

Curriculum Vitae

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Organizer and Chairman of Symposia; Member of Boards, Committees, Panels and Societies; Lecturer of Advanced Schools; Referee	
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Graz University of Technology, Stockholm, Zaragoza, Barcelona, Vienna; University of Shenyang – P.R. China	
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Personal Data

Date of Birth: May 22, 1961
Place of Birth: Graz, Austria
Citizenship: Austria

Education

1996 Habilitation in „Mechanics“, Vienna University of Technology, Austria
1993 – 1995 Post-Doctoral Fellow at the Division of Applied Mechanics, Department of Mechanical Engineering, Stanford University, CA, USA, with the late Professor *Juan C. Simo*
1990 Ph.D. Mechanical Engineering, Graz University of Technology, Austria (with distinction)
6/86 – 1/87 National Service at Red Cross
1985 M.Sc. Civil Engineering, Graz University of Technology, Austria (with distinction)
1980 Graduation certificate from High School (with distinction)

Professional Appointments

Since 2/07 Full Professor of Biomechanics – Head of the Institute, Graz University of Technology, Austria
Since 2/07 Adjunct Full Professor of Biomechanics, Royal Institute of Technology (KTH), School of Engineering Sciences, Department of Solid Mechanics, Stockholm, Sweden
12/04 – 1/07 Full Professor of Biomechanics, Royal Institute of Technology (KTH), School of Engineering Sciences, Department of Solid Mechanics, Stockholm, Sweden
1/98 – 11/04 Associate Professor at the Institute of Structural Analysis, Graz University of Technology, Austria
5/87 – 12/97 Assistant at the Institute of Strength of Materials, Graz University of Technology, Austria (1991 on leave to P.R. China, 1993-1995 on leave to the USA)
1991 Visiting Scholar at University of Shenyang, P.R. China
6/88 – 9/88 Visiting Scholar at Ruhr-University Bochum, Germany
1/86 – 5/86 Research Assistant at Darmstadt University of Technology, Germany

Awards and Honors

11/08 Research Award 2008 of the Federal State of Styria, Austria, for Simulation and Modeling – Basic Research and University Research
Since 12/07 Member of the young curia of the Austrian Academy of Sciences
The young curia ("Junge Kurie") is a panel of outstanding young scientists who should actively participate within the academy. It is an autonomous instrument that exists besides the Section for Mathematics and the Natural Sciences, and the Section for the Humanities and the Social Sciences.
3/03 Awarded with the "Josef-Krainer Würdigungspreis 2003 for exceptional achievements in the field of Biomechanics"
The prize-winners are selected among scholars from all disciplines by an interdisciplinary Jury after peer review.

- 2001 Founding Co-Editor of the Journal "Biomechanics and Modeling in Mechanobiology", Springer-Verlag
- 7/97 START-Award 1997 granted by the Chancellor of the Republic of Austria and the Ministry for Education, Science and Culture
START-Awards are awarded to young scientists (below 35 years of age) of all disciplines of research in Austria, and are selected by an International Jury. It supports research for 6-7 years.
- 1992 – 1993 Erwin Schrödinger Scholarship for foreign countries
An Erwin Schrödinger Scholarship for foreign countries is for young graduates of all disciplines who have distinctive qualifications.
- 1983 Winner of the Amann-Foundation

Professorships

- Since 4/09: Visiting Professor, University of Glasgow, Scotland, Department of Mathematics. Invited by Professor Ray W. Ogden
- Since 2/07: Full Professor and Chair of Biomechanics, Graz University of Technology, Austria
- Since 2/07: Adjunct Full Professor and Chair of Biomechanics, Royal Institute of Technology (KTH), School of Engineering Sciences, Department of Solid Mechanics, Stockholm, Sweden
- 5/07: Visiting Professor, University of Zaragoza, Spain. Department of Mechanical Engineering. Invited by Professor Manuel Doblaré
- 12/04 – 1/07: Full Professor and Chair of Biomechanics, Royal Institute of Technology (KTH), School of Engineering Sciences, Department of Solid Mechanics, Stockholm, Sweden
- 7/03: Offer of a Chair (C4) in Continuum Mechanics, University of Kassel, Germany (not accepted)
- 4/03 – 5/03: Visiting Professor, Universidad Politécnica de Cataluña, Escuela Técnica Superior de Ingenieros de Caminos, Barcelona, Spain. Invited by Professors Eugenio Oñate and Carlos Agelet de Saracibar
- 11/02: Offer for a Visiting Professorship, University of Trento, Dipartimento di Ingegneria Meccanica e Strutturale, Italy (not accepted). Invited by Professor D. Bigoni
- 5/01: Offer for a Visiting Professorship, Polish Academy of Sciences, Institute of Fundamental Technological Research, Warsaw (not accepted). Invited by the late Professor Jozef Joachim Telega

Editorial Appointments

- Co-Editor-in-Chief, Journal "Biomechanics and Modeling in Mechanobiology", Springer-Verlag, Heidelberg, New-York. Since 2002: appears six times a year (together with Professor Jay D. Humphrey, Texas A&M University, USA); indexed in "Applied Mechanics Reviews", "Index Medicus", "Medline". www.springeronline.com/journal/10237 (Second 2008 IF: 3.129).
- Guest Editor, Special Issue on "Computational Biomechanics of Soft Tissue", J. on "Computer Methods in Biomechanics and Biomedical Engineering", 4 (2001) 189-305.

Publications

Books

1. G.A. Holzapfel and R.W. Ogden (eds.): “Biomechanical Modelling at the Molecular, Cellular and Tissue Levels”, CISM Courses and Lectures No. 508, Springer: Wien, New York, 2009.
www.springer.com/springerwiennewyork/engineering/book/978-3-211-95873-5
2. G.A. Holzapfel and R.W. Ogden (eds.): “Mechanics of Biological Tissue”, Springer-Verlag Heidelberg, 2006, p. 520
www.springer.com/sgw/cda/frontpage/0,11855,1-175-22-52091382-detailsPage%253Dppmedia%257CaboutThisBook%257CaboutThisBook,00.html
3. G.A. Holzapfel, W. Moser and G. Reichard (eds.): “Advanced Numerical Analyses of Solids and Structures, and Beyond”, Verlag der Technischen Universität Graz, 2004, ISBN 3-902465-01-8
4. G.A. Holzapfel and R.W. Ogden (eds.): “Biomechanics of Soft Tissue in Cardiovascular Systems”, CISM Courses and Lectures No. 441, Springer: Wien, New York, 2003.
www.springer.com/dal/home/generic/search/results?SGWID=1-40109-22-2314299-0
5. G.A. Holzapfel: Nonlinear Solid Mechanics. A Continuum Approach for Engineering. John Wiley & Sons, Chichester, 2000, p. 455 (5th print in 1/07)
www.wiley.com/WileyCDA/WileyTitle/productCd-0471823198.html

Invited Book Chapters

1. G.A. Holzapfel and D.E. Kiousis: Interaction of balloon catheter-stent systems with atherosclerotic lesions: a computational study. In: N. Chakfé and B. Durand (eds.), “ESVB 2009 – New Technologies in Vascular Biomaterials. Connecting Biomaterials to Arterial Structures”, Chapter 7, Europrot, Strasbourg, France (2009), 89-111.
2. G.A. Holzapfel: Arterial tissue in health and disease: experimental data, collagen-based modeling and simulation, including aortic dissection. In: G.A. Holzapfel and R.W. Ogden (eds.), “Biomechanical Modelling at the Molecular, Cellular and Tissue Levels”, CISM Courses and Lectures No. 508, Springer: Wien, New York, (2009), 259-343.
3. G.A. Holzapfel: Collagen in Arterial Walls: Biomechanical Aspects. In: P. Fratzl (ed.), “Collagen. Structure and Mechanics”, Chapter 11, Springer-Verlag, Heidelberg, (2008), 285-324.
4. G.A. Holzapfel and D.E. Kiousis: Biomechanical characterization of the stented artery. Computational solid mechanical aspects. In: N. Chakfé, B. Durand and J.-G. Kretz (eds.), “ESVB 2007 – New Technologies in Vascular Biomaterials. Fundamentals About Stents II”, Chapter 2, Europrot, Strasbourg, France (2007), 11-23.
5. P.J. Elbischger, H. Bischof, G.A. Holzapfel and P. Regitnig. Computer vision analysis of collagen fiber bundles in the adventitia of human blood vessels. In: J.S. Suri, C. Yuan, D.L. Wilson and S. Laxminarayan (eds.), “Plaque Imaging: Pixel to Molecular Level. Studies in Health Technology and Informatics”, Chapter 4, IOS Press (2005), 113:97-129.

6. C.T. Gasser and G.A. Holzapfel: 3D crack propagation in unreinforced concrete. Physical modeling and numerical analyses. In: G.A. Holzapfel, W. Moser and G. Reichard (eds.), "Advanced Numerical Analyses of Solids and Structures, and Beyond", Verlag der Technischen Universität Graz, 2004, ISBN 3-902465-01-8, 61-79.
7. G.A. Holzapfel: Computational Biomechanics of Soft Biological Tissue. In: E. Stein, R. de Borst and T.J.R. Hughes (eds.), "Encyclopedia of Computational Mechanics", Volume 2 Solids and Structures, Chapter 18, John Wiley & Sons, Ltd: Chichester (2004), 605-635.
8. C.A.J. Schulze-Bauer, M. Stadler, R. Stollberger, P. Regitnig and G.A. Holzapfel: Assessment of plaque stability based on high-resolution magnetic resonance imaging of human atherosclerotic lesions and computational mechanical analysis. In: M. Cerrolaza, M. Doblaré, G. Martínez, and B. Calvo (eds.), "Computational Bioengineering: Current Trends and Applications", Imperial College Press: Singapore (2004), 101-115.
9. G.A. Holzapfel: Structural and numerical models for the (visco)elastic response of arterial walls with residual stresses. In: G.A. Holzapfel and R.W. Ogden (eds.), "Biomechanics of Soft Tissue in Cardiovascular Systems", CISM Courses and Lectures No. 441, Springer: Wien, New York (2003), 109-184.
10. G.A. Holzapfel: Biomechanics of soft tissues with application to arterial walls. In: J.A.C. Martins and E.A.C. Borges Pires (eds.), "Mathematical and Computational Modeling of Biological Systems", Chapter 1, Centro Internacional de Matemática CIM: Coimbra, Portugal (2002), 1-37.
11. G.A. Holzapfel: Biomechanics of soft tissue. In: J. Lemaitre (ed.), "The Handbook of Materials Behavior Models", Volume III, Multiphysics Behaviors, Chapter 10, Composite Media, Biomaterials, Academic Press: Boston (2001), 1049-1063.
12. G.A. Holzapfel, T.C. Gasser and R.W. Ogden: A new constitutive framework for arterial wall mechanics and a comparative study of material models. In: S.C. Cowin and J.D. Humphrey (eds.), "Cardiovascular Soft Tissue Mechanics", Kluwer Academic Publishers: Dordrecht (2001), 1-48.
13. G.A. Holzapfel, C.A.J. Schulze-Bauer and M. Stadler: Mechanics of angioplasty: Wall, balloon and stent. In: J. Casey and G. Bao (eds.), "Mechanics in Biology", AMD-Vol. 242, BED-Vol. 46, New York (2000), 141-156.

Peer-Reviewed Journal Articles*

All works are listed in the reversed order of their times of appearance.

In Press

1. M. Auer, R. Stollberger, P. Regitnig, F. Ebner and G.A. Holzapfel: In vitro angioplasty of atherosclerotic human femoral arteries: analysis of the geometrical changes in the individual tissues using MRI and image processing. *Annals of Biomedical Engineering*, in press (IF: 2.346).
2. G.A. Holzapfel and R.W. Ogden: Modelling the layer-specific 3D residual stresses in arteries, with an application to the human aorta. *Journal of the Royal Society Interface*, in press (IF: 3.088).
3. P. Lanzer, F.J.H. Gijssen, L.D.T. Topoleski and G.A. Holzapfel: Call for standards in technical documentation of intracoronary stents. *Herz*, in press (IF: 0.510).
4. G. Sommer, P. Regitnig, L. Költringer and G.A. Holzapfel: Biaxial mechanical properties of intact and layer-dissected human carotid arteries at physiological and supra-physiological loadings, *American Journal of Physiology – Heart and Circulatory Physiology*, in press (IF: 3.973).

Appeared

5. P. Mortier, G.A. Holzapfel, M. De Beule, D. Van Loo, Y. Taeymans, P. Segers, P. Verdonck and B. Verheghe: A novel simulation strategy for stent insertion and deployment in curved coronary bifurcations: comparison of three drug-eluting stents. *Annals of Biomedical Engineering*, **38** (2010) 88–99 (IF: 2.346).
6. V. Prot, B. Skallerud, G. Sommer and G.A. Holzapfel: On modelling and analysis of healthy and pathological human mitral valves: two case studies, *Journal of the Mechanical Behavior of Biomedical Materials*, **3** (2010) 167–177 (not yet available).
7. M. Bauer, E. Mazza, M. Jabareen, L. Sultan, M. Bajka, U. Lang, R. Zimmermann and G.A. Holzapfel: Assessment of the in vivo biomechanical properties of the human cervix in pregnancy using the aspiration test. A feasibility study. *European Journal of Obstetrics Gynecology and Reproductive Biology*, **144** (2009) Suppl 1:S77-81. (IF: 1.432).
8. T. Eriksson, M. Kroon and G.A. Holzapfel: Influence of medial collagen organization and axial in situ stretch on saccular cerebral aneurysm growth. *ASME Journal of Biomechanical Engineering*, **131** (2009) 101010 (7 pages) (IF: 1.591).
9. G.A. Holzapfel and R.W. Ogden: Constitutive modelling of passive myocardium. A structurally-based framework for material characterization. *Philosophical Transactions of the Royal Society A*, **367** (2009) 3445–3475 (IF: 1.520).

* Impact Factor (IF) is based on the latest www.isiknowledge.com database results [IF @ 2008]; Journal Citation Reports®2009, published by Thomson Reuters

10. G.A. Holzapfel and R.W. Ogden: On planar biaxial tests for anisotropic nonlinearly elastic solids. A continuum mechanical framework. *Mathematics and Mechanics of Solids*, **14** (2009) 474-489 (IF: 0.420).
11. D.E. Kiousis, A.R. Wulff and G.A. Holzapfel: Experimental studies and numerical analysis of the inflation and interaction of vascular balloon catheter-stent systems. *Annals of Biomedical Engineering*, **37** (2009) 315-330 (IF: 2.346).
12. D.E. Kiousis, S.F. Rubinigg, M. Auer and G.A. Holzapfel: A methodology to analyze changes in lipid core and calcification onto fibrous cap vulnerability: The human atherosclerotic carotid bifurcation as an illustratory example. *ASME Journal of Biomechanical Engineering*, **131** (2009) 121002 (9 pages) (IF: 1.591).
13. M. Kroon and G.A. Holzapfel: A theoretical model for fibroblast-controlled growth of saccular cerebral aneurysms. *Journal of Theoretical Biology*, **257** (2009) 73-83 (IF: 2.323).
14. M. Kroon and G.A. Holzapfel: Elastic properties of anisotropic vascular membranes examined by inverse analysis. *Computer Methods in Applied Mechanics and Engineering*, **198** (2009) 3622-3632 (IF: 1.488).
15. D.M. Pierce, W. Trobin, S. Trattnig, H. Bischof and G.A. Holzapfel: A phenomenological approach toward patient-specific computational modeling of articular cartilage including collagen fiber tracking, *ASME Journal of Biomechanical Engineering*, **131** (2009) 091006 (12 pages) (IF: 1.591).
16. P.N. Watton, Y. Ventikos and G.A. Holzapfel: Modelling the mechanical response of elastin for arterial tissue. *Journal of Biomechanics*, **42** (2009) 1320-1325 (IF: 2.897).
17. P.N. Watton, Y. Ventikos and G.A. Holzapfel: Modelling the growth and stabilisation of cerebral aneurysms. *Mathematical Medicine and Biology*, **26** (2009) 133-164 (IF: 1.324).
18. P.N. Watton, N.B. Raberger, G.A. Holzapfel and Y. Ventikos: Coupling the hemodynamic environment to the growth of cerebral aneurysms: computational framework and numerical examples. *ASME Journal of Biomechanical Engineering*, **131** (2009) 101003 (14 pages) (IF: 1.591).
19. M. Auer, P. Regitnig, R. Stollberger, F. Ebner and G.A. Holzapfel: A methodology to study the morphological changes in lesions during in vitro angioplasty using MRI and image processing. *Medical Image Analysis*, **12** (2008) 163-173 (IF: 3.505).
20. D.E. Kiousis, T.C. Gasser and G.A. Holzapfel: Smooth contact strategies with emphasis on the modeling of balloon angioplasty with stenting. *International Journal for Numerical Methods in Engineering*, **75** (2008) 826-855 (IF: 1.612).
21. M. Kroon and G.A. Holzapfel: Estimation of the distributions of anisotropic, elastic properties and wall stresses of saccular cerebral aneurysms by inverse analysis. *Proceedings of the Royal Society of London A*, **464** (2008) 807-825 (IF: 1.523).
22. M. Kroon and G.A. Holzapfel: A new constitutive model for multi-layered collagenous tissues. *Journal of Biomechanics*, **41** (2008) 2766-2771 (IF: 2.897).

