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## education

- TECHNICAL UNIVERSITY OF KAISERSLAUTERN · Germany 02/2004  
Habilitation and *venia legendi* in Mechanics  
*Theory and numerics of open system continuum thermodynamics – Spatial and material settings*  
advisors · Prof. Paul Steinmann · Prof. Gerhard A. Holzapfel · Prof. Christian Miehe
  - UNIVERSITY OF STUTTGART · Germany 02/2000  
Dr.-Ing.  
*Numerical models for cohesive frictional materials*  
advisors · Prof. Ekkehard Ramm · Prof. Rene de Borst · Prof. Paul Steinmann
  - UNIVERSITY OF HANNOVER · Germany 12/1995  
Dipl.-Ing.  
*Modeling of single crystals and discrete polycrystals at elasto-plastic deformations*  
advisors · Prof. Erwin Stein · Dr. Paul Steinmann
- 

## academic experience

- ASSISTANT PROFESSOR 01/2007 – present  
Stanford University · USA · Departments of Mechanical- and Bioengineering  
*Computational biomechanics and mechanics of the heart*
- ASSISTANT PROFESSOR 12/2002 – 12/2006  
TU Kaiserslautern · Germany · Department of Mechanical Engineering  
*Biomechanics of growth and remodeling in hard and soft tissues*
- HABILITATION RESEARCHER 04/2001 – 11/2002  
TU Kaiserslautern · Germany · Department of Mechanical Engineering  
*Habilitation fellowship on biomechanics by German National Science Foundation DFG*
- POSTDOCTORAL SCHOLAR 04/2000 – 03/2001  
TU Delft · The Netherlands · Department of Aerospace Engineering  
*Theory and numerics of fluid-structure-interaction phenomena*
- GRADUATE RESEARCHER 10/1996 – 03/2000  
University of Stuttgart · Germany · Department of Civil Engineering  
*PhD fellowship on softening materials by German National Science Foundation DFG*
- GRADUATE RESEARCHER 01/1996 – 09/1996  
University of Hannover · Germany · Department of Civil Engineering  
*Simulation of localization phenomena in polycrystals at large deformations*

