theory and computations** *PROCEEDINGS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES*
Chatzigeorgiou, G., Javili, A., Steinmann, P.
2014; 470 (2164)
- **Geometrically nonlinear higher-gradient elasticity with energetic boundaries** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*
Javili, A., Dell'Isola, F., Steinmann, P.
2013; 61 (12): 2381-2401
- **Computational homogenization in magneto-mechanics** *INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES*
Javili, A., Chatzigeorgiou, G., Steinmann, P.
2013; 50 (25-26): 4197-4216
- **Thermomechanics of Solids With Lower-Dimensional Energetics: On the Importance of Surface, Interface, and Curve Structures at the Nanoscale. A Unifying Review** *APPLIED MECHANICS REVIEWS*
Javili, A., McBride, A., Steinmann, P.
2013; 65 (1)
- **Highly-conductive energetic coherent interfaces subject to in-plane degradation** *MATHEMATICS AND MECHANICS OF SOLIDS*
Esmaeili, A., Javili, A., Steinmann, P.
2017; 22 (8): 1696-1716
- **Computational aspects of morphological instabilities using isogeometric analysis** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
Dortdivanlioglu, B., Javili, A., Linder, C.
2017; 316: 261-279
- **Elastosis during airway wall remodeling explains multiple co-existing instability patterns** *JOURNAL OF THEORETICAL BIOLOGY*
Eskandari, M., Javili, A., Kuhl, E.

2016; 403: 209-218

- **An algorithmic approach to multi-layer wrinkling** *EXTREME MECHANICS LETTERS*
Lejeune, E., Javili, A., Linder, C.
2016; 7: 10-17
- **Understanding geometric instabilities in thin films via a multi-layer model.** *Soft matter*
Lejeune, E., Javili, A., Linder, C.
2016; 12 (3): 806-816
- **Tri-layer wrinkling as a mechanism for anchoring center initiation in the developing cerebellum** *SOFT MATTER*
Lejeune, E., Javili, A., Weickenmeier, J., Kuhl, E., Linder, C.
2016; 12 (25): 5613-5620
- **Computational aspects of growth-induced instabilities through eigenvalue analysis** *COMPUTATIONAL MECHANICS*
Javili, A., Dortdivanlioglu, B., Kuhl, E., Linder, C.
2015; 56 (3): 405-420
- **A unified computational framework for bulk and surface elasticity theory: a curvilinear-coordinate-based finite element methodology** *COMPUTATIONAL MECHANICS*
Javili, A., McBride, A., Steinmann, P., Reddy, B. D.
2014; 54 (3): 745-762
- **Unified magnetomechanical homogenization framework with application to magnetorheological elastomers** *MATHEMATICS AND MECHANICS OF SOLIDS*
Chatzigeorgiou, G., Javili, A., Steinmann, P.
2014; 19 (2): 193-211
- **A novel strategy to identify the critical conditions for growth-induced instabilities** *JOURNAL OF THE MECHANICAL BEHAVIOR OF BIOMEDICAL MATERIALS*
Javili, A., Steinmann, P., Kuhl, E.
2014; 29: 20-32
- **Micro-to-macro transitions for continua with surface structure at the microscale** *INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES*
Javili, A., McBride, A., Mergheim, J., Steinmann, P., Schmidt, U.
2013; 50 (16-17): 2561-2572
- **On molecular statics and surface-enhanced continuum modeling of nano-structures** *COMPUTATIONAL MATERIALS SCIENCE*
Davydov, D., Javili, A., Steinmann, P.
2013; 69: 510-519
- **Numerical modelling of thermomechanical solids with highly conductive energetic interfaces** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
Javili, A., McBride, A., Steinmann, P.
2013; 93 (5): 551-574
- **Numerical modelling of thermomechanical solids with mechanically energetic (generalised) Kapitza interfaces** *COMPUTATIONAL MATERIALS SCIENCE*
Javili, A., McBride, A., Steinmann, P.
2012; 65: 542-551
- **Micro-to-macro transitions for heterogeneous material layers accounting for in-plane stretch** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*
McBride, A., Mergheim, J., Javili, A., Steinmann, P., Bargmann, S.
2012; 60 (6): 1221-1239
- **A deformational and configurational framework for geometrically non-linear continuum thermomechanics coupled to diffusion** *INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS*
Steinmann, P., McBride, A. T., Bargmann, S., Javili, A.
2012; 47 (2): 215-227
- **Relationships between the admissible range of surface material parameters and stability of linearly elastic bodies** *PHILOSOPHICAL MAGAZINE*
Javili, A., McBride, A., Steinmann, P., REDDY, B. D.

2012; 92 (28-30): 3540-3563

- **Geometrically nonlinear continuum thermomechanics with surface energies coupled to diffusion** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*
McBride, A. T., Javili, A., Steinmann, P., Bargmann, S.
2011; 59 (10): 2116-2133
- **A finite element framework for continua with boundary energies. Part III: The thermomechanical case** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
Javili, A., Steinmann, P.
2011; 200 (21-22): 1963-1977
- **On thermomechanical solids with boundary structures** *INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES*
Javili, A., Steinmann, P.
2010; 47 (24): 3245-3253
- **A finite element framework for continua with boundary energies. Part II: The three-dimensional case** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
Javili, A., Steinmann, P.
2010; 199 (9-12): 755-765
- **A finite element framework for continua with boundary energies. Part I: The two-dimensional case** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
Javili, A., Steinmann, P.
2009; 198 (27-29): 2198-2208
- **The two-dimensional laminar wall jet. Velocity measurements compared with similarity theory** *FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH*
Peters, F., Ruppel, C., Javili, A., Kunkel, T.
2008; 72 (1): 19-28