23. M. Kroon and G.A. Holzapfel: Modeling of saccular aneurysm growth in a human middle cerebral artery. *ASME Journal of Biomechanical Engineering*, **130** (2008) 051012 (10 pages) (IF: 1.591).
24. A. Pandolfi and G.A. Holzapfel: Three-dimensional modeling and computational analysis of the human cornea considering distributed collagen fibril orientations. *ASME Journal of Biomechanical Engineering*, **130** (2008) 061006 (12 pages) (IF: 1.591).
25. J.F. Rodríguez, C. Ruiz, M. Doblaré and G.A. Holzapfel: Mechanical stresses in abdominal aortic aneurysms: influence of diameter, asymmetry and material anisotropy. *ASME Journal of Biomechanical Engineering*, **130** (2008) 021023 (10 pages) (IF: 1.591).
26. G. Sommer, T.C. Gasser, P. Regitnig, M. Auer and G.A. Holzapfel: Dissection properties of the human aortic media: an experimental study. *ASME Journal of Biomechanical Engineering*, **130** (2008) 021007-1-021007-12 (IF: 1.591).
27. J. Stålhand, A. Klarbring and G.A. Holzapfel: Smooth muscle contraction: mechanochemical formulation for homogeneous finite strains. *Progress in Biophysics & Molecular Biology*, **96** (2008) 465-481 (IF: 5.009).
28. M. Bauer, E. Mazza, A. Nava, W. Zeck, M. Eder, M. Bajka, F. Cacho, U. Lang and G.A. Holzapfel: In vivo characterization of the mechanics of human uterine cervixes. *Annals of the New York Academy of Sciences*, **1101** (2007) 186-202 (IF: 1.731).
29. F. Cacho, M. Doblaré and G.A. Holzapfel: A procedure to simulate coronary artery bypass graft surgery. *Medical & Biological Engineering & Computing*, **45** (2007) 819-827 (IF: 0.943).
30. F. Cacho, P.J. Elbischger, J.F. Rodríguez, M. Doblaré and G.A. Holzapfel: A constitutive model for fibrous tissues considering collagen fiber crimp. *International Journal of Non-Linear Mechanics*, **42** (2007) 391-402 (IF: 1.249).
31. T.C. Gasser and G.A. Holzapfel: Finite element modeling of balloon angioplasty by considering overstretch of remnant non-diseased tissues in lesions, *Computational Mechanics*, **40** (2007) 47-60 (IF: 1.060).
32. T.C. Gasser and G.A. Holzapfel: Modeling plaque fissuring and dissection during balloon angioplasty intervention. *Annals of Biomedical Engineering*, **35** (2007) 711-723 (IF: 2.346).
33. I. Hariton, G. DeBotton, T.C. Gasser and G.A. Holzapfel: Stress-modulated collagen fiber remodeling in a human carotid bifurcation. *Journal of Theoretical Biology*, **248** (2007) 460-470 (IF: 2.323).
34. I. Hariton, G. DeBotton, T.C. Gasser and G.A. Holzapfel: Stress-driven collagen fiber remodeling in arterial walls, *Biomechanics and Modeling in Mechanobiology*, **6** (2007) 163-175 (IF: 3.129).
35. G.A. Holzapfel and T.C. Gasser: Computational stress-deformation analysis of arterial walls including high-pressure response. *International Journal of Cardiology*, **116** (2007) 78-85 (IF: 2.878).

36. G.A. Holzapfel, G. Sommer, M. Auer, P. Regitnig and R.W. Ogden: Layer-specific 3D residual deformations of human aortas with non-atherosclerotic intimal thickening. *Annals of Biomedical Engineering*, **35** (2007) 530-545 (IF: 2. 346).
37. D.E. Kiousis, T.C. Gasser and G.A. Holzapfel: A numerical model to study the interaction of vascular stents with human atherosclerotic lesions. *Annals of Biomedical Engineering*, **35** (2007) 1857-1869 (IF: 2. 346).
38. M. Kroon and G.A. Holzapfel: A model for saccular cerebral aneurysm growth by collagen fibre remodelling. *Journal of Theoretical Biology*, **247** (2007) 775–787 (IF: 2. 323).
39. E. Kuhl and G.A. Holzapfel: A continuum model for remodeling in living structures. *Journal of Materials Science: Materials in Medicine*, **42** (2007) 8811-8823 (IF: 1. 581).
40. A.S. Milani, J.A. Nemes, R.C. Abeyaratne and G.A. Holzapfel: A method for the approximation of non-uniform fiber misalignment in textile composites using picture frame test. *Composites Part A: Applied Science and Manufacturing*, **38** (2007) 1493-1501 (IF: 1. 662).
41. V. Prot, B. Skallerud and G.A. Holzapfel: Transversely isotropic membrane shells with application to mitral valve mechanics. Constitutive modelling and finite element implementation. *International Journal for Numerical Methods in Engineering*, **71** (2007) 987-1008 (IF: 1. 612).
42. N. Roxhed, T.G. Gasser, P. Griss, G.A. Holzapfel and G. Stemme: Penetration-enhanced ultrasharp microneedles and prediction on skin interaction for efficient transdermal drug delivery. *IEEE/ASME Journal of Microelectromechanical Systems*, **16** (2007) 1429-1440 (IF: 1. 964).
43. M. Auer, R. Stollberger, P. Regitnig, F. Ebner and G.A. Holzapfel: 3-D reconstruction of tissue components for atherosclerotic human arteries using *ex vivo* high-resolution MRI. *IEEE Transactions on Medical Imaging*, **25** (2006) 345-357 (IF: 3. 275).
44. D. Balzani, P. Neff, J. Schröder and G.A. Holzapfel: A polyconvex framework for soft biological tissues. Adjustment to experimental data. *International Journal of Solids and Structures*, **43** (2006) 6052-6070 (IF: 1. 569).
45. G. Franceschini, D. Bigoni, P. Regitnig and G.A. Holzapfel: Brain tissue deforms similarly to filled elastomers and follows consolidation theory. *Journal of the Mechanics and Physics of Solids*, **54** (2006) 2592-2620 (IF: 3. 542).
46. T.C. Gasser and G.A. Holzapfel: 3D crack propagation in unreinforced concrete. A two-step algorithm for tracking 3D crack paths. *Computer Methods in Applied Mechanics and Engineering*, **195** (2006) 5198–5219 (IF: 1. 488).
47. T.C. Gasser and G.A. Holzapfel: Modeling the propagation of arterial dissection. *European Journal of Mechanics A-Solids*, **25** (2006) 617-633 (IF: 1. 049).
48. T.C. Gasser, R.W. Ogden and G.A. Holzapfel: Hyperelastic modelling of arterial layers with distributed collagen fibre orientations. *Journal of the Royal Society Interface*, **3** (2006) 15-35 (IF: 3. 088).

49. G.A. Holzapfel: Determination of material models for arterial walls from uniaxial extension tests and histological structure. *Journal of Theoretical Biology*, **238** (2006) 290-302 (IF: 2. 323).
50. G.A. Holzapfel and M. Stadler: Role of facet curvature for accurate vertebral facet load analysis. *European Spine Journal*, **15** (2006) 849-856 (IF: 2. 021).
51. E. Mazza, A. Nava, M. Bauer, R. Winter, M. Bajka and G.A. Holzapfel: Mechanical properties of the human uterine cervix: An in vivo study. *Medical Image Analysis*, **10** (2006) 125-136 (IF: 3. 505).
52. F. Schmid, G. Sommer, M. Rappolt, P. Regitnig, G.A. Holzapfel, P. Laggner and H. Amenitsch: Bidirectional tensile testing cell for in situ small angle X-ray scattering investigations of soft tissue. *Nuclear Instruments & Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, **B 246** (2006) 262–268 (IF: 0. 997).
53. M. Auer, P. Regitnig and G.A. Holzapfel: An automatic non-rigid registration for stained histological sections. *IEEE Transactions on Image Processing*, **13** (2005) 475-486 (IF 2. 462).
54. T.C. Gasser and G.A. Holzapfel: Modeling 3D crack propagation in unreinforced concrete using PUFEM. *Computer Methods in Applied Mechanics and Engineering*, **194** (2005) 2859-2896 (IF: 1. 488).
55. G.A. Holzapfel, C.A.J. Schulze-Bauer, G. Feigl and P. Regitnig: Mono-lamellar mechanics of the human lumbar annulus fibrosus. *Biomechanics and Modeling in Mechanobiology*, **3** (2005) 125-140 (IF: 3. 129).
56. G.A. Holzapfel, G. Sommer, C.T. Gasser and P. Regitnig: Determination of layer-specific mechanical properties of human coronary arteries with non-atherosclerotic intimal thickening, and related constitutive modeling. *American Journal of Physiology – Heart and Circulatory Physiology*, **289** (2005) H2048-2058 (IF: 3. 973).
57. G.A. Holzapfel, M. Stadler and T.C. Gasser: Changes in the mechanical environment of stenotic arteries during interaction with stents: computational assessment of parametric stent designs. *ASME Journal of Biomechanical Engineering*, **127** (2005) 166-180 (IF: 1. 591).
58. F. Schmid, G. Sommer, M. Rappolt, C.A.J. Schulze-Bauer, P. Regitnig, G.A. Holzapfel, P. Laggner and H. Amenitsch: In situ tensile testing of human aortas by time-resolved small angle X-ray scattering. *Journal of Synchrotron Radiation*, **12** (2005) 727-733 (IF: 2. 978).
59. N. Böck and G.A. Holzapfel: A new two-point deformation tensor and its relation to the classical kinematical framework and the stress concept. *International Journal of Solids and Structures*, **41** (2004) 7459-7469 (IF: 1. 569).
60. R. Eberlein, G.A. Holzapfel and M. Fröhlich: Multi-Segment FEA of the human lumbar spine including the heterogeneity of the annulus fibrosus. *Computational Mechanics*, **34** (2004) 147-163 (IF: 1. 060).

61. P.J. Elbischger, H. Bischof, P. Regitnig and G.A. Holzapfel: Automatic analysis of collagen fiber orientation in the outermost layer of human arteries. *Pattern Analysis and Applications*, **7** (2004) 269-284 (IF: 0.515).
62. G.A. Holzapfel, T.C. Gasser and R.W. Ogden: Comparison of a multi-layer structural model for arterial walls with a Fung-type model, and issues of material stability. *ASME Journal of Biomechanical Engineering*, **126** (2004) 264-275 (IF: 1.591).
63. G.A. Holzapfel, G. Sommer and P. Regitnig: Anisotropic mechanical properties of tissue components in human atherosclerotic plaques. *ASME Journal of Biomechanical Engineering*, **126** (2004) 657-665 (IF: 1.591).
64. M. Stadler and G.A. Holzapfel: Subdivision schemes for smooth contact surfaces of arbitrary mesh topology in 3D. *International Journal for Numerical Methods in Engineering*, **60** (2004) 1161-1195 (IF: 1.612).
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Oral and Poster Presentations – (Extended) Abstracts

Oral Presentations given in the following countries:

Australia, Austria, Belgium, Canada, China, Croatia, Czech Republic, Estonia, Finland, France, Germany, Holland, Hungary, Ireland, Italy, Japan, Luxembourg, Norway, Poland, Portugal, Slovenia, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA

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2. F.E. Gunawan, M. Boel and G.A. Holzapfel: Finite element framework of the electromechanical coupling of smooth muscles. 9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics, Sydney, Australia, July 19-23, 2010.
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4. G.A. Holzapfel: Modeling soft biological tissues with an emphasis on the material characterization of the passive myocardium. SFB Workshop: Methods and Applications of Cardiac Electromechanical Models, Graz, Austria, October 28-31, 2009 (**special invitation speaker**).
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12. G.A. Holzapfel: Computational mechanics of multi-layered collagenous soft tissues: state of the art and challenges ahead. 10th International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS X), Barcelona, Spain, September 2-4, 2009 **(plenary speaker)**.
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14. G.A. Holzapfel: Multi-layered soft collagenous tissues: constitutive modeling and inverse analysis. 1st International Conference on Computational & Mathematical Biomedical Engineering (CMBE), Swansea, UK, June 29 – July 1, 2009 **(keynote speaker)**.
15. D. Balzani, S. Brinkhues and G.A. Holzapfel: Modeling aspects of softening hysteresis in soft biological tissues. 8th European Conference on Numerical Mathematics and Advanced Applications (ENUMATH 2009), Uppsala, Sweden, June 29 – July 3, 2009.
16. G.A. Holzapfel: Biomechanics in the interdisciplinary context of bioengineering, biology, chemistry and medicine. NAWI-Graz Workshop, Graz, Austria, June 26, 2009. **(plenary speaker)**.
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33. G.A. Holzapfel: Biomechanical aspects of cerebral aneurysms and stented carotid stenosis. 16st Annual Meeting of the Österreichische Gesellschaft für Neuroradiologie (Neuroradiology), Graz, Austria, October 2 – 4, 2008 (special invitation speaker).

34. G.A. Holzapfel: Numerical treatments of strong discontinuities within soft tissue biomechanics: state of the art and challenges ahead. 21st Chemnitzer FEM Symposium 2008, Chemnitz, Germany, September 22 – 24, 2008 (keynote speaker).
35. G.A. Holzapfel: Biomechanics of the aorta. 2008 Stanford AAA Summit: Strategies for Multidisciplinary Research, Stanford University, USA, September 4 – 5, 2008 (special invitation speaker).
36. M. Kroon and G.A. Holzapfel: Material characterization of biological membranes by inverse analysis. XXII International Congress of Theoretical and Applied Mechanics (ICTAM), Adelaide, Australia, August 24 – 30, 2008.
37. D. Balzani, S. Brinkhues, G. Sommer and G.A. Holzapfel: Modeling of damage hysteresis in overstretched soft biological tissues. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
38. F. Cacho-Nerín, F. Schmid, G.A. Holzapfel, P. Laggner and H. Amenitsch: The microstructure of the adventitia explains its macroscopic mechanical behavior. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
39. G.A. Holzapfel, D.E. Kiousis and M. Kroon: On modeling multi-layered soft collagenous tissues. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
40. D.E. Kiousis and G.A. Holzapfel: Effects of tissue components on the vulnerability of atherosclerotic plaques: A computational study. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
41. M. Kroon and G.A. Holzapfel: Fibroblast-controlled aneurysm growth in a human cerebral artery. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
42. S. Murtada, M. Kroon and G.A. Holzapfel: A mechanochemical model for smooth muscle cells and its finite element implementation. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
43. D.M. Pierce, W. Trobin, H. Bischof, S. Trattnig and G.A. Holzapfel: A sample-specific computational model of articular cartilage based on MRI, histology, computer vision and mechanical testing. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
44. V. Prot, B. Skallerud and G.A. Holzapfel: Mitral valve finite element analysis using human uniaxial tensile data. 8th World Congress on Computational Mechanics

- (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
45. G. Sommer, P. Regitnig, L. Koeltringer and G.A. Holzapfel: Biaxial mechanical properties of intact and layer-dissected human carotid arteries at physiological and supra-physiological loadings. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venice, Italy, June 30 – July 5, 2008.
 46. G.A. Holzapfel: Current topics in biomechanics within the area of engineering, medicine and biology. Inaugural Lecture (Antrittsvorlesung), Graz University of Technology, Austria, June 5, 2008.
 47. M. Kroon and G.A. Holzapfel: Modelling of thin anisotropic collagenous soft biological tissue. 2nd International Conference on Heterogeneous Material Mechanics (ICHMM-2008), Huangshan, P.R. China, June 3-8, 2008.
 48. M. Bauer, E. Mazza, A. Nava, M. Bajka, U. Lang and G.A. Holzapfel: Assessment of biomechanical properties of the human uterine cervix. Reproductive Bioengineering 2008, Wens im Pitztal, Austria, April 1-5, 2008.
 49. M. Kroon and G.A. Holzapfel: An inverse method to estimate the material parameters and wall stresses of a saccular cerebral aneurysm. 11th EUROMECH - MECAMAT conference: Mechanics of microstructured solids: cellular materials, fibre reinforced solids and soft tissues, Torino, Italy, March 10-14, 2008.
 50. G.A. Holzapfel: Computational aspects in soft tissue mechanics with a focus on the cardiovascular system. Workshop on "Biomechanics and Chemotaxis", Linz, Austria, December 10-14, 2007 **(special invitation speaker)**.
 51. G.A. Holzapfel: Failure mechanisms of artery walls: challenge for medicine and engineering. Rotary Club, Graz, Austria, November 26, 2007
 52. G.A. Holzapfel: Ein strukturelles Materialmodell für gesunde und erkrankte Arterienwände. ANSYS Conference & 25th CADFEM Users' Meeting, International Congress Center Dresden, Germany, November 21-23, 2007 **(special invitation speaker)**.
 53. M. Kroon and G.A. Holzapfel: Saccular aneurysm growth in a human middle cerebral artery: deformation and stress analysis. 44th Annual Technical Meeting Society of Engineering Science (SES), College Station, USA, October 21-24, 2007.
 54. P. Watton, Y. Ventikos, P. Hunter, G.A. Holzapfel: Computational modelling of cerebral aneurysm formation and evolution. @neurIST Symposium, Barcelona, Spain, September 13, 2007.
 55. G.A. Holzapfel: New aspects of physical modeling and computer simulation of blood vessels: Patient-specific analysis and future trends. The 1st IMACS International Conference on Computational Biomechanics and Biology, University of West Bohemia, Plzeň, Czech Republic, September 10-13, 2007 **(special invitation speaker)**.