## reviewed journal publications

- [1] SAWISCHLEWSKI, E., P. STEINMANN & E. STEIN [1996]. 'Modelling and computations of instability phenomena in multisurface plasticity', *Comp. Mech.*, Vol. 18, pp. 245–258.
- [2] STEINMANN, P., E. KUHL & E. STEIN [1998]. 'Aspects of non-associated single crystal plasticity: Influence of Non-Schmid effects and localization analysis', *Int. J. Solids & Structures*, Vol. 35, pp. 4437–4456.
- [3] KUHL, E. & E. RAMM [1998]. 'On the linearization of the microplane model', *Mech. Coh. Frict. Mat.*, Vol. 3, pp. 343–364.
- [4] MAHNKEN, R. & E. KUHL [1999]. 'Parameter identification of gradient enhanced damage models with the finite element method', *Eur. J. Mech. / A: Solids*, Vol. 18, pp. 819–835.
- [5] KUHL, E. & E. RAMM [1999]. 'Simulation of strain localization with gradient enhanced damage models', *Comp. Mat. Science*, Vol. 16, pp. 176–185.
- [6] KUHL, E., E. RAMM & R. DE BORST [2000]. 'An anisotropic gradient damage model for quasi-brittle materials', *Comp. Meth. Appl. Mech. Eng.*, Vol. 183, pp. 87–103.
- [7] KUHL, E., G.A. D'ADDETTA, H.J. HERRMANN & E. RAMM [2000]. 'A comparison of discrete granular material models with continuous microplane formulations', *Granular Matter*, Vol. 2, pp. 123–135.
- [8] KUHL, E., E. RAMM & K.J. WILLAM [2000]. 'Failure analysis of elasto–plastic material models on different levels of observation', *Int. J. Solids & Structures*, Vol. 37, pp. 7259–7280.
- [9] KUHL, E. & E. RAMM [2000]. 'Microplane modelling of cohesive frictional materials', *Eur. J. Mech. / A: Solids*, Vol. 19, pp. 121–149.
- [10] KUHL, E., I. CAROL & P. STEINMANN [2001]. 'New thermodynamic approach to microplane model. Part II: Dissipation and inelastic constitutive modelling', *Int. J. Solids & Structures*, Vol. 38, pp. 2933–2952.
- [11] KUHL, E., S. HULSHOFF & R. DE BORST [2003]. 'An arbitrary Lagrangian Eulerian finite–element approach for fluid–structure interaction phenomena', *Int. J. Num. Meth. Eng.*, Vol. 57, pp. 117–142.
- [12] KUHL, E. & P. STEINMANN [2003]. 'On spatial and material settings of thermo–hyperelastodynamics for open systems', *Acta Mechanica*, Vol. 160, pp. 179–217.
- [13] KUHL, E. & P. STEINMANN [2003]. 'Mass– and volume specific views on thermodynamics of open systems', *Proc. Roy. Soc. London*, Vol. 459, pp. 2547–2568.
- [14] KUHL, E. & P. STEINMANN [2003]. 'Theory and numerics of geometrically non–linear open system mechanics', *Int. J. Num. Meth. Eng.*, Vol. 58, pp. 1593–1615.
- [15] KUHL, E., A. MENZEL & P. STEINMANN [2003]. 'Computational modeling of growth: A critical review, a classification of concepts and two new consistent approaches', *Comp. Mech.*, Vol. 32, pp. 71–88.
- [16] KUHL, E. & P. STEINMANN [2004]. 'Material forces in open system mechanics', *Comp. Meth. Appl. Mech. Eng.*, Vol. 193, pp. 2357–2381.
- [17] KUHL, E., R. DENZER, F.J. BARTH & P. STEINMANN [2004]. 'Application of the material force method to thermo–hyperelasticity', *Comp. Meth. Appl. Mech. Eng.*, Vol. 193, pp. 3303–3326.
- [18] KUHL, E. & P. STEINMANN [2004]. 'Computational modeling of healing: An application of the material force method', *Biomechanics and Modeling in Mechanobiology*, Vol. 2, pp. 187–203.

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- [51] ZHANG J., E. KUHL & T.C. OVAERT [2009]. 'Characterization of indentation response and stiffness reduction of bone using a continuum damage model', submitted for publication.
- [52] AMBROSI D., G.A. ATESHIAN, E.M. ARRUDA, M. BENAMAR, S.C. COWIN, J. DUMAIS, A. GORIELY, G.A. HOLZAPFEL, J.D. HUMPHREY, R. KEMKEMER, E. KUHL, J. MA, J.E. OLBERDING, L.A. TABER, R. VANDIVER & K. GARIKIPATI [2009] 'Perspectives on biological growth and remodeling', submitted for publication.
- [53] GÖKTEPE S., J. WONG & E. KUHL [2009]. 'Atrial and ventricular fibrillation - Computational simulation of spiral waves in cardiac tissue', submitted for publication.
- [54] A. ITOH, G. KRISHNAMURTHY, J. SWANSON, D. ENNIS, W. BOTHE, E. KUHL, M. KARLSSON, L. DAVIS, D.C. MILLER & N.B. INGELS. 'Active stiffening of mitral valve leaflets in the beating heart', submitted for publication.

- [55] S. GÖKTEPE, W. BOTHE, J.P. KVITTING, J. SWANSON, N.B. INGELS, D.C. MILLER, E. KUHL ‘Mitral leaflet curvature in the beating heart’, submitted for publication.
  - [56] M. KOTIKANYADANAM, S. GÖKTEPE, E. KUHL. ‘Computational modeling of electrocardiograms - A finite element approach towards cardiac excitation’, submitted for publication
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## publications in conference proceedings