56. E. Mazza, M. Bauer, M. Bajka and G.A. Holzapfel. Characterizing the mechanical response of soft human tissue for medical applications. IX International Conference on Computational Plasticity (COMPLAS IX), within the Invited Session on “Computational Methods in Biomechanics and Mechanobiology”, Barcelona, Spain, September 5-7, 2007.
57. G.A. Holzapfel, G. Sommer and T.C. Gasser: Modeling of arterial dissection. IX International Conference on Computational Plasticity (COMPLAS IX), within the Invited Session on “Computational Methods in Biomechanics and Mechanobiology”, Barcelona, Spain, September 5-7, 2007.
58. D.E. Kiousis and G.A. Holzapfel: Computational contact analysis of stents interacting with patient-specific stenotic arteries using smooth surface discretization. IX International Conference on Computational Plasticity (COMPLAS IX), within the Invited Session on “Computational Methods in Biomechanics and Mechanobiology”, Barcelona, Spain, September 5-7, 2007.
59. J. Rodríguez, C. Ruiz, M. Doblaré and G.A. Holzapfel: Mechanical Stresses in Abdominal Aortic Aneurysm. Material Anisotropy a Parametric Study. IX International Conference on Computational Plasticity (COMPLAS IX), within the Invited Session on “Computational Methods in Biomechanics and Mechanobiology”, Barcelona, Spain, September 5-7, 2007.
60. G.A. Holzapfel: Patient-specific analysis of cardiovascular biomechanics. 2007 Summer Workshop of the European Society of Biomechanics on “Finite Element Modelling in Biomechanics and Mechanobiology”, Trinity College Dublin, Ireland, August 26-28, 2007 (special invitation speaker).
61. F. Cacho, F. Schmid, G.A. Holzapfel, P. Laggner and H. Amenitsch: From micro to macro: explaining the mechanical behavior of fibrous tissues through their structure. 9th US National Congress on Computational Mechanics, San Francisco, USA, July 22-26, 2007.
62. V. Prot, B. Skallerud and G.A. Holzapfel: Effects of connective tissue pathologies on mitral valve response. International Conference on Modelling of Heterogeneous Materials with Applications in Construction and Biomedical Engineering. Mini-Symposium on “Modelling of biological tissues in health and disease”, Prague, Czech Republic, June 25-27, 2007.
63. M. Kroon and G.A. Holzapfel: Theoretical model for saccular cerebral aneurysm growth: Deformation and Stress-analysis. ASME 2007 Summer Bioengineering Conference (SBC2007), Keystone, Colorado, USA, June 20-24.
64. G.A. Holzapfel and M.L. Oyen: Evolving discontinuities in biological tissues. A review and future needs. International Conference on Computational Fracture and Failure of Materials and Structures (ECCOMAS Thematic Conference). Mini-Symposium on “Evolving discontinuities in composite (bio)materials”, Nantes, France, June 11-13, 2007.
65. G.A. Holzapfel and D.E. Kiousis: Mechanobiology – Mathematical computation and clinical application with emphasis on smooth contact modeling of balloon angioplasty

- with stenting. SFB Research Center: Mathematical Optimization and Applications in Biomedical Sciences, Graz, Austria, May 11, 2007.
66. G.A. Holzapfel: Biomechanik – Schulterschluss zwischen Technik und Medizin am Beispiel des Herz-Kreislauf-Systems. Veranstaltungsreihe des Forums Technik und Gesellschaft zum Thema „Mensch und Computer“, Graz University of Technology, Austria, May 9, 2007.
67. G.A. Holzapfel and D. Kiousis: Biomechanical characterization of the stented artery. 5th European Symposium of Vascular Biomaterials (ESVB 2007). Fundamentals About Stents II, Strasbourg, France, April 26-27, 2007 (special invitation speaker).
68. G.A. Holzapfel: Assessment of plaque stability: A MRI-based computational approach. 2nd Symposium on Biomechanics in Cardiovascular Disease: Shear Stress in Vascular Biology, Rotterdam, The Netherlands, April 19-20, 2007 (special invitation speaker).
69. E. Kuhl and G.A. Holzapfel: Stress versus strain-based remodeling in arterial walls. 2nd GAMM Seminar on Continuum Biomechanics, Freudenstadt-Lauterbad, Germany, November 22-24, 2006.
70. G.A. Holzapfel, G. Sommer, T.C. Gasser and P. Regitnig: Patient-specific biomechanical analysis of plaque rupture during balloon angioplasty using MRI and mechanical testing. 11th International Conference on “Human Biomechanics 2006”, Hrotovice, Czech Republic, November 13-16, 2006 (keynote speaker).
71. G.A. Holzapfel: Computational biomechanics of atherosclerotic plaques based on MRI. Seminar on Computational Biomechanics (organized by the SINTEF ICT and SINTEF Health Research), Trondheim, Norway, November 2, 2006.
72. G.A. Holzapfel, C.T. Gasser and G. Sommer: Rupture analysis for human atherosclerotic plaques. 19th Nordic Seminar on Computational Mechanics hosted by Lund University, Faculty of Engineering, Lund, Sweden, October 20-21, 2006 (keynote speaker).
73. G.A. Holzapfel: Soft living tissues and rubberlike materials. a comparative study. International Conference on “New Trends in Biomechanical Modelling: from Molecular Statistics to Continuum Mechanics”, hosted by the International Center of Mathematical Encounters, Castro Urdiales, Cantabria, Spain, September 25 - 29, 2006.
74. G.A. Holzapfel, C.T. Gasser: Modeling of evolving discontinuities in biological tissues. IUTAM Symposium on “Discretization Methods for Evolving Discontinuities”, Lyon, France, September 4-7, 2006 (special invitation speaker).
75. G.A. Holzapfel, C.T. Gasser, G. Sommer and R.W. Ogden: Constitutive modeling of soft biological tissue: applications to arterial walls. 6th European Solid Mechanics Conference (ESMC2006), Budapest, Hungary, August 28 – September 1, 2006 (plenary speaker).
76. M. Auer, F. Schmid, R. Stollberger, P. Regitnig, R.H. Menk, L. Rigon and G.A. Holzapfel: Characterization of tissue components for atherosclerotic plaques using ex vivo hrMR and synchrotron tomography (within the Mini-Symposium: Flow

- measurement and imaging in vivo and in vitro with applications). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 301.
77. M. Bauer, E. Mazza, A. Nava, M. Bajkac, U. Lang and G.A. Holzapfel: In vivo characterization of the mechanics of human uterine cervixes (within the Mini-Symposium: Mechanics of the uterus and pelvic floor). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 343.
78. D. Balzani, J. Schröder, P. Neff and G.A. Holzapfel: Material stability for biological tissues (within the Mini-Symposium: Material stability aspects for biological tissues). Application to damage modeling and residual stresses. 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 409.
79. F. Cacho, M. Doblaré and G.A. Holzapfel: Transmural stress during bypass surgery: A patient-specific computational analysis (within the Mini-Symposium: Computational modeling and mechanobiology of vascular anastomosis). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 404.
80. T.C. Gasser, M. Landuyt, G. Sommer, M. Auer, P. Verdonck, J. Swedenborg and G.A. Holzapfel: A histologically based anisotropic model of the abdominal aortic aneurysm (within the Mini-Symposium: Computational biomechanics of arteries in health and disease). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 401.
81. I. Hariton, G. deBotton, T.C. Gasser and G.A. Holzapfel: Stress-driven collagen fiber remodeling in arterial walls (within the Mini-Symposium: Tissue adaptation and remodeling). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 317.
82. G.A. Holzapfel, M. Auer, D.E. Kiousis and T.C. Gasser: Fusion of imaging and computational biomechanics: A promising approach for improved analysis of the biomechanics of atherosclerotic plaques (within the Mini-Symposium: Clinical applications in cardiovascular mechanics). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 290 (**special invitation speaker**).
83. G.A. Holzapfel and R.W. Ogden: On experimental testing methods for characterizing the mechanical properties of soft biological materials such as arterial tissues (within the Mini-Symposium: Vascular wall mechanics). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 324 (**special invitation speaker**).
84. D.E. Kiousis, T.C. Gasser and G.A. Holzapfel: Changes in the mechanical environment of lesions due to stent-artery interaction (within the Mini-Symposium: Mechanobiological effects of stent artery interaction). A computational analysis. 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 403.
85. J.F. Rodríguez, C. Ruiz, G.A. Holzapfel and M. Doblaré: Mechanical stress in abdominal aneurysm: influence of geometry and material (within the Mini-Symposium:

- Aneurysms). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 272-3.
86. G. Sommer, P. Regitnig and G.A. Holzapfel: Biomechanics of human carotid arteries: experimental testing and material modeling (within the Mini-Symposium: Vascular wall mechanics). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 325.
87. J. Stålhand, A. Klarbring and G.A. Holzapfel: The mechanics of arteries including smooth muscle contraction (within the Mini-Symposium: Vascular wall mechanics). 5th World Congress of Biomechanics, Munich, Germany, July 29 – August 4, 2006. Abstract published in Journal of Biomechanics, **39 (Suppl. 1)**, 2006, p. 326.
88. R.W. Ogden, G.A. Holzapfel and T.C. Gasser: Application of nonlinear elasticity theory to the biomechanics of soft biological tissues, with particular reference to fibrous structure and arterial walls. International Symposium on Trends in Applications of Mathematics to Mechanics (STAMM 2006), Vienna University of Technology, Austria, July 10-14, 2006.
89. G.A. Holzapfel, C.T. Gasser and D. Kiousis: Mechanobiology: Computation and clinical application. III European Conference on Computational Mechanics. Solids, Structures and Coupled Problems in Engineering, Lisbon, Portugal, June 5-9, 2006 (**keynote speaker**).
90. P.J. Elbischger, F. Cacho, H. Bischof and G.A. Holzapfel: Modeling and characterizing collagen fiber bundles. 2006 IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Arlington, Virginia, USA, April 6-9, 2006.
91. G.A. Holzapfel: Arterial models from uniaxial extension tests and histology. 77th Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Technische Universität Berlin, Germany, March 27-31, 2006.
92. D.E. Kiousis, C.T. Gasser and G.A. Holzapfel: Numerical simulation of balloon angioplasty with stenting by means of a smooth contact surface representation. 1st GACM – Colloquium for Young Scientists on Computational Mechanics, Bochum, Germany, October 5-7, 2005.
93. G.A. Holzapfel, T.C. Gasser and D. Kiousis: Recent advances in the modelling of Balloon Angioplasty. ICCB2005 – II International Conference on Computational Bioengineering, Lisbon, Portugal, 14-16th September 2005. Extended abstract in: H. Rodrigues, M. Cerrolaza, M. Doblaré, J. Ambrósio, M. Viceconti (eds.), "Proceedings of ICCB2005 – II International Conference on Computational Bioengineering", Volume 1, IST Press, Lisboa (2005), pp. 31-32 (**special invitation speaker**).
94. T.C. Gasser and G.A. Holzapfel: Physical and numerical modeling of dissection propagation in arteries caused by balloon angioplasty. The 3rd IASTED International Conference on Biomechanics, Benidorm, Spain, September 7-9, 2005.
95. I. Hariton, G. deBotton, T.C. Gasser and G.A. Holzapfel: How to incorporate collagen fiber orientations in an arterial bifurcation? The 3rd IASTED International Conference on Biomechanics, Benidorm, Spain, September 7-9, 2005.

96. G. Franceschini, D. Bigoni and G.A. Holzapfel: The mechanics of brain tissue. Euromech Colloquium 474, “Material Instabilities in Coupled Problems”, Troyes, France, August 30-31, 2005.
97. F. Cacho, J.F. Rodríguez, G.A. Holzapfel and M. Doblaré: Modelado micromecánico de los tejidos biológicos blandos reforzados con fibras, Congreso de Métodos Numéricos en Ingeniería 2005, Granada, Spain, July 4-7, 2005.
98. G.A. Holzapfel: Similarities between soft biological tissues and rubberlike materials. Fourth European Conference for Constitutive Models for Rubber (ECCMR 2005), Royal Institute of Technology (KTH), Stockholm, Sweden, June 27-29, 2005 (**keynote speaker**).
99. I. Németh, G. Schleinzer, R.W. Ogden and G.A. Holzapfel: On the modelling of amplitude and frequency-dependent mechanical properties in rubberlike solids. Fourth European Conference for Constitutive Models for Rubber (ECCMR 2005), Royal Institute of Technology, Stockholm, Sweden, June 27-29, 2005.
100. G.A. Holzapfel: Können die Ingenieurwissenschaften zur Verbesserung von therapeutischen Eingriffen an atherosklerotischen Blutgefäßen beitragen? Workshop on “Von bewährten Standards zu neuen Horizonten – intra- und extrakranielle Interventionen”, organized by Boston Scientific, Graz (Hotel Weitzer), Austria, May 12-13, 2005 (**special invitation speaker**).
101. G.A. Holzapfel: Mechanics of soft biological tissue: multi-disciplinary challenges of academic, industrial and clinical importance. 76th Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Université du Luxembourg, Luxembourg, March 28 – April 1, 2005 (**plenary speaker**).
102. G.A. Holzapfel: Challenges in Biomechanics. Workshop on “Biomechanics. An innovative area for present and future experimental and clinical applications”, Royal Institute of Technology (KTH), Stockholm, Sweden, March 17, 2005.
103. G.A. Holzapfel: Material stability analysis of soft biological tissues. 1st GAMM Seminar on Continuum Biomechanics, Freudenstadt-Lauterbad, Germany, November 24-26, 2004.
104. G.A. Holzapfel: 3D-Rekonstruktion von atherosklerotischen Arterien basierend auf MRI – Automatische Separierung von Geweben einer Läsion. 1st Partnering Day der Medizinischen Universität Graz. Innovative Forschung für erfolgreiche Unternehmungen, Graz, Austria, November 22, 2004.
105. G.A. Holzapfel, M. Auer, R. Stollberger, P. Regitnig and F. Ebner: In vitro balloon angioplasty of atherosclerotic human arteries and analyses of different tissue components. Symposium 2004 – Biomedizinische Technik, CD-ROM, Graz University of Technology, Austria, November 12-13, 2004.
106. G.A. Holzapfel: Balloon angioplasty and stenting: mechanical and clinical aspects. 7th Essen Symposium on Biomaterials and Biomechanics: Fundamentals and Clinical Applications”, University Duisburg-Essen, Campus Essen, Germany, October 6-8, 2004 (**special invitation speaker**).

107. G.A. Holzapfel and T.C. Gasser: Prediction of arterial failure using a 3D cohesive zone model. EUROMECH Colloquium 464 on “Fibre-reinforced Solids: Constitutive Laws and Instabilities”, Castro Urdiales, Cantabria, Spain, September 28 - October 1, 2004.
108. G.A. Holzapfel: Aspects of multiscale modeling in tissue biomechanics – a summary of the workshop on “Biophysics, Biomechanics and Mechanobiology” at the workshop on “Physical Aspects of Multi-Scale Modeling”, Bled, Slovenia, September 13-15, 2004 (special invitation speaker).
109. P.J. Elbischger, H. Bischof and G.A. Holzapfel: Estimating the stretching characteristic of fiber bundles in microscopic images. 17th International Conference on Pattern Recognition (ICPR'04), International Association for Pattern Recognition (IAPR), Cambridge, UK, August 23-26, 2004.
110. G.A. Holzapfel and T.C. Gasser: 3D crack propagation in unreinforced concrete: Physical modeling and numerical analyses. Conference on “Advanced Numerical Analyses of Solids and Structures, and Beyond”, Graz, Austria, August 12-13, 2004.
111. G.A. Holzapfel: Challenges in physical and numerical modeling of soft biological tissues. European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2004), Jyväskylä, Finland, July 24-28, 2004 (keynote speaker).
112. G.A. Holzapfel, T.C. Gasser, G. Sommer and P. Regitnig: Computational analyses of dissection-type of failure of atherosclerotic arteries following balloon angioplasty. The 14th European Society of Biomechanics (ESB) conference. Mini-Symposium on “Intravascular devices”, 's-Hertogenbosch, The Netherlands, July 4-7, 2004 (special invitation speaker).
113. G.A. Holzapfel and M. Stadler: Computational assessment of parametric stent designs considering patient-specific stenosis. The 14th European Society of Biomechanics (ESB) conference. Mini-Symposium on “Arterial Wall Mechanics”, 's-Hertogenbosch, The Netherlands, July 4-7, 2004 (keynote speaker).
114. G.A. Holzapfel, M. Stadler, T.C. Gasser and M. Auer: Challenges in modeling atherosclerotic lesions following balloon angioplasty and stenting. IUTAM-Symposium on Mechanics of Biological Tissue, Graz, Austria, June 27-July 2, 2004.
115. E. Mazza, A. Nava, M. Bauer, R. Winter and G.A. Holzapfel: An experimental in vivo technique to characterize the mechanical behavior of soft biological tissues with special emphasis on the human cervix. IUTAM-Symposium on Mechanics of Biological Tissue, Graz, Austria, June 27-July 2, 2004.
116. G.A. Holzapfel: Biomechanics and Modeling in Mechanobiology at Graz University of Technology. Kick-off-meeting of the GAMM-Committee of Experts Biomechanics, at the Institut für Unfallchirurgische Forschung und Biomechanik des Universitätsklinikums Ulm, Germany, February 19-29, 2004 (special invitation speaker).
117. M. Auer, P. Regitnig and G.A. Holzapfel: Non-rigid registration for stained histological sections of atherosclerotic arteries. 2nd IASTED International Conference on Biomedical Engineering, CD-ROM”, Innsbruck, Austria, February 16-18, 2004.

118. G.A. Holzapfel, M. Auer, F. Cacho, G. Franceschini, C.T. Gasser, D. Kioussis, G. Sommer and M. Stadler: Was kann die Ingenieurwissenschaft zur Verbesserung von therapeutischen Eingriffen an atherosklerotischen Blutgefäßen beitragen? Workshop: Zukunft durch Forschung – Forschung heißt Zukunft gestalten. Forum Technik und Gesellschaft an der Technischen Universität Graz, November 28, 2003 **(special invitation speaker)**.
119. G.A. Holzapfel, M. Stadler, M. Auer and T.C. Gasser: Effects of mechanical factors such as stent designs on the risk of restenosis after balloon angioplasty – A computational approach. World Congress on Medical Physics and Biomedical Engineering (WC2003). Mini-Symposium on “Vascular Mechanics”, Sydney Convention & Exhibition Centre, Sydney, Australia, August 24-29, 2003.
120. F. Cacho, M. Doblare, T.C. Gasser and G.A. Holzapfel: A structural model for arterial walls incorporating the statistical distribution of collagen fiber directions. 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center. Mini-Symposium on “Physical and Computational Modeling of Biological Tissues”, Albuquerque, New Mexico, July 27-31, 2003.
121. T.C. Gasser and G.A. Holzapfel: Delamination modeling of biological soft tissues using PUFEM. 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center. Mini-Symposium on “Physical and Computational Modeling of Biological Tissues”, Albuquerque, New Mexico, July 27-31, 2003.
122. G.A. Holzapfel, M. Stadler and M. Auer: Progress towards patient-specific computational modeling of balloon angioplasty using magnetic resonance imaging. 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center. Mini-Symposium on “Computational Modeling in Cardiovascular Mechanics”, Albuquerque, New Mexico, July 27-31, 2003 **(special invitation speaker)**.
123. M. Stadler, G.A. Holzapfel: Subdivision schemes for the parameterization of contact surfaces with arbitrary mesh topology. 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center. Mini-Symposium on “Computational Contact Mechanics”, Albuquerque, New Mexico, July 27-31, 2003.
124. C.A.J. Schulze-Bauer, G. Sommer, M. Rappolt, H. Amenitsch, P. Laggner and G.A. Holzapfel: Layer and age specific tensile testing of human aortas: A small angle x-ray scattering study. 2nd International Conference on Materials for Advanced Technologies (ICMAT) & IUMRS-ICA 2003, Symposium J – Synchrotron Radiation for Advanced Materials Analysis and Processing, Suntec Singapore International Convention & Exhibition Centre, Singapore, 29 June- 4 July, 2003.
125. G.A. Holzapfel: Why do we need more insights in the biomechanics of diseased arteries? Clifford Lectures and Conference on the topic of “Theoretical Fluid Mechanics in Biology”, Tulane University, USA, March 23-27, 2003 **(special invitation speaker)**.
126. G.A. Holzapfel: FE-Analyse von Arterienwänden und vaskulären Implantaten. Workshop bei SULZER Innotec – Sulzer Markets and Technology AG, Winterthur, Schweiz, March 11, 2003 **(special invitation speaker)**.

127. P.J. Elbischger, H. Bischof and G.A. Holzapfel: Robust Segmentation of Homogeneously Oriented Fibrils in Microscopic Biological Soft Tissue Images. 8th Computer Vision Winter Workshop 2003 (Computer Vision – CVWW'03). Valtice, Czech Republic, February 3-6, 2003.
128. G.A. Holzapfel: Biomechanics of diseased Arteries. JSME BE 2003 – Annual Conference of the Japanese Society of Mechanical Engineers, Biomechanical Engineering, Convention Center of Osaka University, Osaka, Japan, January 21-22, 2003 **(plenary speaker)**.
129. G.A. Holzapfel: Biomechanics and Modeling in Mechanobiology: An Essential Requirement for the Future Direction in Biomedicine and Engineering. Annual Spanish Congress on Biomedical Engineering (XX Congreso Anual de la Sociedad Española de Ingeniería Biomédica), Universidad de Zaragoza, Centro Politécnico Superior, Spain, November 27-29, 2002 **(plenary speaker)**.
130. G.A. Holzapfel and T.C. Gasser: Discontinuous FE modeling of interface delamination in composites: Application to diseased arteries. Annual Conference on the “Analyses of Structures by means of the Finite Element Method”, Prague, Czech Republic, November 14, 2002 **(plenary speaker)**.
Abstract published in *Výpočty konstrukci metodou konečných prvků*, Eds.: J. Plešek and D. Gabriel, p.13.
131. G.A. Holzapfel, T.C. Gasser and C.A.J. Schulze-Bauer: Can we identify vulnerable plaques and the location of plaque rupture with numerical methods? SES 2002 – 39th Annual Technical Meeting Society of Engineering Science. Mini-Symposium on “Active and Passive Models of Biological Tissue and Functional Engineered Tissue”, Penn State University, University Park, State College, Pennsylvania, USA, October 13-16, 2002 **(special invitation speaker)**.
132. M. Auer, C.A.J. Schulze-Bauer, R. Stollberger, P. Regitnig, F. Ebner and G.A. Holzapfel. Extracting morphology models of atherosclerotic arteries from MR images. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.
133. T.C. Gasser and G.A. Holzapfel: Delamination analysis of arteries by means of discontinuous FE-modeling. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.
134. G.A. Holzapfel, M. Stadler and C.A.J. Schulze-Bauer: Soft Tissue Biomechanics: A necessity for future directions in engineering and medicine. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002 **(keynote speaker)**.
135. C.A.J. Schulze-Bauer, M. Auer and G.A. Holzapfel: Layer-specific residual deformations of aged human aortas. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.
136. C.A.J. Schulze-Bauer, P. Regitnig and G.A. Holzapfel: Mechanics of the human adventitia. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.

137. M. Stadler and G.A. Holzapfel. A novel approach for smooth contact surfaces using NURBS: application to the FE simulation of stenting. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.
138. G.A. Holzapfel and T.C. Gasser: On the mathematical modeling of three-dimensional delamination processes of laminated composites. IUTAM Symposium on Complementary-Dual Variational Principles in Nonlinear Mechanics (Duality-Complementarity-Symmetry in Nonlinear Mechanics), Shanghai University, Shanghai, China, August 13-16, 2002.
139. N. Böck and G.A. Holzapfel: A large strain continuum and numerical model of transformation induced plasticity. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002.
140. R. Eberlein, G.A. Holzapfel and C.A.J. Schulze-Bauer: Assessment of a spinal implant by means of accurate FE modeling of intact human intervertebral discs. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002.
141. T.C. Gasser and G.A. Holzapfel: Failure analysis of arteries by means of discontinuous FE Modeling. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002.
142. G.A. Holzapfel, M. Auer, C.T. Gasser, C.A.J. Schulze-Bauer and M. Stadler: Computational mechanics of diseased arteries – MR imaging and layer-specific 3D modeling. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002 (special invitation speaker).
143. G.A. Holzapfel and T.C. Gasser: A model for the viscoelastic behavior of fiber-reinforced rubber. Constitutive formulation and FE realization. Workshop on inelasticity and viscoelasticity of rubber: from theory to applications, Vienna, Austria, July 18–19, 2002 (special invitation speaker).
144. M. Stadler and G.A. Holzapfel: NURBS-based smooth surface contact for the numerical simulation of balloon angioplasty. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002.
145. C.A.J. Schulze-Bauer, M. Auer, R. Stollberger, P. Regitnig, M. Sonka and G.A. Holzapfel: Assessment of plaque stability by means of high-resolution MRI and finite element analyses of local stresses and strains. 2002 IEEE International Symposium on Biomedical Imaging - Macro to Nano, Washington, USA, July 7-10, 2002.
146. G.A. Holzapfel, M. Stadler and C.A.J. Schulze-Bauer: Balloon angioplasty and stenting: MR imaging, mechanical testing and computation. 4th International Congress of Pathophysiology, Budapest, Hungary, June 29 – July 5, 2002, Abstract published in Acta Physiologica Hungarica, **89(1-3)**, p. 85 (special invitation speaker).
147. C.A.J. Schulze-Bauer, G.A. Holzapfel, M. Auer, T.C. Gasser and M. Stadler: Quantification of the mechanical environment of stenotic arteries. 4th International Congress of Pathophysiology, Budapest, Hungary, June 29 – July 5, 2002, Abstract published in Acta Physiologica Hungarica, **89(1-3)**, p. 148 (special invitation speaker).

148. C.A.J. Schulze-Bauer, H. Amenitsch and G.A. Holzapfel: SAXS investigation of layer-specific collagen structures in human aortas during tensile testing. European Materials Research Society (E-MRS) Spring Meeting 2002, Synchrotron Radiation and Materials Science (Symposium I), Strasbourg, France, June 18-21, 2002.
149. G.A. Holzapfel: Finite element simulation of diseased arteries: State-of-the-art and perspectives. Advanced School and Workshop on “Mathematical and Computational Modeling of Biological Systems” at the Instituto Superior Técnico, Lisbon, Portugal, June 17-21, 2002.
150. G.A. Holzapfel: Calcification of the Vessel in the Computer. ScienceWeek @ Austria, Highlights of Austrian’s Research, Vienna, Austria, June 8-9, 2002.
151. M. Sonka, D.R. Thedens, C. Schulze-Bauer, G.A. Holzapfel, R. Stollberger, L. Bolinger and A. Wahle: Towards MR assessment of plaque vulnerability: image acquisition and segmentation. In: 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, (Berkeley, CA), p. 1570, ISMRM, 2002.
152. G.A. Holzapfel: To increase impact – biomechanics needs to pay more attention to medicine and biology. BioNet - Biomechanics in the Decade of the Bone & Joint, Brussels, April 27-29, 2002.
153. G.A. Holzapfel: Layer-specific 3D modeling of diseased human arteries based on MR imaging. International Workshop on: Cardiovascular System: from Mathematical Modelling to Clinical Applications, Milan, Italy, March 6-8, 2002 (**special invitation speaker**).
154. G.A. Holzapfel, T.C. Gasser and C.A.J. Schulze-Bauer: A three-dimensional finite element model for arterial clamping. 5th International Symposium on Computational Methods in Biomechanics and Biomedical Engineering, Rome, Italy, October 31 – November 3, 2001.
155. G.A. Holzapfel: Numerische Simulation von Bandscheiben: Ein vielversprechender Weg in der Orthopädie. 2. Bochumer Biomechanisches Symposium, Ruhr-Universität-Bochum, Germany, October 27, 2001 (**special invitation speaker**).
156. G.A. Holzapfel, T.C. Gasser and R.W. Ogden: A new constitutive framework for arterial wall mechanics and a comparative study of material models. EUROMECH Colloquium 430, Formulations and Constitutive Laws for Very Large Strains, Prague, Czech Republic, October 3-5, 2001.
157. T.C. Gasser and G.A. Holzapfel: A structural model for the viscoelastic behavior of soft tissues. EUROMECH Colloquium 430, Formulations and Constitutive Laws for Very Large Strains, Prague, Czech Republic, October 3-5, 2001.
158. G.A. Holzapfel, M. Auer and C. Schulze-Bauer: Cardiovascular solid mechanics – a multidisciplinary topic. 15th AIMETA (Italian Association of Theoretical and Applied Mechanics), Taormina, Mini-Symposium of Biomechanics, September 26-29, 2001 (**special invitation speaker**).

159. G. Feigl, C.A.J. Schulze-Bauer and G.A. Holzapfel: Regional variation of mechanical properties of the human annulus fibrosus. 6th Congress of the EACA, Montpellier, France, September 13-15, 2001.
160. G.A. Holzapfel and T.C. Gasser: A structural elastoplastic model for the large-strain behavior of biological soft tissues: Continuum formulation and numerical approximation. IUTAM Symposium on Computational Mechanics of Solid Materials at Large Strains, University of Stuttgart, Germany, August 20-24, 2001.
161. T.C. Gasser and G.A. Holzapfel: Numerical representation of an elastoplastic material model for arterial walls. 6th U.S. National Congress on Computational Mechanics, Dearborn, Michigan, August 1-4, 2001.
162. R. Eberlein, G.A. Holzapfel and C.A.J. Schulze-Bauer: Accurate FE modeling of human annulus tissue for refined spinal implant design. International Society of Biomechanics, 18th Congress, Zurich, Switzerland, July 8-13, 2001.
163. C.A.J. Schulze-Bauer, G.A. Holzapfel and C. Mörth: Mechanical response of human iliac arteries. International Society of Biomechanics, 18th Congress, Zurich, Switzerland, July 8-13, 2001.
164. G.A. Holzapfel, C.A.J. Schulze-Bauer and M. Stadler: Balloon Angioplasty: Mechanical, numerical and clinical aspects. ASME 2001 Summer Bioengineering Conference, Snowbird, Utah, June 27-July 1, 2001.
165. T.C. Gasser and G.A. Holzapfel: A finite elasto-plastic material model for biological soft tissues. 2nd European Conference on Computational Mechanics, Cracow, Poland, June 26-29, 2001.
166. G.A. Holzapfel, C.T. Gasser, M. Stadler and C.A.J. Schulze-Bauer: Computational Biomechanics of Soft Tissue. 2nd European Conference on Computational Mechanics, Cracow, Poland, June 26-29, 2001 **(keynote speaker)**.
167. M. Stadler, C.A.J. Schulze-Bauer and G.A. Holzapfel: Numerical simulation of Balloon Angioplasty: Analysis and implications of wall stress distribution. 2nd European Conference on Computational Mechanics, Cracow, Poland, June 26-29, 2001.
168. G. Feigl, C.A.J. Schulze-Bauer and G.A. Holzapfel: Regional variation of fiber orientation in human lumbar annulus fibrosus. 17th Annual Meeting of the AACA, Nashville, Tennessee, USA, June 19-22, 2001.
169. G.A. Holzapfel: MRI-based computational modelling of stenotic human arteries: Concept and clinical perspectives. 3rd International Expert Workshop on Vascular Calcifications, Leucorea, Lutherstadt Wittenberg, June 14-15, 2001 **(special invitation speaker)**.
170. G.A. Holzapfel: Efficiency of a MRI-based computer model for the stented arterial wall. 3rd Symposium on Endocoronary Biomechanics and Restenosis, Marseilles, France, April 6, 2001 **(special invitation speaker)**.

171. G.A. Holzapfel, C.A.J. Schulze-Bauer and M. Stadler: Mechanics of Angioplasty: Wall, Balloon and Stent. ASME 2000 International Mechanical Engineering Congress & Exposition, Orlando, Florida, USA, November 5-10, 2000.
172. G.A. Holzapfel and T.C. Gasser: Finite element implementation of anisotropic continuum damage for finite elastic strains. 1st European Conference on Computational Mechanics, Munich, Germany, August 31-September 3, 1999.
173. G.A. Holzapfel, C.A.J. Schulze-Bauer and T.C. Gasser: Constitutive formulation and computational aspects of soft tissues. 5th U.S. National Congress on Computational Mechanics, University of Colorado at Boulder, USA, August 4-6, 1999 (special invitation speaker).
174. T.C. Gasser and G.A. Holzapfel: An anisotropic multi-surface damage model at large elastic strains and its numerical implementation. EUROMECH Colloquium 394, Theory and Numerics of Anisotropic Materials at Finite Strains, Graz, Austria, March 29-31, 1999.
175. T.C. Gasser and G.A. Holzapfel: A fibre-matrix model for arteries including viscous effects. 3rd World Congress of Biomechanics, Sapporo, Hokkaido, Japan, August 2-8, 1998.
176. G.A. Holzapfel, T.C. Gasser and C.A.J. Schulze-Bauer: Recent developments in the numerical characterization of arterial walls and angioplasty. 3rd World Congress of Biomechanics, Sapporo, Hokkaido, Japan, August 2-8, 1998.
177. G.A. Holzapfel: Recent developments in the numerical simulation of vascular walls and PTA. 4th U.S. National Cong. on Comput. Mech. – 2nd Memorial seminar for Juan C. Simo, San Francisco, CA, USA, August 6-8, 1997 (special invitation speaker).
178. G.A. Holzapfel: Balloon angioplasty - new computational trends. 1st Int. Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington DC, USA, June 6-9, 1997 (special invitation speaker).
179. G.A. Holzapfel, G.W. Desch and H.W. Weizsäcker: A computational approach in characterizing the biomechanical behavior of vascular walls. 1st Int. Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington DC, USA, June 6-9, 1997.
180. G.A. Holzapfel and T.C. Gasser: A micro-mechanical based constitutive model for vessel walls. 1st Int. Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington DC, USA, June 6-9, 1997.
181. G.A. Holzapfel, S. Reese, M. Schleich and P. Wriggers: A continuum damage model for arteries undergoing balloon angioplasty. 1st Int. Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington DC, USA, June 6-9, 1997.
182. G.A. Holzapfel: Computer simulation of PTA - a training tool for interventional physicians. Symposium on Surgery of Arteries in femoropopliteal regions, Ljubljana, Slovenia, April 10-12, 1997.