- [1] KUHL, E., E. RAMM & R. DE BORST [1998]. ‘Anisotropic gradient damage with the microplane model’, *Computational Modelling of Concrete Structures*, Badgastein, Austria, edited by R. de Borst, N. Bićanić, H. Mang & G. Meschke, Balkema, Rotterdam, pp. 103–112.
- [2] DE BORST, R., M.G.D. GEERS, E. KUHL & R.H.J. PEERLINGS [1998]. ‘Enhanced damage models for concrete fracture’, *Computational Modelling of Concrete Structures*, Badgastein, Austria, edited by R. de Borst, N. Bićanić, H. Mang & G. Meschke, Balkema, Rotterdam, pp. 231–248.
- [3] KUHL, E., R. DE BORST & E. RAMM [1998]. ‘A gradient enhancement with application to anisotropic continuum damage’, *Proceedings of the 4th World Congress on Computational Mechanics*, Buenos Aires, Argentina, edited by E. Oñate & S. Idelsohn. CIMNE, Barcelona, Spain.
- [4] KUHL, E., E. RAMM & K.J. WILLAM [1999]. ‘Discontinuous vs. continuous modelling of failure phenomena’, *Euromech Colloquium 390: Instability, Bifurcation and Localization in Fracture of Materials*, Paris, France.
- [5] KUHL, E., G.A. D’ADDETTA & E. RAMM [1999]. ‘Continuous vs. discontinuous modelling of concrete failure’, *Proceedings of the 5th National Conference on Computational Mechanics*, Boulder, USA.
- [6] KUHL E., E. RAMM & K.J. WILLAM [1999]. ‘Failure analysis of elasto–plastic material models on different levels of observation’, *Proceedings of the 5th US National Conference on Computational Mechanics*, Boulder, USA.
- [7] D’ADDETTA, G.A., E. KUHL, E. RAMM & F. KUN [1999]. ‘Micromechanical modelling of concrete cracking’, *Proceedings of the European Conference on Computational Mechanics*, Munich, Germany.
- [8] KUHL, E., G.A. D’ADDETTA & E. RAMM [1999]. ‘Discontinuous vs. continuous modelling of failure phenomena’, *Euromech Colloquium 402: Micromechanics of Fracture Processes*, Seeheim, Germany.
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- [10] RAMM, E., G.A. D’ADDETTA & E. KUHL [2001] ‘Modelling of cohesive frictional materials as continuum or discontinuum’, *Zur Beschreibung komplexen Materialverhaltens*, edited by S. Diebels, Bericht aus dem Institut für Mechanik (Bauwesen) Nr. II-7, Universität Stuttgart, pp. 135–155.
- [11] KUHL, E., G. A. D’ADDETTA, M. LEUKART & E. RAMM [2001] ‘Microplane modelling and particle modelling of cohesive frictional materials’, *Continuous and Discontinuous Modelling of Cohesive Frictional Materials*, edited by P. A. Vermeer, S. Diebels, W. Ehlers, H. J. Herrmann, Lecture Notes in Physics, Springer Verlag, Berlin – Heidelberg – New York, Vol. 568, pp. 31–46.
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- [75] GÖKTEPE, S. & E. KUHL [2009] ‘Consistent computational procedures for fully coupled excitation-contraction cardiac electromechanics’, *International Conference on Material Modeling*, Dortmund, Germany.
- [76] GÖKTEPE, S., M. KOTIKANYADANAM & E. KUHL [2009] ‘On excitation-contraction coupling in computational cardiology’, *X International Conference on Computational Plasticity*, CIMNE, Barcelona, Spain.