183. G.A. Holzapfel: Physical modeling and finite element analysis in finite elasticity. Annual Scientific Meeting of the Society of Applied Mathematics and Mechanics, University Regensburg, Regensburg, Germany, March 24-27, 1997 **(special invitation speaker)**.
184. G.A. Holzapfel: Finite element modelling in vascular mechanics. An application to balloon-angioplasty. Symposium on Continuum Mechanics in Cardiovascular Research, Graz, Austria, October 18, 1996.
185. G.A. Holzapfel: A continuum based framework for the Finite-Element analysis of proximal arteries. 9th International Conference on Mechanics and Biology, Ljubljana, Slovenia, June 30-July 4, 1996.
186. G.A. Holzapfel: A Mathematical Model for Highly Deformable, Thermoelastic Materials with Dissipation. Annual Scientific Meeting of the Society of Applied Mathematics and Mechanics, Charles University Prague, Prague, Czech Republic, May 27-31, 1996.
187. G.A. Holzapfel: Unconditionally stable staggered method for nonlinear thermoviscoelasticity. 3rd Int. Cong. on Indust. Appl. Math., Hamburg, Germany, July 3-7, 1995.
188. G.A. Holzapfel: On the coupled thermomechanical treatment of rubber-elasticity by an unconditionally stable fractional-step method. 3rd U.S. National Cong. on Comput. Mech. – Memorial seminar for Juan C. Simo, Dallas, Texas, USA, June 12-14, 1995 **(special invitation speaker)**.
189. G.A. Holzapfel: Tangent moduli for rubber-like materials. 23rd Midwestern Mechanics Conference, University of Nebraska-Lincoln, Lincoln, Nebraska, USA, October 10-13, 1993.
190. G.A. Holzapfel: Application of the two-dimensional hermitian finite-difference method to Reissner-Mindlin-theory of thin shell structures undergoing finite rotations. International Conference on Computational Engineering Science (ICES'91), Melbourne, Australia, August 12-16, 1991.
191. G.A. Holzapfel: Zur Berechnung von endlichen Rotationen schubelastischer Flächentragwerke mit dem Mehrstellenverfahren. Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Universität Hannover, Hannover, Germany, April 8-12, 1990.

Poster Presentations – (Extended) Abstracts:

192. M. Bauer, E. Mazza, M. Jabareen, L. Sultan, M. Bajka, U. Lang, R. Zimmermann, G.A. Holzapfel: In vivo biomechanical testing of the human uterine cervix in pregnancy using an aspiration device. 56th Annual Scientific Meeting of the Society for Gynecologic Investigation. Glasgow, Scotland, March 17 – 21, 2009. Abstract published in Reproductive Sciences, **16 (Supplement)**, March 2009, 197A.
193. T. Eriksson, G. Plank and G.A. Holzapfel: Constitutive models describing the mechanics of the heart. Third Viennese Symposium on Biomaterials. Vienna, Austria, November 19 – 21, 2008.

194. J.H. Tong, P. Regitnig and G.A. Holzapfel: Dissection properties and mechanical strength of tissue components in human carotid bifurcations. Third Viennese Symposium on Biomaterials. Vienna, Austria, November 19 – 21, 2008.
195. S. Murtada, M. Kroon and G.A. Holzapfel: Mechanical modeling of calcium activated contraction of smooth muscle cells. IUTAM Symposium on "Cellular, Molecular and Tissue Mechanics", Woods Hole, Cape Cod, Massachusetts, USA, June 18-21, 2008.
196. M. Kroon and G.A. Holzapfel: Estimation of elastic properties of cerebral aneurysms by inverse analysis. @neurIST Symposium, Barcelona, Spain, September 13, 2007.
197. F. Schmid, H. Amenitsch, G. Sommer, M. Rappolt, P. Regitnig, P. Laggner and G.A. Holzapfel: Biomechanics of human arteries studied with small angle x-ray scattering. European Materials Research Society Spring Meeting, E-MRS 2005 SPRING MEETING – Synchrotron Radiation and Materials Science (Symposium O), Strasbourg, France, May 31 - June 3, 2005.
198. D. Laroche, S. Delorme, J. Buithieu, G.A. Holzapfel and R. DiRaddo: Computer tools for improving balloon angioplasty and stenting. International New Cardiovascular Technologies Congress – INCTC, Quebec City Hilton Hotel, September 10-11, 2004.
199. S. Delorme, D. Laroche, G.A. Holzapfel, M. Stadler, J. Buithieu and R. DiRaddo: Finite element simulation of stent implantation in a multi-layer artery model. 13th Biennial Conference for the Canadian Society for Biomechanics (CSB), Halifax, Nova Scotia, Canada, August 4-7, 2004.
200. M. Auer, R. Stollberger, P. Regitnig, F. Ebner and G.A. Holzapfel: MRI-based morphological 3D reconstruction of atherosclerotic lesions. IUTAM-Symposium on Mechanics of Biological Tissue, Graz, Austria, June 27-July 2, 2004.
201. F. Cacho, P.J. Elbischger, M. Doblaré, T.C. Gasser and G.A. Holzapfel: From image data to numerical simulation: a constitutive model for arterial walls considering statistical fiber distribution. IUTAM-Symposium on Mechanics of Biological Tissue, Graz, Austria, June 27-July 2, 2004.
202. S. Delorme, D. Laroche, R. DiRaddo, J. Buithieu, M. Stadler and G.A. Holzapfel: Interaction of the deployment system and arterial wall during balloon angioplasty. IUTAM-Symposium on Mechanics of Biological Tissue, Graz, Austria, June 27-July 2, 2004.
203. M. Auer, R. Stollberger, P. Regitnig, G.A. Holzapfel and F. Ebner: Generation of Morphological models of atherosclerotic arteries from high resolution MR images. International Society for Magnetic Resonance in Medicine (ISMRM), 12th Scientific Meeting and Exhibition in Kyoto, Japan. May 15-21, 2004 (published in the Proc. Intl. Soc. Mag. Reson. Med. 11 (2004), p. 1921, ISSN 1545 4436).
204. F. Yang, D. Thedens, L. Bolinger, G.A. Holzapfel, C.A.J. Schulze-Bauer, R. Stollberger and M. Sonka: Vascular MR segmentation: Wall and plaque. Medical Imaging 2003, San Diego, California, USA, February 15-20, 2003.
205. C.A.J. Schulze-Bauer, P. Regitnig and G.A. Holzapfel: Mechanics of the human adventitia. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.

206. M. Stadler and G.A. Holzapfel: A novel approach for smooth contact surfaces using NURBS: application to the FE simulation of stenting. 13th Conference of the European Society of Biomechanics, Wrocław, Poland, September 1-4, 2002.
207. G.A. Holzapfel, M. Auer, C.T. Gasser, C.A.J. Schulze-Bauer and M. Stadler: Numerical simulation of balloon angioplasty. BioNet – Biomechanics in the Decade of the Bone & Joint, Brussels, April 27-29, 2002.
208. G.A. Holzapfel, C.A.J. Schulze-Bauer, T.C. Gasser, R. Eberlein and M. Fröhlich: Extensibility and anisotropic material model of single annulus lamellae in extension experiments. International Society of Biomechanics, 18th Congress, Zurich, Switzerland, July 8-13, 2001.
209. C.A.J. Schulze-Bauer, T.C. Gasser and G.A. Holzapfel: Experimental multiaxial investigation and numerical fibre-matrix modelling of human iliac arteries. EUROMECH Colloquium 389, Physiological Flows and Flow-Structure Interactions, Graz, Austria, April 20-24, 1999.

Invited Lectures/Seminars at Universities

1. RWTH Aachen University, Germany. May 17, 2010
(invited by Professor Marek Behr, Ph.D., Chair for Computational Analysis of Technical Systems, Center for Computational Engineering Science).
2. University Duisburg-Essen, Germany. February 5, 2010
(invited by Professor Axel Klawonn, Ph.D., Department of Mathematics).
3. Cambridge University, Cambridge, England. March 14, 2008
(invited by Michelle L. Oyen, Ph.D., Engineering Department).
4. University of Ghent, Belgium. March 3, 2008
(invited by Professor P. Verdonck, Ph.D., Institute for Biomedical Technology, Hydraulics Laboratory).
5. University of Glasgow, Glasgow, Scotland. November 16, 2006
(invited by Professor R.W. Ogden, Ph.D., Department of Mathematics).
6. Tallinn University of Technology, Estonia. October 9-10, 2006
(invited by Professor Jüri Engelbrecht, D.Sc., President of ALL European Academies (ALLEA), Tallinn University of Technology, Estonia).
7. Faculty of Science, University of Cape Town, South Africa
November 26-December 4, 2005
(invited by Professor Daya D. Reddy, Ph.D. – Department of Mathematics and Applied Mathematics; and Professor Peter Zilla, MD, PhD – successor of Christiaan Barnard; Head/Chairman of Cardiothoracic Surgery at the University of Cape Town, Groote Schuur Hospital and Red Cross Childrens Hospital).
8. Delft University of Technology, Faculty of Civil Engineering and Geosciences, The Netherlands. May 3, 2005
(invited by Professor Garth N. Wells, Ph.D.).
9. National Centre for Biomedical Engineering Science, National University of Ireland, Galway, Ireland. May 6, 2004
(invited by Professor Peter McHugh, Ph.D., Director of the Micromechanics Research Unit, and Research Director, National Centre for Biomedical Engineering Science).
10. University of Kaiserslautern, Chair of Applied Mechanics, Kaiserslautern, Germany. May 5, 2004
(invited by Professor Paul Steinmann, Ph.D., Head of Applied Mechanics).
11. KTH - Department of Solid Mechanics, Stockholm, Sweden. April 20, 2004
(invited by Professor Peter Gudmundson, Ph.D., Head of Department).

12. Chalmers University of Technology, Department of Applied Mechanics, Göteborg, Sweden. December 18, 2003
(invited by Professor Peter Olsson, Ph.D. and M. Enelund, Ph.D.).
13. Delft University of Technology, Department of Mechanical Engineering, Man Machine Systems, The Netherlands. May 27, 2003
(invited by Professor Peter V. Pistecky, Ph.D.).
14. LEMTA ENSEM, Vandœuvre-lès-Nancy, France. May 12, 2003
(invited by Professor Jean-François Ganghoffer, Ph.D.).
15. UPC-Barcelona, Department of Civil Engineering and CIMNE, Spain. April 25 and May 6, 2003
(invited by Professor Eugenio Oñate, Ph.D.).
16. University of Tokyo, Institute of Industrial Science, Japan. January 20, 2003
(invited by Professor Marie Oshima, Ph.D.).
17. Dalian University of Technology, Department and Research Institute of Engineering Mechanics, State Key Laboratory of Structural Analysis for Industrial Equipment, Peoples Republic of China. August 10, 2002
(invited by Professor Yuanxian Gu, Ph.D., Head of the Department SAOCS – Structural Analysis, Optimization and CAE/CAD Section).
18. Munich University of Technology, Department of Mechanical Engineering, Germany. May 14, 2002
(invited by Professor Horst Baier, Ph.D., Head of the Institute for Light Weight Structures).
19. Munich University of Technology, Department of Civil Engineering, Germany. May 13, 2002
(invited by Professor Kai-Uwe Bletzinger, Ph.D., Head of the Institute for Statics).
20. Darmstadt University of Technology, Department of Mechanics, Germany. April 17, 2002
(invited by Professor K. Hutter, Ph.D.).
21. Vienna University of Technology, Department of Mechanical Engineering, Austria. March 7, 2002
(invited by Professor P. Lugner, Ph.D., Head of the Institute for Mechanics).
22. Stuttgart University of Technology, Lecture Series of the Institute for Mechanics, Germany. January 22, 2002
(invited by Professor W. Ehlers, Ph.D., Head of the Institute for Mechanics – Civil Engineering).
23. University of Kassel, Germany. October 18, 2001
(invited by Professor H. Irretier, Ph.D., Director of Mechanics, Department of Mechanical Engineering).
24. Ruhr-Universität Bochum, Colloquium in Mechanics Bochum-Dortmund, Germany. February 9, 2001
(invited by Professor K. Hackl, Ph.D., Head of the Institute für Mechanics).
25. Stuttgart University of Technology, Lecture Series of the Institute for Structural Analysis, Germany. February 8, 2001
(invited by Professor E. Ramm, Ph.D., Head of the Institute for Structural Analysis).
26. Brigham and Women's Hospital, Boston, USA. November 15, 2000
(invited by Professor Jeffrey J. Popma, MD, Director, Interventional Cardiology, Division of Cardiovascular Medicine).
27. Georgia Institute of Technology, Atlanta, USA. November 14, 2000
(invited by David N. Ku, Ph.D., MD, Professor of Mechanical Engineering and Surgery, School of Mechanical Engineering and Emory University).
28. Florida International University, Miami, USA. November 13, 2000
(invited by Professor R.T. Schoephoerster, Ph.D., Director of the Biomedical Engineering Institute, and by Professor J.M. Moore, Jr, Ph.D., Mechanical Engineering Department).

29. The University of Iowa, Iowa City, USA. August 31, 2000
(invited by Professor M. Sonka, Ph.D., Department of Electrical and Computer Engineering, College of Engineering).
30. Politecnico di Milano, Milano, Italy. September 13, 2000
(invited by Professor R. Pietrabissa, Ph.D., Head of the Laboratory of Biological Structure Mechanics, Dipartimento di Bioingegneria).
31. Università di Pavia, Pavia, Italy. September 12, 2000
(invited by Professor F. Auricchio, Ph.D., Dipartimento di Meccanica Strutturale, Pavia, Italy).
32. Università degli studi di Trento, Trento, Italy. September 11, 2000
(invited by Professor Novati, Ph.D., Dipartimento di Meccanica Strutturale, Trento, Italy).
33. University of Hannover, Germany. February 15, 2000
(invited by Professor P. Wriggers, Ph.D., Director of the Institute of Mechanics and Computational Mechanics).
34. University of Glasgow, Glasgow, Scotland. February 11, 2000
(invited by Professor R.W. Ogden, Ph.D., Department of Mathematics).
35. Vienna University of Technology, Austria. February 2, 2000
(invited by Professor P. Lugner, Ph.D., Head of the Institute for Mechanics).
36. Karl-Franzens Universität Graz, Austria. June 25, 1996
(invited by Professor Dr.h.c. T. Kenner, MD, Head of the Institute for Physiology).
37. Darmstadt University of Technology, Department of Mechanics, Germany. May 3, 1995
(invited by Professor P. Wriggers, Ph.D., Head of the Institute for Mechanics).
38. University of Stanford, Department of Mechanical Engineering, Division of Applied Mechanics, Department of Aeronautics & Astronautics, Department of Civil Engineering, Stanford, CA, USA, Seminar in Solid Mechanics. February 9, 1995
(invited by Professor Charles R. Steele, Ph.D.).
39. University of Stanford, Department of Applied Mathematics, Stanford, CA, USA, Seminar in Scientific Computing and Computational Mathematics. May 16, 1994
(invited by Professor Andrew Stewart, Ph.D.).
40. College of Engineering & Mines, Department of Aerospace & Mechanical Engineering, Seminar in Mechanics, Tucson, Arizona, USA. October 22, 1993
(invited by Professor A. Chandra, Ph.D.).
41. Iowa State University, Aerospace Engineering & Engineering Mechanics, Seminar in Mechanics, Ames, Iowa State, USA. October 14, 1993
(invited by Professor Thomas Rudolph, Ph.D.).
42. University of Stanford, Department of Mechanical Engineering, Division of Applied Mechanics, Department of Aeronautics & Astronautics, Department of Civil Engineering, Stanford, CA, USA, Seminar in Solid Mechanics. April 1, 1993
(invited by Professor Juan C. Simo, Ph.D.).
43. Technical University Berlin, Germany. January 1991
(invited by Professor Schoop, Ph.D., Head of the Institute for Mechanics).

Research Grants

- 2010 – 2012 *“Smart Catheterization: Towards sustainable and personalised healthcare (SCATH)”* (Co-Investigator), an integrated EU Project: Call Identifier FP7-ICT-2009-4.
Coordinator:
Jos Vander Sloten, Katholieke Universiteit Leuven, Division of Biomechanics and Engineering Design, Belgium
- 2009 – 2012 *“Biomechanical simulation of evolving aortic aneurysms for designing intervention”* (Co-Investigator), National Institutes of Health, USA.
NIH grant HL-86418 via Collaborations with National Centers for Biomedical Computing (SimBios at Stanford University).
Principal Investigator:
Jay D. Humphrey, Department of Biomedical Engineering, Texas A&M University, USA
- 2008 – 2010 Royal Society International Project Grant for research collaboration with Professor Ray W. Ogden, University of Glasgow, UK. Austria-UK project grant.
- 2008 – 2010 *“Biomechanical and pharmacokinetic effects of drug-eluting stents. A computational study”* (Principal Investigator), granted by the “Swedish Research Council (VR)”
- 2008 Carnegie Trust Grant for research collaboration with Professor Ray W. Ogden, University of Glasgow, UK
- 2007 – 2009 *“Integrated biomedical informatics for the management of cerebral aneurysms (@neurIST)”* (Co-Investigator), an integrated EU Project: Call Identifier FP6-2004-IST-4.
Coordinator:
Alejandro Frangi, Computational Imaging Lab, Department of Technology, Pompeu Fabra University, Barcelona, Spain
- 2006 – 2008 *“Non-linear physical and computational analyses of soft biological tissues: A microstructural approach”* (Principal Investigator), granted by the “Swedish Research Council (VR)”
- 2005 – 2008 *“Visualization of biomechanical properties of articular cartilage in the knee and ankle joint by means of multi-parametric MR imaging”* (Co-Investigator), granted by the “FWF Austrian Science Fund”.
- 2005 – 2007 *“Grid based decision support system for assisting clinical diagnosis and interventions in cardiovascular problems (DISHEART)”* (Co-Investigator), a cooperative EU Project: Call Identifier: FP6-2002-SME-1.
Coordinator:
Eugenio Oñate, CIMNE, Barcelona, Spain
- 2003 – 2005 *“Computer vision based analysis of collagen organization in human arteries”* (Co-Investigator), granted by the “Austrian Academy of Sciences (ÖAW)” (together with Professor Horst Bischof and Pierre Elbischger, Computer Graphics and Vision, Graz University of Technology, Austria).
- 2002 – 2004 *“Arterial tissue biomechanics”*, granted by “The Royal Society”: Reference No: 14467, Royal Society International Joint Project for research collaboration with Professor Ray W. Ogden, University of Glasgow, UK. Austria-UK project grant.

- 2001 – 2003 *“High-Resolution Magnetic Resonance Imaging of Human Atherosclerotic Arteries with Three-Dimensional Characterization of Wall and Plaque Components”* (Principal Investigator), granted by the “Jubiläumsfonds der Österreichischen Nationalbank”.
- 2001 – 2002 *“Implementation of a constitutive model for transformation induced plasticity (TRIP)”* (Principal Investigator), granted by the “Österreichischer Akademischer Austauschdienst, Wien” (together with the Academy of Sciences of the Czech Republic).
- 2001 – 2002 *“FE modeling of intravascular stents”* (Principal Investigator), granted by the “Österreichischer Akademischer Austauschdienst, Wien” (together with the Academy of Sciences of the Czech Republic).
- 2001 – 2002 *“Automatic 3D-Segmentation of High Resolution MRI of Atherosclerotic Arteries”* (Principal Investigator), granted by the “State of Styria”.
- 1999 – 2000 *“Experimental Investigations of Human Intervertebral Discs”* (Principal Investigator), granted by “Sulzer Innotec, Sulzer Markets and Technology Ltd.”, Wintherthur, Switzerland.
- 1998 – 2004 START-Award 1997: *“Physical Modeling and Computer Simulation of Balloon Angioplasty”* (Principal Investigator), granted by the “FWF Austrian Science Fund”.
- 1997 – 1999 *“Finite Element Modeling of Atherosclerotic Arteries”* (Principal Investigator), granted by the “FWF Austrian Science Fund”.
- 1995 *“A General Concept for the Numerical Simulation of Complex Constitutive Structures Undergoing Finite Deformations”* (Erwin Schrödinger Scholarship for foreign countries), granted by the “FWF Austrian Science Fund”.
- 1994 *“Thermomechanical Treatment of Three-Dimensional Continua with Finite Elements”* (Erwin Schrödinger Scholarship for foreign countries), granted by the “FWF Austrian Science Fund”.

Service to the Scientific Community

- Organizer and Chairman of Symposia
 1. Organizer and Chairman of the 8th European Solid Mechanics Conference (ESMC2012), Graz, Austria, July 9-12, 2012.
 2. Co-organizer and co-chairman of the IUTAM Symposium (International Union of Theoretical and Applied Mechanics) on “Computer Models in Biomechanics: From Nano to macro”, Stanford University, USA, 2011 (together with Professor Ellen Kuhl, Stanford University, USA).
 3. Co-organizer and co-chairman of the 82nd Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Graz University of Technology, Austria, April 18-22, 2011 (together with Professors G. Brenn, M. Schanz, O. Steinbach, Graz University of Technology, Austria).
www.gamm2011.tugraz.at
 4. Co-Organizer of Short Communications on “Biomechanics” at the 82nd Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Graz, Austria, April 18-22, 2011 (together with Professor W. Ehlers, Technische Universität Stuttgart, Germany).
www.gamm2011.tugraz.at

5. Coordinator of the Summer School on “Modeling in Biomechanics and Mechanobiology at different length scales”, Graz, Austria, July 5-9, 2010 (together with Professor R.W. Ogden, Glasgow, UK).
www.biomech.tugraz.at/summerschool-2010
6. Co-organizer and co-chairman of the Mini-Symposium on “Material Modeling in Soft Tissue Biomechanics” at the 1st International Conference on Material Modeling, Dortmund, Germany, September 15-17, 2009 (together with Professor W. Ehlers, Stuttgart, Germany).
www.icmm1.de
7. Co-organizer and co-chairman of the Mini-Symposium on “Modeling of Biological Materials” at the 7th European Solid Mechanics Conference (ESMC2009), Lisbon, Portugal, September 7-11, 2009 (together with Professors Markus Böhl, TU Braunschweig, Germany and Stéphane P.A. Bordas, University of Glasgow, UK).
www.dem.ist.utl.pt/esmc2009
8. Organizer and Chairman of the Mini-Symposium on “Computational Methods in Biomechanics and Mechanobiology” at the International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS X), Barcelona, Spain, September 2-4, 2009.
<http://congress.cimne.upc.es/complas09>
9. Co-organizer and co-chairman of the Workshop on “Biomedical and Pharmaceutical Engineering – Key Technologies of the 21st Century” at the European Forum Alpbach – Technology Forum, Alpbach, Austria, August 27-29, 2009 (together with Professor Johannes G. Khinast, TU Graz, Austria).
www.alpbach.org/index.php?id=737
10. Co-organizer and co-chairman of the Mini-Symposium on “Biomechanics” at the 8th European Conference on Numerical Mathematics and Advanced Applications (ENUMATH 2009), Uppsala, Sweden, June 29-July 3, 2009 (together with Professor Axel Klawonn, University Duisburg-Essen, Germany).
www-conference.slu.se/enumath2009/minisymposia.html
11. Co-organizer and co-chairman of the Mini-Symposium on “Arterial Wall Mechanics and Hemodynamics” at the 1st International Conference on Computational & Mathematical Biomedical Engineering (CMBE), Swansea, UK, June 29-July 1, 2009 (together with Professors Jay D. Humphrey, Texas A&M and Charles A. Taylor, Stanford University, USA).
www.compbiomed.net/
12. Coordinator of the Summer School on “Modeling and Computation in Biomechanics”, Graz, Austria, September 15-19, 2008 (together with Professor R.W. Ogden, Glasgow, UK); 87 participants from 24 Nations.
www.biomech.tugraz.at/summerschool
13. Co-organizer and co-chairman of the Mini-Symposium on “Computational Modeling in Cardiovascular Mechanics” at the 2008 World Congress on Computational Mechanics (WCCM), Venice, Italy, June 30-July 4, 2008 (together with Professors Jay D. Humphrey, Texas A&M, Charles A. Taylor, Stanford University and David A. Vorp, University of Pittsburgh, USA).
www.iacm-eccomascongress2008.org/frontal/
14. Co-Organizer of Short Communications on “Biomechanics” at the 79th Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM),

Bremen, Germany, March 31-April 4, 2008 (together with Professor Stefanie Reese, Technische Universität Braunschweig, Germany).
www.zarm.uni-bremen.de/gamm2008

15. Co-organizer of the Conference on “Reproductive Bioengineering 2008”, Werns im Pitztal, Austria, April 1-5, 2008 (together with Ch. Brezinka, H. Fritsch, G.M. Pinggera, I. Virgolini and L. Wildt, University of Innsbruck, Austria).
www.congressinfo.net/bioeng/
16. Co-organizer and co-chairman of a set of lectures on “Tissue Mechanics – Fluid-Structure Interaction”, December 14, 2007, at the Workshop on “Biomechanics and Chemotaxis”, Linz, Austria, December 10-14, 2007 (together with Professor Ulrich Langer, Johannes Kepler University, Linz, Austria).
www.ricam.oeaw.ac.at/specsem/ssqbm/schedule/
17. Organizer and Chairman of the Mini-Symposium on “Computational Methods in Biomechanics and Mechanobiology” at the International Conference on Computational Plasticity IX. Fundamentals and Applications (COMPLAS 2007), Barcelona, Spain, September 5-7, 2007.
<http://congress.cimne.upc.es/complas07>
18. Co-organizer and co-chairman of the Mini-Symposium on “Computational Biomechanics: From Molecules to Organs” at the 9th US National Congress on Computational Mechanics (USNCCM9), San Francisco, July 22-26, 2007 (together with Professors Mohammad Reza Kaazempur Mofrad, Department of Bioengineering, University of California Berkeley, USA and Emad Tajkhorshid, Theoretical Biophysics Group, University of Illinois at Urbana-Champaign, USA).
www.me.berkeley.edu/compmat/USACM/main.html
19. Co-organizer and co-chairman of the Mini-Symposium on “Modeling the mechanics of the cardiovascular system” at the 6th International Congress on Industrial and Applied Mathematics (ICIAM), Zürich, Switzerland, July 16-20, 2007 (together with Dr. Joakim Sundnes, Simula Research Laboratory, Oslo, Norway).
www.iciam07.ch/index
20. Organizer and Chairman of the Mini-Symposium on “Evolving discontinuities in composite (bio)materials” at the “International Conference on Computational Fracture and Failure of Materials and Structures (ECCOMAS Thematic Conference), Ecole Centrale of Nantes, France, June 11-13, 2007.
www.ec-nantes.fr/cfrac
21. Coordinator of the 14th CISM-IUTAM Summer School on “Biomechanical Modelling at the Molecular, Cellular and Tissue Levels” at the International Centre for Mechanical Sciences (CISM) in Udine, Italy, September 11-15, 2006 (together with Professor R.W. Ogden, Glasgow, UK).
www.cism.it/cism/preliminary06.htm
22. Coordinator of Thread-1 on “Computational Methods in Biomechanics and Mechanobiology” at the “5th World Congress of Biomechanics”, Munich, Germany, July 29th – August 4th 2006.
www.wcb2006.org
23. Co-organizer and co-chairman of the Mini-Symposium on “Computational Modelling and Mechanobiology of Cells” at the “5th World Congress of Biomechanics”, Munich, Germany, July 29th – August 4th 2006 (together with Professor Dimitrije Stamenović, Boston University, USA).
www.wcb2006.org

24. Co-organizer and co-chairman of the Mini-Symposium on “Vascular Wall Mechanics” at the “5th World Congress of Biomechanics”, Munich, Germany, July 29th – August 4th 2006 (together with Professor Takeo Matsumoto, Nagoya Institute of Technology, Japan).
www.wcb2006.org
25. Co-organizer and co-chairman of the Workshop on “Biomechanics. An innovative area for present and future experimental and clinical applications”, KTH together with the Medical University (Karolinska Institute), Stockholm, Sweden, March 17, 2005 (together with H. von Holst and P. Gudmundson, Stockholm, Sweden).
26. Co-organizer and co-chairman of the Conference on “Advanced Numerical Analyses of Solids and Structures, and Beyond”, Graz, Austria, August 12-13, 2004 (together with W. Moser and G. Reichard, Graz, Austria).
27. Co-organizer and co-chairman of the IUTAM Symposium (International Union of Theoretical and Applied Mechanics) on the “Mechanics of Biological Tissue”, Graz, Austria, June 27 – July 2, 2004 (together with Professor Ray W. Ogden, Glasgow, UK).
www.cis.tugraz.at/biomech/IUTAM-2004.htm
28. Co-organizer and co-chairman of a set of lectures on “Biophysics, Biomechanics and Mechanobiology” at the workshop on “Physical Aspects of Multi-scale Modeling”, Bled, Slovenia, September 13-15, 2004 (together with Professor H. von Holst, Royal Institute of Technology (KTH), Sweden).
29. Organizer and Chairman of the Mini-Symposium on “Arterial Wall Mechanics” within the scientific topic: Cardiovascular and Biofluid Mechanics at the 14th European Society Biomechanics (ESB) conference, 's-Hertogenbosch, The Netherlands, July 4-7, 2004.
www.esb2004.tue.nl/
30. Co-organizer and co-chairman of the Mini-Symposium on “Modelling and Simulation” within Track 10: Cardiovascular Science and Engineering at the “World Congress on Medical Physics and Biomedical Engineering (WC2003)”, Sydney Convention & Exhibition Centre, Sydney, Australia, August 24-29, 2003 (together with Professor P. Verdonck, Ghent University, Belgium).
31. Co-organizer and co-chairman of the Mini-Symposium on “Physical and Computational Modeling of Biological Tissues” at the 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center, Albuquerque, New Mexico, July 27-31, 2003 (together with Professor J.D. Humphrey – Texas A&M University College Station, USA).
www.esc.sandia.gov/usnccm.html
32. Co-organizer and co-chairman of the Mini-Symposium on “Computational Modeling in Cardiovascular Mechanics” at the 7th U.S. National Congress on Computational Mechanics, Albuquerque Convention Center, Albuquerque, New Mexico, July 27-31, 2003 (together with Professor M. Oshima, University of Tokyo, Institute of Industrial Science, Japan; Professor J.D. Humphrey, Texas A&M Univ, College Station, USA).
www.esc.sandia.gov/usnccm.html
33. Co-organizer and co-chairman of the Mini-Symposium on “Computational Biomechanics of Hard and Soft Tissues” at the 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002 (together with Professor R. Huiskes, Eindhoven, The Netherlands).
wccm.tuwien.ac.at/
34. Co-organizer and co-chairman of the Mini-Symposium on “Angioplasty and Stents: Experiments, Computational and Clinical Aspects”, at the 4th International Congress of

Pathophysiology, Budapest, Hungary, June 29-July 5, 2002 (together with Dr. V. Bérczi, Budapest, Hungary).
isp2002.sote.hu/

35. Coordinator of the Advanced School on “Biomechanics of Soft Tissue” at the International Centre for Mechanical Sciences (CISM) in Udine, Italy, September 10-14, 2001 (together with Professor R.W. Ogden, Glasgow, UK).
www.cism.it/c2001/c05/index.htm
 36. Co-organizer and co-chairman of the Mini-Symposium on “Computational Biomechanics” at the 2nd European Conference on Computational Mechanics, Cracow, Poland, June 26-29, 2001 (together with Professor R. Bedzinski, Wrocław, Poland).
Topics: “Cardiovascular System”, “Soft Tissue Mechanics”, “Hard Tissue Mechanics”.
jinx.twins.pk.edu.pl/eccm/minisy.html
 37. Organizer and chairman of the Mini-Symposium on “Computational Biomechanics” at the 5th National Congress on Computational Mechanics, University of Colorado at Boulder, USA, August 4-6, 1999.
www.usacm.org/Congress5
 38. Co-organizer of the EUROMECH Colloquium 389, Physiological Flows and Flow-Structure Interactions, Graz, Austria, April 20-24, 1999 (together with Professors Perktold, Kenner, Florian, Weizsäcker and Leuprecht, Zierler, Graz, Austria).
 39. Organizer and chairman of the Mini-Symposium on “Finite Element Analysis of Vascular Wall Structures” at the 1st Int. Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington, DC, USA, June 6-9, 1997.
 40. Co-organizer and co-chairman of the Mini-Symposium on “New Trends in the Thermomechanics of Elastomeric Media” at the Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM), Regensburg, Germany, March 24-27, 1997 (together with Professor P. Haupt, Kassel, Germany).
 41. Co-Organizer and co-chairman of the Symposium on “Continuum Mechanics in Cardiovascular Research”, Graz, Austria, October 18, 1996 (together with Professor H.W. Weizsäcker, Graz, Austria).
- Member of Boards, Committees and Panels
1. *11th International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS X)*, Barcelona, Spain, September 7-9, 2011 (Technical Advisory Panel).
 2. *Fourth European Conference on Computational Mechanics. Solids, Structures and Coupled Problems in Engineering*, Paris, France, May 16-21, 2010 (International Advisory Board).
 3. *International Journal for Numerical Methods in Biomedical Engineering* (Editorial Board), 2010.
 4. *VIPIMAGE. II ECCOMAS Thematic Conference on “Computational Vision and medical Image Processing”* (ECCOMAS), Porto, Portugal, October 14-16, 2009 (Scientific Committee).
 5. *6th International Conference of the Croatian Society of Mechanics (ICCSM)*, Dubrovnik, Croatia, September 30 – October 2, 2009 (Scientific Committee).