## invited lectures (selected)

- ‘The virtual heart - A multiscale continuum approach for computational cardiology’ 15/04/2009  
*Theoretical & Applied Mechanics Colloquium* · Northwestern · Evanston · USA
- ‘The virtual heart - A multiscale continuum approach for computational cardiology’ 09/03/2009  
ETH Zurich · Switzerland
- ‘The virtual heart - A hierarchical approach towards computational cardiology’ 06/02/2009  
*Galcit Colloquium* · Caltech · Pasadena · USA
- ‘The virtual heart - A hierarchical approach towards computational cardiology’ 15/10/2008  
*Applied Mechanics Colloquium* · Harvard · Cambridge · USA
- ‘Growth and remodeling of the heart – A cell-based continuum approach’ 03/09/2008  
*Mathematical Modeling of Biological Tissues* · Oberwolfach · Germany
- ‘Computational design of novel stem-cell based therapies for myocardial infarction’ 27/08/2008  
*XXII ICTAM Conference · Minisymposium on Growth* · Adelaide · Australia
- ‘Dilation and hypertrophy – Ventricular growth and remodeling’ 20/06/2008  
*IUTAM Symposium on Cellular, Molecular, and Tissue Mechanics* · Woods Hole · USA
- ‘How to treat the loss of beat - Modeling novel post-infarction therapies’ 27/06/2008  
*ASME SBC 2008 · Minisymposium on Growth* · Marco Island · USA
- ‘Computational simulation of growing tissues’ 21/09/2007  
*Growth in the Desert* · University of Arizona · Tucson · USA
- ‘Collagen fiber remodeling in arterial walls’ 17/07/2007  
*ICIAM 2007 · Minisymposium on Biological Structures* · Zurich · Switzerland
- ‘Computational modeling of mineral unmixing and growth’ 02/07/2007  
*Instabilities Across the Scales* · Delft · Netherlands
- ‘On the application of discontinuous Galerkin methods to interface problems’ 04/09/2006  
*IUTAM Symposium on Discretization Methods for Evolving Discont's* · Lyon · France
- ‘Advanced chain network models in biomechanics’ 29/08/2006  
*6th ESMC · Minisymposium on Biomechanics* · Budapest · Hungary
- ‘On the computational simulation of three-dimensional strong discontinuities’ 18/07/2006  
*WCCM VII · Minisymposium on Failure Mechanics* · Los Angeles · USA
- ‘Chain network models for biological tissues’ 14/06/2006  
Stanford University · Stanford · USA
- ‘Continuum biomechanics - Pantha psiloni’ 23/03/2006  
Massachusetts Institute of Technology · Cambridge · USA
- ‘Material forces in continuum mechanics’ 10/03/2006  
*Workshop on Structural Integration* · Stanford · USA
- ‘Continuum biomechanics - Pantha psiloni’ 09/03/2006  
Stanford University · Stanford · USA
- ‘Continuum biomechanics - Pantha psiloni’ 02/03/2006  
Virginia Tech · Blacksburg · USA
- ‘Modellierung lebender biologischer Gewebe’ 26/01/2006  
University of Braunschweig · Germany
- ‘Form follows function - Natural design in structural mechanics’ 19/01/2006  
EPFL Lausanne · Switzerland

- ‘Simulation of diffusion processes - Numerics of the Cahn Hilliard equation’ 12/01/2006  
*Kolloquium für Mechanik* University of Braunschweig · Germany
- ‘Kontinuumsmechanik offener Systeme – Smart Structures in der Natur’ 14/12/2005  
University of Karlsruhe · Germany
- ‘Kontinuumsmechanik offener Systeme – Biologische und technische Strukturen’ 21/12/2005  
University of Kassel · Germany
- ‘Pantha psiloni – Everything grows’ 23/11/2005  
Max-Planck-Institute for Mathematics in the Sciences · Leipzig · Germany
- ‘On the fundamental difference between engineering materials and living tissues’ 28/10/2005  
*Seminar in Civil and Environmental Engineering* · UC Davis · USA
- ‘Form follows function – Natürlich optimierte Strukturen in der Biomechanik’ 29/04/2005  
*University of Stuttgart* · Germany
- ‘Continuum biomechanics – Pantha psiloni’ 07/04/2005  
ETH Zürich · Switzerland
- ‘Continuum biomechanics – Pantha psiloni’ 29/03/2005  
*Mechanical Engineering Seminar* · Caltech · Pasadena · USA
- ‘Continuum biomechanics – Everything grows’ 11/03/2005  
*Computational Solid Mechanics Seminar* · Caltech · Pasadena · USA
- ‘Modelling and simulation of biological growth phenomena’ 24/02/2005  
*Mathematical methods and models of continuum biomechanics* · Oberwolfach · Germany
- ‘Modelling and simulation of isotropic and anisotropic biological growth’ 08/01/2005  
*Plasticity’05* · Kauai · USA
- ‘Erweiterung klassischer kontinuumsmechanischer Konzepte auf die Biomechanik’ 25/10/2004  
University of Hannover · Germany
- ‘Spatial and material convexity analysis in nonlinear hyperelasticity’ 17/09/2004  
*Instabilities Across the Scales 2004* · Cairns · Australia
- ‘Modeling and simulation of isotropic and anisotropic growth in biological tissues’ 01/07/2004  
*IUTAM Symposium on Mechanics of Biological Tissue* · Graz · Austria
- ‘Optimales Design - Die Natur als Vorbild’ 18/06/2004  
University of Siegen · Germany
- ‘Biomechanik - Modellierung und Simulation von biologischen Werkstoffen’ 25/05/2004  
TU Berlin · Germany
- ‘Computational modeling of isotropic growth’ 02/10/2003  
*Continuum Modelling of Tissue and Implants* · Göteborg · Sweden
- ‘ALE formulation based on the spatial and material setting of continuum mechanics’ 30/07/2003  
*7th US National Conference on Computational Mechanics* · Albuquerque · USA
- ‘Theory and numerics of mechanically induced healing phenomena’ 28/07/2003  
*7th US National Conference on Computational Mechanics* · Albuquerque · USA
- ‘Computational spatial and material settings of continuum mechanics: An Arbitrary Lagrangian Eulerian formulation’ 21/05/2003  
*Euromech Colloquium 445: Mechanics of Material Forces* · TU Kaiserslautern · Germany
- ‘Geometrically nonlinear functional adaption of biological microstructures’ 10/07/2002  
*5th World Congress on Computational Mechanics · Keynote Lecture* · Vienna · Austria
- ‘Failure analysis for elasto–plastic material models on different levels of observation’ 04/08/1999  
*5th US National Conference on Computational Mechanics* · · Boulder · USA
- ‘Stability and bifurcation of elasto–plastic micro- vs macroscopic formulations’ 11/05/1999  
*Euromech Colloquium 390: Instability and Bifurcation* · Paris · France

## teaching experience

- FINITE ELEMENT ANALYSIS IN DESIGN Spring 2009  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- CONTINUUM MECHANICS Winter 2009  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- MECHANICS OF THE CELL Fall 2008  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- CONTINUUM MECHANICS Spring 2008  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- FINITE ELEMENT ANALYSIS IN DESIGN Winter 2008  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- MECHANICS OF THE CELL Fall 2007  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- MECHANICS OF GROWTH Spring 2007  
*Graduate course · Mechanical Engineering · Stanford University · USA*
- MECHANICS II · STRENGTH OF MATERIALS Summer 2006  
*Undergraduate course · Engineering · TU Kaiserslautern · Germany*
- LINEAR FINITE ELEMENT METHODS Summer 2006  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- MECHANICS I · STATICS & DYNAMICS Winter 2005/2006  
*Undergraduate course · Engineering · TU Kaiserslautern · Germany*
- NONLINEAR FINITE ELEMENT METHODS Winter 2005/2006  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- LINEAR FINITE ELEMENT METHODS Summer 2005  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- NONLINEAR FINITE ELEMENT METHODS Winter 2004/2005  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- NONLINEAR CONTINUUM MECHANICS Summer 2004  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- LINEAR FINITE ELEMENT METHODS Summer 2004  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- LINEAR CONTINUUM MECHANICS 2003/2004  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- NONLINEAR FINITE ELEMENT METHODS Winter 2003/2004  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- OPEN SYSTEMS AND MATERIAL GROWTH Summer 2003  
*Commas · Summer School 2003 · University of Stuttgart · Germany*
- LINEAR FINITE ELEMENT METHODS Summer 2003  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
- LINEAR AND NONLINEAR FINITE ELEMENT METHODS Winter 2002/2003  
*Lecture Series · DFG Graduate Programme 814 · TU Kaiserslautern · Germany*
- NONLINEAR FINITE ELEMENT METHODS Winter 2002/2003  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*