6. *IV International Congress on Computational Bioengineering (ICCB2009) and the First European Symposium on Biomedical Integrative Research*, Bertinoro (Forli), Italy, September 16-18, 2009 (Scientific Committee).
7. *1st International Conference on Material Modeling*, Dortmund, Germany, September 15-17, 2009 (Scientific Committee).
8. *6th European Conference on Constitutive Models for Rubber (ECCMR)*, Dresden, Germany, September 7-10, 2009 (Scientific Panel).
9. *10th International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS X)*, Barcelona, Spain, September 2-4, 2009 (Technical Advisory Panel).
10. *1st International Conference on Computational & Mathematical Biomedical Engineering (CMBE)*, Swansea, UK, June 29-July 1, 2009 (Executive Committee).
11. *1st International Conference on Biodental Engineering*. Porto, Portugal, June 26-27, 2009 (Scientific Committee).
12. *Third Viennese Symposium on Biomaterials*. Vienna, Austria, November 19 – 21, 2008 (Program Committee).
13. *16th Congress of the European Society of Biomechanics*. Lucerne, Switzerland, July 6-9, 2008 (Scientific Review Board).
14. *IUTAM Symposium on "Cellular, Molecular and Tissue Mechanics"*, Woods Hole, Cape Cod, Massachusetts, USA, June 18-21, 2008 (Scientific Committee).
15. *Reproductive Bioengineering 2008*. Wens im Pitztal, Austria, April 1-5, 2008 (Local Organizing Committee and International Scientific Committee).
16. *Mechanics of microstructured solids: cellular materials, fibre reinforced solids and soft tissues*. EUROMECH-MECAMAT Conference No. 11, University of Torino, Italy, March 10-14, 2008 (Scientific Committee).
17. *VIPIMAGE. I ECCOMAS Thematic Conference on "Computational Vision and Medical Image Processing"* (ECCOMAS), Porto, Portugal, October 17-19, 2007 (Scientific Committee).
18. *III International Conference on Computational Bioengineering (ICCB2007)*, Island of Margarita, Venezuela, September 17-19, 2007 (Scientific Committee).
19. *International Conference on Computational Biomechanics and Biology (ICCB)*, Pilsen, Czech Republic, September 10-14, 2007 (Scientific Committee).
20. *9th International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS 2007)*, Barcelona, Spain, September 5-7, 2007 (Technical Advisory Panel).
21. *Fifth European Conference on Constitutive Models for Rubber (ECCMR 2007)*, Ecole Nationale Supérieure des Mines de Paris, France, September 4-7, 2007 (Scientific Panel).
22. *The Fourth IASTED International Conference on Biomechanics*, Honolulu, Hawaii, August 20-22, 2007 (International Program Committee).

23. *International Workshop on The Interplay Between Mechanics and Biology on Multiple Length Scales*, Castro Urdiales, Spain, July 1-4, 2007 (Scientific Committee).
24. *International Conference on Modelling of Heterogeneous Materials with Applications in Construction and Biomedical Engineering*, Prague, Czech Republic, June 25-27, 2007 (Technical Advisory Panel).
25. *International Conference on Computational Fracture and Failure of Materials and Structures (CFRAC)*, Ecole Centrale of Nantes, France, June 11-13, 2007 (Scientific Advisory Committee).
26. *Fourth International Conference on Functional Imaging and Modeling of the Heart (FIMH 2007)*. Spencer F. and Cleone P. Eccles Health Sciences Education Building, Salt Lake City, June 7-9, 2007 (Scientific Committee).
27. *Computational Modelling of Objects represented in Images. Fundamentals, Methods and Applications (CompIMAGE)*, Coimbra, Portugal, October 20-21, 2006 (Scientific Committee).
28. *International Conference on "New Trends in Biomechanical Modelling: from Molecular Statistics to Continuum Mechanics"*, hosted by the International Center of Mathematical Encounters, Castro Urdiales, Cantabria, Spain, September 25-29, 2006 (Scientific Committee).
29. Chair of the Working Party on Biomechanics (WP6) within IUTAM (International Union of Theoretical and Applied Mechanics), 7/06-pres.
30. *The Third IASTED International Conference on Biomechanics*, Palma de Mallorca, Spain, August 28-30, 2006 (International Program Committee).
31. *5th World Congress on Biomechanics*, Munich, Germany, July 29 – August 4, 2006 (Scientific Organizing Committee).
32. *III European Conference on Computational Mechanics. Solids, Structures and Coupled Problems in Engineering*, Lisbon, Portugal, June 5-9, 2006 (Scientific Committee).
33. STEP project funded by the European Commission. Brussels, May 15-16, 2006 and November 5-7, 2006 (Panel Member).
34. *Zeitschrift für Angewandte Mathematik und Mechanik* (Editorial Board), 2006-pres.
35. *International Journal for Computational Vision and Biomechanics (IJCV&B)* (Editorial Board), 2006-pres.
36. *ICCB2005 – II International Conference on Computational Bioengineering*, Lisbon, Portugal, September 14-16, 2005 (Scientific Committee).
37. *The Second IASTED International Conference on Biomechanics*, Benidorm, Spain, September 7-9, 2005 (International Program Committee).
38. *VIII International Conference on Computational Plasticity. Fundamentals and Applications (COMPLAS 2005)*, Barcelona, Spain, September 5-8, 2005 (Technical Advisory Panel).
39. *Fourth European Conference on Constitutive Models for Rubber (ECCMR 2005)*, Royal Institute of Technology (KTH), Stockholm, Sweden, June 27-29, 2005 (Scientific Panel).

40. *FIMH'2005 - Third International Conference on Functional Imaging and Modeling of the Heart*, Barcelona, June 2-4, 2005 (Scientific Committee).
 41. Member of the Scientific Council of the “Interdisziplinäres Zentrum für Klinische Forschung (IZKF) – Biomaterialien und Material-Gewebsinteraktion bei Implantaten (BIOMAT.)“, Universitätsklinikum der RWTH Aachen, 2005-pres.
www.ukaachen.de/content/page/2376179
Meetings in Aachen, Germany, March 2-4, 2005 and March 10-11, 2008.
 42. *The 14th European Society of Biomechanics (ESB) conference*, 's-Hertogenbosch, The Netherlands, July 4-7, 2004 (Technical Committee).
 43. IUTAM Symposium on the “*Mechanics of Biological Tissue*“, Graz, Austria, June 27 – July 2, 2004 (Scientific Committee, Chairman).
 44. *International Congress on Computational Bioengineering*, Zaragoza, Spain, September 24-26, 2003 (Scientific Committee).
 45. Member of the Working Party on Biomechanics (WP6) within IUTAM (International Union of Theoretical and Applied Mechanics), 2003-2006.
 46. Member of the Scientific Council of the “Inter-Polytechnic Doctorate School (Torino, Bari and Milano)” – Italy, approved and funded by the Italian Ministry for Research and the University (MIUR) – 2003-2007; meetings in Torino – Italy in April 28 -29, 2003; April 22-23, 2004; February 21-23, 2005.
 47. Member of the Board of Experts of the Committee for Research Evaluation (CIVR), Italian Ministry of Education, University and Scientific Research (MIUR), 2003-pres.
 48. *EUROMECH Colloquium 430, Formulations and Constitutive Laws for Very Large Strains*, Prague, Czech Republic, October 3-5, 2001 (Scientific Committee).
 49. *13th Conference of the European Society of Biomechanics*, Wrocław, Poland, September 1-4, 2002 (Scientific Committee).
- Member of Societies
 1. Member of *ÖGBMT* (Österreichische Gesellschaft für Biomedizinische Technik), 2004-pres.
 2. Member of *EUROMECH* (European Mechanics Society), 1999-pres.
 3. Member of *ESB* (European Society of Biomechanics), 1999-2004, 2009-pres.
 4. Member of *ASME* (American Society of Mechanical Engineers), 1998-pres.
 5. Member of *GAMM* (International Association of Applied Mathematics and Mechanics), 1990-pres.
 - Lecturer of Advanced Schools
 1. Four lectures on “*Fundamental structure and constitutive modeling of arterial walls*” within the Summer School on “*Modeling in Biomechanics and Mechanobiology at different length scales*”, Graz, Austria, July 5-9, 2010 (organized together with Professor R.W. Ogden, Glasgow, UK).
www.biomech.tugraz.at/summerschool-2010

2. Seven lectures on “*Arterial Wall Mechanics: Experiments, Modeling and Computation*” within the Summer School on “*Modeling and Computation in Biomechanics*”, Graz, Austria, September 15-19, 2008 (organized together with Professor R.W. Ogden, Glasgow, UK).
www.biomech.tugraz.at/summerschool
 3. Three lectures on “*Mathematical Modeling and Computational Analysis in Biosolid Mechanics*” within the Summer School “EPSRC Maths for Engineers” on “*Mathematical Modelling & Computational Methods in Solid Mechanics*” at the University of Glasgow, UK, August 26-September 1, 2007 (organized by the Department of Civil Engineering).
www.eng.gla.ac.uk/summerschool/
 4. Six lectures on “*Arterial Tissue in Health and Disease. Experimental Data, Collagen-Based Modeling and Simulation, Including Aortic Dissection*” within the 14th CISM-IUTAM Summer School on “*Biomechanical Modeling at the Molecular, Cellular and Tissue Levels*” at the International Centre for Mechanical Sciences (CISM) in Udine, Italy, September 11-15, 2006 (organized together with Professor R.W. Ogden, Glasgow, UK).
www.cism.it/cism/preliminary06.htm
 5. Two days of lectures on “*Human Arterial Walls: Experiments, Modeling and Interaction with Stents*” within an Advanced School at *Boston Scientific Corporation*, One Scimed Place, Maple Grove, Minnesota, USA, April 4-5, 2005 (organized by Nilabh Narayan – Stent R&D, Cardiology Division).
 6. Sixteen lectures on “*Composite Structures*” within an Advanced School at the *Industrial Materials Institute, NRC/CNRC*, Boucherville, Quebec, Canada October 16-18, 2002 (organized by Dr. R. DiRaddo).
 7. Two lectures on “*Continuum and Computational Biomechanics*” within the COMMAS Summer School 2002 on “*Computational Mechanics of Materials and Structures*”, Stuttgart University of Technology, September 30-October 11, 2002 (invited by Professor Ch. Miehe).
 8. Four lectures on “*Finite Element Simulation of Diseased Arteries: State-of-the-Art and Perspectives*” within the Advanced School and Workshop on “*Mathematical and Computational Modeling of Biological Systems*” at the Inst Superior Técnico, Lisbon, Portugal, June 17-21, 2002 (organized by Professors J. Martines and E.B. Pires).
www.civil.ist.utl.pt/bio.systems/
 9. Six lectures on “*Structural and numerical models for the (visco)elastic response of arterial walls with residual stresses*” within the Advanced School on “*Biomechanics of Soft Tissue*” at the International Centre for Mechanical Sciences (CISM) in Udine, Italy, September 10-14, 2001 (organized together with Professor R.W. Ogden, Glasgow, UK). www.cism.it/c2001/c05/index.htm
 10. Five lectures on “*An Introduction to the Finite Element Method*” in an Advanced School at the 1st International Interdisciplinary Conference on Cardiovascular Medicine, Surgery, Science, and Mechanics, Washington, DC, USA, June 6-9, 1997.
- Referee
- Books:**
1. Academic Publishers
 2. Cambridge University Press
 3. CRC Press
 4. Kluwer (now Springer)
 5. Springer-Verlag
 6. Wiley & Sons

Archival Journals:

1. Acta Biomaterialia
2. Acta Mechanica
3. Advances in Engineering Software
4. American Journal of Physiology: Heart and Circulatory Physiology
5. Annals of Biomedical Engineering
6. Annals of the New York Academy of Sciences
7. Biomaterials
8. Biomechanics and Modeling in Mechanobiology
9. Biorheology
10. Circulation
11. Clinical Biomechanics
12. Communications in Numerical Methods in Engineering
13. Composite Science and Technology
14. Computational Mechanics
15. Computer Methods in Applied Mechanics and Engineering
16. Computer Methods in Biomechanics and Biomedical Engineering
17. Computers & Structures
18. Engineering with Computers
19. European Journal of Mechanics A/Solids
20. European Journal of Obstetrics & Gynecology and Reproductive Biology
21. European Spine Journal
22. Finite Elements in Analysis and Design
23. Health Care
24. Heart and Vessels
25. International Journal for Computational Vision and Biomechanics
26. International Journal for Numerical Methods in Biomedical Engineering
27. International Journal of Cardiology
28. International Journal of Computational Materials Science
29. International Journal of Computer Assisted Radiology and Surgery
30. International Journal of Engineering Sciences
31. International Journal of Non-Linear Mechanics
32. International Journal of Numerical Methods in Engineering
33. International Journal of Solids and Structures
34. Journal of Applied Mechanics
35. Journal of Biomechanical Engineering
36. Journal of Biomechanics
37. Journal of Elasticity
38. Journal of Mathematical Biology
39. Journal of Nonlinear Dynamics
40. Journal of Plasticity
41. Journal of the Mechanics and Physics of Solids
42. Journal of the Royal Society Interface
43. Journal of Strain Analysis for Engineering Design
44. Journal of Theoretical Biology
45. Journal of Vascular Research
46. Materials
47. Meccanica
48. Mechanics Research Communications
49. Medical & Biological Engineering & Computing
50. Medical Engineering and Physics
51. Numerical Heat Transfer
52. Pflügers-Archiv
53. Proceedings of the Royal Society of London (Ser. A)
54. Surgical and Radiologic Anatomy
55. Technische Mechanik
56. Tissue Engineering

57. Transactions on Medical Imaging (IEEE)
58. Zeitschrift für Angewandte Mathematik und Mechanik
59. Zeitschrift für angewandte Mathematik und Physik

Grant Reviewer:

Austria: Austrian Academy of Science; *Czech Republic:* Academy of Sciences of the Czech Republic (Grant Agency); *European Union:* European Young Investigator Awards Program, Human Frontier Science Program (HFSP); *Flanders:* Fonds Wetenschappelijk Onderzoek (FWO); *Germany:* Deutsche Forschungsgemeinschaft (DFG); *Hong Kong:* City University of Hong Kong, Kowloon; *Ireland:* Science Foundation Ireland (SFI); *Israel:* Israel Science Foundation (ISF); *Italy:* Italian Ministry for Education, University and Research (MIUR), Program of Visiting Professors; *Netherlands:* BioMedical Materials Program (BMM), Health Science & Technology (HST), NWO Council for Physical Sciences, Technology Foundation STW; *Sweden:* Swedish Research Council; *Switzerland:* Swiss National Science Foundation (SNSF); *UK:* The Royal Society, Engineering and Physical Sciences research Council (EPSRC); *USA:* California State Funding.

Supervisor – Consulted Expert

Professorship and Habilitation

Several Assignments as outside expert (external adviser) in Europe and the USA

Post-Doctoral Fellows

1. *Christian Gasser* (Ph.D. Graz University of Technology, Austria), 11/01 – 11/06
2. *Fernando Cacho* (Ph.D. University of Zaragoza, Spain), 5/06 – 2/07
3. *Martin Kroon* (Ph.D. Royal Institute of Technology, Stockholm, Sweden), 8/06 – 6/08
4. *David M. Pierce* (Ph.D. Stanford University, USA), 10/07 – pres
5. *Gerhard Sommer* (Ph.D. Graz University of Technology, Austria), 10/08 – 9/09
6. *Arturo Valentín* (Ph.D. Texas A&M University, USA), 3/09 – pres

Doctoral Students

Supervisor:

1. *Christian Gasser:* (defended in October 2001)
2. *Michael Stadler:* (defended in April 13, 2004)
Awarded as the best PhD-Thesis with respect to socially relevance; selected by the "Forum for Technology and Society", Graz University of Technology, Austria, November 25, 2004.
Each year the "Forum for Technology and Society" selects the best PhD-Thesis with distinct relevance to society. The jury consists of members from the industry and the media.
3. *Nikolaus Böck:* (defended in June 9, 2004)
4. *Pierre Elbischger:* (co-supervised with the Institute for Computer Graphics and Vision, Graz University of Technology, Austria; defended in April 8, 2005)
5. *Giulia Francescini:* (co-supervised with the University of Trento; defended February 13, 2006)
6. *Fernando Cacho:* (co-supervised with the University of Zaragoza; defended May 5, 2006)
7. *Martin Auer:* (defended in January 31, 2007)
8. *Iliia Hariton:* (co-supervised with the Ben-Gurion University of the Negev, Beer-Sheva, Israel; defended January, 2008)
9. *Dimitrios E. Kioussis:* (defended in September 16, 2008)
Second place of the Stefan-Schuy-Price 2008, awarded by the Austrian Society of Biomedical Engineering for the best annual scientific work in Biomedical Engineering.
10. *Gerhard Sommer:* (defended in October 17, 2008)

Supervisor, in progress (Graz University of Technology and KTH, Stockholm):

11. *Sae-Il Murtada*: 6/06 – pres
12. *Jianhua Tong*: 5/07 – pres
13. *Thomas Eriksson*: 3/08 – pres (together with G. Plank)
14. *Christoph Augustin*: 5/08 – pres (together with O. Steinbach)
15. *Michael Unterberger*: 4/09 – pres
16. *Andreas Schriebl*: 2/10 – pres (together with D. Pierce)
17. *Hannah Weisbecker*: 2/10 – pres (together with D. Pierce)

Visiting Doctoral Students:

1. *Carolien J. van AnDEL*
Delft University of Technology, Department of Design, Engineering and Production, The Netherlands: 2001
2. *Anna Guillou*
University of Glasgow, Department of Mathematics, Scotland, UK: June 2004
3. *Philip F. Brune*
University of Rochester, Department of Mechanical Engineering, USA (granted by the Institute of International Education, Central Europe Summer Research Institute): June-July 2007
4. *Victorien Prot and Andreas Meyer Winnem*
Norwegian University of Science and Technology, Trondheim, Norway: August 2007
5. *Nele Famaey*
Katholieke Universiteit Leuven, Department of Mechanics, Division of Biomechanics and Engineering Design, Robot Assisted Surgery Group, Belgium: February, June, September 2008
6. *Peter Mortier*
Institute Biomedical Technology (IBiTech), Campus Heymans, Ghent University, Belgium: May-June 2008

Assignments as (public) external examiner / opponent:

1. *Carolien J. van AnDEL*
Department of Design, Engineering and Production Delft University of Technology, The Netherlands – (defended in May 27, 2003)
2. *Klas Adolfsson*
Department of Applied Mechanics, Chalmers University of Technology, Göteborg, Sweden – (defended in April 21, 2004)
3. *Jonas Stålhand*
Division of Mechanics, Department of Mechanical Engineering Linköping University, Linköping, Sweden – (defended in June 9, 2005)
4. *Bernd Markert*
University of Stuttgart, Institute of Applied Mechanics (Civil Engineering), Germany – (defended in July 14, 2005)
5. *Tom Thorvaldsen*
University of Oslo, Department of Informatics, Faculty of Mathematics and Natural Sciences, Oslo, Norway – (defended in April 28, 2006)
6. *Niels Driessen*
Eindhoven University of Technology, Biomedical Engineering Materials Technology, The Netherlands – (defended in September 21, 2006)
7. *Anna Guillou*

University of Glasgow, Department of Mathematics, Scotland, UK – (defended in November 17, 2006)

Assignments as outside expert (external adviser):

1. *Mark Yeoman*
University of Cape Town, Cape Town, South Africa – April 2004
2. *Abbas Sadeghzadeh Milani*
Department of Mechanical Engineering, McGill University, Canada – September 2004
3. *Vijayaraghavan Rajagopal*
Bioengineering Institute, The University of Auckland, New Zealand – May 2007

Licentiate Student

Defended at the Royal Institute of Technology in Stockholm, Sweden:

1. *Dimitrios E. Kiousis*: (defended in January 26, 2006)
2. *Sae-Il Murtada*: (defended in October 23, 2009)

Master Students

Defended at the Universities of Technology in Graz and Vienna:

1. *Christian T. Gasser*: (defended in June 1996)
2. *Michael Fritsch*: (defended in July 1999)
3. *Manuel Pellissetti*: (defended in August 1999)
4. *Christian Schulze-Bauer*: (defended in July 2000)
5. *Gerhard Sommer*: (defended in March 2003)
6. *Fabian Schmid*: (defended in September 2003)
7. *Stephan F. Rubinigg* (defended in April 2008)

Defended at the Royal Institute of Technology in Stockholm, Sweden:

7. *Maarten Landuyt*: (defended in June 2006)
8. *Alexander Wulff*: (defended in February 2007)
9. *Göray Görgülü*: (defended in March 2007)
10. *Jianhua Tong*: (defended in March 2007)
11. *Thomas Eriksson*: (defended in February 2008)

Other Students

1. *Lukas Költringer* (Medical University Graz, Austria), 9/06 – 6/08
2. *Katharina Woisetschläger* (High School Student, Trainee program on “Woman towards Engineering”, granted by TU Graz), July 2007, July 2008
3. *Alexandra Schussnig* (High School Student), July 2009

Consulted expert for professional accomplishments of people for possible appointments at Universities; 100+ written letters of endorsement for people to receive academic and industrial positions, awards and grants, etc.

Models in Commercially Available Software

- Abaqus: Dassault Systèmes Simulia Corp., Providence, RI, USA. www.simulia.com

Implemented material models taken from:

G.A. Holzapfel, T.C. Gasser and R.W. Ogden: A new constitutive framework for arterial wall mechanics and a comparative study of material models. *Journal of Elasticity*, **61** (2000) 1-48

T.C. Gasser, R.W. Ogden and G.A. Holzapfel: Hyperelastic modelling of arterial layers with distributed collagen fibre orientations. *Journal of the Royal Society Interface*, **3** (2006) 15-35

- ADINA R & D, Inc., Watertown, MA, USA. www.adina.com

Implemented material models taken from:

G.A. Holzapfel: On large strain viscoelasticity: Continuum formulation and finite element applications to elastomeric structures. *International Journal for Numerical Methods in Engineering*, **39** (1996) 3903-3926

G.A. Holzapfel, T.C. Gasser and R.W. Ogden: A new constitutive framework for arterial wall mechanics and a comparative study of material models. *Journal of Elasticity*, **61** (2000) 1-48

- ANSYS Inc., Canonsburg, PA, USA. www.ansys.com

Implemented material models taken from (in preparation):

G.A. Holzapfel, T.C. Gasser and R.W. Ogden: A new constitutive framework for arterial wall mechanics and a comparative study of material models. *Journal of Elasticity*, **61** (2000) 1-48

G.A. Holzapfel, G. Sommer, C.T. Gasser and P. Regitnig: Determination of the layer-specific mechanical properties of human coronary arteries with non-atherosclerotic intimal thickening, and related constitutive modeling. *American J. Physiology - Heart Circulation Physiology*, **289** (2005) H2048-2058

G.A. Holzapfel, M. Stadler and T.C. Gasser: Changes in the mechanical environment of stenotic arteries during interaction with stents: computational assessment of parametric stent designs. *ASME Journal of Biomechanical Engineering*, **127** (2005) 166-180

Teaching Experience

- Graz University of Technology

2009, 2010	„Grundlagen der Biomechanik“ 45 lectures (undergraduate level) – 1 lecture = 45 min
2009	„Protein- und Zellmechanik“ 30 lectures (senior undergraduate level)
2007, 2008, 2009	„Mechanik Biologischer Gewebe“ 30 lectures (senior undergraduate level)
2004	„Biomechanische und strömungsmechanische Messtechnik“ 30 lectures (undergraduate level)
2003, 2004	„Numerical Methods in Applied Thermodynamics“ 15 lectures (undergraduate level)
2000 – 2003	„An Introduction to Continuum Mechanics“ 60 lectures (undergraduate level)
1999 – 2002	„Nonlinear Finite Element Procedures for Continuous Systems“ 45 lectures (postgraduate level)
2001	„Biomechanics for Soft Biological Tissue“ 15 lectures (undergraduate level)
1999 – 2003	„Strength of Materials in Mechanical Engineering“ 45 lectures (undergraduate level)
1998	„Mechanics of Materials at Large Deformations“ 60 lectures (postgraduate level)
1997	„Nonlinear Continuum Mechanics“ 60 lectures (postgraduate level)
1987-1997 (Practice)	„Strength of Materials“ 30 lectures (undergraduate level) „2-D Components – Theory of Plates and Shells“ 30 lectures (undergraduate level) „Advanced Strength of Materials and Finite Element Methods“ 15 lectures (undergraduate level) „Theory of Plasticity“ 15 lectures (undergraduate level)

- Royal Institute of Technology (KTH), Department of Solid Mechanics, Stockholm, Sweden
2006, 2007, 2008, „Introduction to Biomechanics (4C1121, SE2121)“; 9 ECTS
2009, 2010 48 lectures in addition to laboratory work (senior undergraduate level) – (one lecture is the equivalent of 45 min)
- 2006 „Orthopaedic Biomechanics (4C1124)“; 6 ECTS
32 lectures in addition to laboratory work (senior undergraduate level)
- University of Zaragoza, Department of Mechanical Engineering, Spain
2007 „Continuum Biomechanics with an Emphasize on Arterial Walls in Health and Disease“
12 lectures (postgraduate level)
- Barcelona, Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos de BCN, Universidad Politécnica de Cataluña, Spain
2003 „Nonlinear Solid Mechanics with Application to Biomechanics“
30 lectures (postgraduate level)
- Vienna University of Technology
2002 „Nonlinear Solid Mechanics“
45 lectures (postgraduate level)
- 1998 „Variational Principles for the Finite Element Method“
15 lectures (postgraduate level)
- 1997 „Finite Elasticity I – Constitutive Modeling“
30 lectures (postgraduate level)
- University of Shenyang, P.R. China
1991 „Continuum Mechanics and Numerical Methods in Engineering Design“
15 lectures (postgraduate level)

PR Work (Selected)

1. “Scientific Cooperation. NIH-Project in Biomechanics at Graz University of Technology”, appeared in TU Graz research 2009-1, No. 1, p. 32-35.
2. “@neurIST Research Highlights. Modeling of Saccular Cerebral Aneurysm Walls”, appeared in Newsletter Issue 10 “@neurIST”, January-March 2009, p. 3-4.
“@neurIST” is an EU Project on integrated biomedical informatics for the management of cerebral aneurysms.
3. “Anniversary Exhibition: 40 Years FWF for all Austria” (in German), appeared in “Info”, 2009, No. 1, p. 62,63.
“Info” is the Magazine of the Austrian Science Fund.
4. “Petition Research” (in German), appeared in “Kleine Zeitung”, February 7, 2009, p. 16,17; “Die Woche”, March 4, 2009, p. 6,7.
5. “When Arteries form a Hardened Skin” (in German), appeared in the “Business Lounge”, February 7, 2009, p.20.
“Business Lounge” is a Magazine for Styria and Carinthia which appears as an attachment in the Austrian Daily Newspaper “Die Presse”.

6. *“Modeling Cracks in Clogged Arteries”*, appeared in *“Biomedical Computation Review”*, published by Simbios, an NIH National Center for Biomedical Computing, Winter 2008/2009, Volume 5, Issue 1, p.7.
7. *“With the License to Imitate”* (in German), appeared in the Newsletter **“UNI Kleine Zeitung”**, November 2008, p. 10.
“UNI Kleine Zeitung” is a Newsletter for Undergraduates and University members.
8. *“Han kollar hållfasthet – på cellnivå”* (in Swedish), appeared in the web magazine **“Tentakel”**, October 2007, No. 8.
www.tentakel.vr.se/Nummer/2007-08/Artikelsida/?contentId=6290
“Tentakel” is a web magazine from the Swedish Research Council. Topics are chosen from natural science and engineering science.
9. *“G.A. Holzapfel: Since 1st of February Professor for Biomechanics at the Institute for Biomechanics”* (in German), appeared in the **“Research Journal of TU Graz”**, SS 2007, July 2007, p.21.
10. *“Bionics: Hightech from Nature”* (in German), subject of a panel discussion within **“Club Zukunft”**, Graz, July 4, 2007.
VideoPodcast: www.clubzukunft.at/index.php?option=com_content&task=view&id=152&Itemid=155
“Club Zukunft” is the Centre for Information and Communication of the Department of Economic and Tourist Development of the City of Graz.
11. *“Institute for Biomechanics: Univ.-Prof. DI Dr. Gerhard Holzapfel”* (in German), appeared in the Newsletter **“E&T Info”**, June 2007, p.21.
“E&T” Info is a newsletter for Electro- and Biomedical Science Technology.
12. *“Mechanician Investigates in the Depth of the Body”* (in German), appeared in the Newsletter **“UNI Kleine Zeitung”**, April 2007, pp.4-5.
“UNI Kleine Zeitung” is a Newsletter for Undergraduates and University members.
13. *“Technology, which Serves Health”* (in German), appeared in the Austrian Daily Newspaper **“Kleine Zeitung”**, April 19, 2007.
14. *“Fusion of Engineering with Medicine”* (in German), appeared within the rubric “Research and Science” in the **“Steirische Berichte”**, 3-4/2007, p. 32-33.
“Steirische Berichte” is the Journal of Education for Styrian People.
15. *“TU Graz Speeds up Biomechanics”* (in German), appeared within the rubric “Life Sciences” in the **“Austrian Press Agency”**, February 9, 2007.
16. *“TU Graz obtains his own Institute for Biomechanics”* (in German), appeared in the Austrian Daily Newspaper **“Österreich”**, February 2, 2007.
17. *“Own Institute for Biomechanics”* (in German), appeared in the Austrian Daily Newspaper **“Wiener Zeitung”**, February 2, 2007.
18. *“Construct the Health”* (in German), appeared in the Austrian Daily Newspaper **“Der Standard”**, January 31, 2007.
19. *“Exemplary Schrödinger Careers”* (in German), appeared at the “FWF-Portal der Erwin-Schrödinger-StipendiatInnen” on the website of the **“FWF Austrian Science Fund”**, January 2006.
www.schroedinger-portal.at/schroedinger-stipendiatinnen/beispielhafte_schroedinger/j0721.html
The “FWF-Portal der Erwin-Schrödinger-StipendiatInnen” lists all Erwin Schrödinger Scholars since 1985 and describes exemplary Schrödinger careers. An Erwin Schrödinger Scholarship for foreign countries is for young graduates of all disciplines who have distinctive qualification.

20. *“Boston Scientific Explores Model Research”*, appeared in the Newsletter **“Heartbeat”**, May 2005, p.6. “Heartbeat” is a Newsletter for Boston Scientific Employees at Maple Grove & Plymouth in Minneapolis, USA.
21. *“Professur Ger Skjuts åt Biomekanik”* (in Swedish), appeared in **“Campi”**, April 2005; No. 1/05, pp.6-7.
“Campi” is a Newsletter published by the Royal Institute of Technology (KTH), Stockholm, Sweden.
22. *“Blood Vessels Virtually Dilated”* (in German), appeared at the website of the **“Technologieportal der Steirischen Wirtschaftsförderung”**, October 20, 2004.
This is a platform for service and information for companies in order to develop new products, new procedures and new services.
23. *“Artificial Tissue Helps Patients”* (in German), appeared within the rubric “Life Sciences” in the **“Austrian Press Agency”**, June 25, 2004.
24. *“Stretching Arteries”* (in German), appeared within the rubric „Science“ of the Austrian weekly News Magazine **“Profil”**, 35/2004, March 8, 2004, p.127.
25. *“Passion for Pioneering Work”* within the Series „Brainstorm“ (in German), appeared within the rubric „Specific Science“ in the Austrian Daily Newspaper **“Der Standard”**, September 13, 2003, p. A4.
26. *“Three-Dimensional Views of Atherosclerotic Arteries”* (in German), appeared within the rubric „Specific Science“ in the Austrian Daily Newspaper **“Der Standard”**, September 13, 2003, p. A4.
27. *“Josef Krainer-Würdigungspreis for TU-Scientist Gerhard A. Holzapfel”* (in German), appeared in Issue 6 of the TU Graz Newsletter **“TUG PRINT”**, April 17, 2003, p.10.
28. *“Awards and Artery Balloons”* (in German), appeared in the Austrian Daily Newspaper **“Der Standard”**, March 25, 2003.
29. *“Engineer for Arteries”* (in German), appeared under the topic “Styrian of the Day” in the Austrian Daily Newspaper **“Kleine Zeitung”**, p.13, March 24, 2003.
30. *“Balloon Angioplasty”*, broadcasted in Ö1 of the Austrian Radio, within the series **“Dimensions – World of Science”**, March 7, 2003, 7:05 pm.
31. *“Dilation of Vessels are now more Safe”*, broadcasted in Ö1 of the Austrian Radio, within the series **“Current Knowledge”**, February 28, 2003, 1:55 pm.
32. *“Biomechanics and Mechanobiology”* (in German), appeared in the first Issue of the **“Research Journal of TU Graz”**, January 2002, p.43.
33. Research results on the cover page of the American Journal **“Annals of Biomedical Engineering”**, 30(6):753-767, 2002.
34. *“Numerically Disassembled Blood Vessels“* (in German), appeared in **“START- and WITTGENSTEIN-Awards 1996-2000”**, June 2001, p. 30-31.
A publication with respect to the quinquennial existence of research awards, edited by the Austrian Ministry of Education, Science and Culture, and by the Austrian Science Fund (FWF).
35. *“Structural Analysis on the Heart”* (in German), appeared within the rubric **“Science and Technology”** in the German weekly News Magazine **“Der Spiegel”**, Issue 19/1999, May 10, 1999.
36. *“Balloon Dilatation of Atherosclerotic Blood Vessels, Computersimulation with Clinical Relevance”* (in German), appeared within the rubric “Reports from Research” in **“TU-Bericht 1998/1999”**. 1999, p.18.

37. *“Blood vessels, numerically separated”* (in German), appeared in **“Brainstorms: Portraits of Important Austrian Scientists”** by Michael Freund, Springer-Verlag, Vienna, New York, 1997, pp. 141-143.
38. Portrait within the series *“Austrian Scientists”* (in German), appeared in the Austrian Daily Newspaper **“Der Standard”**, September 23, 1997. The same article appeared in the „ÖMV Newspaper“, September 1997.
39. *“START-Award 1997”* (in German), appeared in the Newspapers Profil Extra (Universities), Der Standard, Die Presse, Salzburger Nachrichten, Kleine Zeitung, Wiener Zeitung, Österreichische Hochschulzeitung.
40. *„Computersimulation leads to an Optimization of the Therapy of Atherosclerosis“* (in German), appeared in **“Ärzte Woche”**, March 13, 1996.

February 2010

Gerhard A. Holzapfel