- LINEAR FINITE ELEMENT METHODS Summer 2002  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
  - NONLINEAR FINITE ELEMENT METHODS Winter 2001/2002  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
  - BIOMECHANICS Summer 2001  
*Graduate course · Mechanical Engineering · TU Kaiserslautern · Germany*
  - FINITE ELEMENTS IN STRUCTURAL MECHANICS I · teaching assistant Winter 1999/2000  
*Graduate course · Civil Engineering · University of Stuttgart · Germany*
  - FINITE ELEMENTS IN STRUCTURAL MECHANICS II · teaching assistant Summer 1999  
*Graduate course · Civil Engineering · University of Stuttgart · Germany*
  - FINITE ELEMENTS IN STRUCTURAL MECHANICS I · teaching assistant Winter 1998/1999  
*Graduate course · Civil Engineering · University of Stuttgart · Germany*
  - FINITE ELEMENT METHODS · teaching assistant Summer 1996  
*Graduate course · Civil Engineering · University of Hannover · Germany*
  - ENGINEERING MECHANICS II · tutor Summer 1993-1995  
*Undergraduate course · Civil Engineering · University of Hannover · Germany*
  - ENGINEERING MECHANICS I · tutor Winter 1992-1995  
*Undergraduate course · Civil Engineering · University of Hannover · Germany*
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## current research group

- DR.-ING. SERDAR GÖKTEPE · Post Doctoral Researcher  
*Electrophysiology of the heart*  
NSF-EFRI 'Engineering of cardiovascular cellular interfaces and tissue constructs'  
NIH-SIMBIOS 'SimGrowth-A virtual lab for myocardial infarction & restoration of cardiac function'
- M.SC. REBECCA TAYLOR · PhD student · jointly with Beth Pruitt  
*A computational model for cardiomyocyte growth in response to electromechanical stimulation*  
Bio-X Graduate Student Fellowship
- B.SC. GAURAV KRISHNAMURTHY · Master student · jointly with Craig Miller and Neil Ingels  
*Measurement and control of mitral valve properties in the beating heart*  
Bio-X Graduate Student Fellowship
- B.SC. JONATHAN WONG · Master student  
*Long-term computational modeling of cardiac arrhythmias*  
NIH Training Grant
- B.SC. JOE ULERICH · Master student  
*Dilation and hypertrophy - Mechanics of growth and remodeling of the heart*  
Stanford Graduate Fellowship
- B.SC. MOHAN KOTIKANYADANAM VARADARAJU · Master student  
*Computational simulation of electrocardiograms in healthy and diseased hearts*  
Stanford Graduate Fellowship
- DIPL.-ING. PHILIPPE JÄGER · PhD student · TU Kaiserslautern  
*Computational modelling of strong and weak discontinuities based on the Discontinuous Galerkin method*  
DFG Graduate Programme 814 'Engineering materials on different scales'
- DIPL.-ING. HOLGER MEIER · PhD student · TU Kaiserslautern  
*Multiscale modeling of geomechanical localization phenomena*  
DFG Interational Graduate School 1131 'Visualization of large data sets'

## **national and international collaborations**

- CALIFORNIA INSTITUTE OF TECHNOLOGY · USA 08/2005–10/2005  
Prof. Michael Ortiz · Graduate Aeronautical Laboratories
  - UNIVERSITY OF CALIFORNIA, DAVIS · USA 07/2005  
Prof. Natarajan Sukumar · Department of Civil and Environmental Engineering
  - CALIFORNIA INSTITUTE OF TECHNOLOGY · USA 02/2005–04/2005  
Prof. Michael Ortiz · Graduate Aeronautical Laboratories
  - UNIVERSITY OF MICHIGAN · USA 09/2004–10/2004  
Prof. Krishna Garikipati · Department of Mechanical Engineering
  - UNIVERSITY OF MICHIGAN · USA 03/2004–04/2004  
Prof. Krishna Garikipati · Department of Mechanical Engineering
  - TECHNICAL UNIVERSITY OF DELFT · The Netherlands 08/2002–09/2002  
Prof. Rene de Borst · Faculty of Aeronautical and Aerospace Engineering
  - UNIVERSITY OF PADUA · Italy 09/2001–10/2001  
Prof. Bernado Schrefler · Dipartimento di Costruzioni e Trasporti
  - TECHNICAL UNIVERSITY OF DELFT · The Netherlands 08/2001  
Prof. Rene de Borst · Faculty of Aeronautical and Aerospace Engineering
  - TECHNICAL UNIVERSITY OF DELFT · The Netherlands 04/2000–03/2001  
Prof. Rene de Borst · Faculty of Aeronautical and Aerospace Engineering
  - TECHNICAL UNIVERSITY OF DELFT · The Netherlands 08/1997–09/1997  
Prof. Rene de Borst · Faculty of Civil Engineering and Geotechnics
- 

## **current collaborations**

STANFORD Craig Miller, Joseph Wu, James Nelson, Christopher Zarins, Sarah Heilshorn, Beth Pruitt · PALO ALTO MEDICAL FOUNDATION Neil Ingels · HARVARD Kevin Kit Parker · CALTECH Michael Ortiz · UNIVERSITY OF MICHIGAN Ellen Arruda, Krishna Garikipati · KTH STOCKHOLM, SWEDEN Gerhard Holzapfel · UNIVERSITY OSLO, NORWAY Daniel Schmid · ETH ZURICH, SWITZERLAND Stefan Schmalholz · POLITECNICO DI TORINO, ITALY Davide Ambrosi · UNIVERSITY OF SHEFFIELD, UK Harm Askes · CAMBRIDGE UNIVERSITY, UK Garth Wells · UNIVERSITY OF ERLANGEN, GERMANY Paul Steinmann · UNIVERSITY OF DORTMUND, GERMANY Andreas Menzel · TU BRAUNSCHWEIG, GERMANY Markus Böl.

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## **synergistic activities**

- GUEST EDITOR ‘Computer simulations of mechanobiology’ in Computer Methods in Biomechanics and Biomedical Engineering, Volume 11, 2008 · ‘Mechanics in biology: Cells and tissues’ in Philosophical Transactions of the Royal Society
- REVIEWER National Science Foundation (NSF), ENG/CMMI and BIO/MCB, since 2007 · German Science Foundation (DFG), since 2005 · Israel Science Foundation (ISF), since 2009

- REVIEWER International Journal for Numerical Methods in Engineering · International Journal of Engineering Science · Journal of Engineering Mechanics · International Journal of Solids and Structures · International Journal for Numerical and Analytical Methods in Geomechanics · Journal of the Mechanics and Physics of Solids · Biomechanics and Modeling in Mechanobiology · Zeitschrift für Angewandte Mathematik und Mechanik · Computational Methods in Applied Mechanics and Engineering · Computational Mechanics · European Journal of Mechanics · Computer Methods in Biomechanics and Biomedical Engineering · Medical Engineering and Physics · Archive of Applied Mechanics · Philosophical Magazine · Journal of Biological Dynamics · Journal of Biomechanics · Journal of Applied Mechanics · Journal of the Mechanical Behavior of Biomedical Materials · Computational Materials Science · Continuum Mechanics and Thermodynamics · Encyclopedia of Computational Mechanics.
- SYMPOSIUM ORGANIZATION ‘IUTAM Symposium on computer models in biomechanics’, 2011  
SCIENTIFIC COMMITTEE ‘IUTAM Symposium on cellular, molecular and tissue mechanics’, 2008
- MINIWORKSHOP/MINISYMPOSIA ORGANIZATION ‘Active tissue modeling: From single muscle cells to muscular contraction’, USNCCM X, Columbus, Ohio, 2009 · ‘The mathematics of growth and remodeling of soft biological tissues’, Oberwolfach, Germany, 2008 · MS009 ‘Growth and remodeling’ and MS106 ‘Multiscale modeling of materials’ in the honor of Kaspar J. Willams 65th birthday, USNCCM IX, San Francisco, 2007 · ‘Biomechanics’, GAMM Annual Meeting, Berlin, 2006
- COMMITTEES Stanford ME Graduate Admission Committee · Stanford ME ABET Committee · Society of Women Engineers SWE Fellowship Committee
- MEMBERSHIPS American Society of Mechanical Engineers (ASME) · American Heart Association (AHA) · American Society of Engineering Education (ASEE) · European Society of Biomechanics (ESB) · German Association for Applied Mathematics and Mechanics (GAMM)