# Gerhard Sommer

List of Publications by Year
in descending order

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|---|---|---|---|
| 32 papers | 2,807 citations | 331670 21 h-index | 395702 33 g-index |
| 33 all docs | 33 docs citations | 33 times ranked | 2334 citing authors |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 1 | Determination of layer-specific mechanical properties of human coronary arteries with nonatherosclerotic intimal thickening and related constitutive modeling. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 289, H2048-H2058. | 3.2 | 775 |
| 2 | Anisotropic Mechanical Properties of Tissue Components in Human Atherosclerotic Plaques. Journal of Biomechanical Engineering, 2004, 126, 657-665. | 1.3 | 330 |
| 3 | Biomechanical properties and microstructure of human ventricular myocardium. Acta Biomaterialia, 2015, 24, 172-192. | 8.3 | 217 |
| 4 | Layer-Specific 3D Residual Deformations of Human Aortas with Non-Atherosclerotic Intimal Thickening. Annals of Biomedical Engineering, 2007, 35, 530-545. | 2.5 | 192 |
| 5 | Biaxial mechanical properties of intact and layer-dissected human carotid arteries at physiological and supraphysiological loadings. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H898-H912. | 3.2 | 146 |
| 6 | Dissection Properties of the Human Aortic Media: An Experimental Study. Journal of Biomechanical Engineering, 2008, 130, 021007. | 1.3 | 143 |
| 7 | Microstructure and mechanics of healthy and aneurysmatic abdominal aortas: experimental analysis and modelling. Journal of the Royal Society Interface, 2016, 13, 20160620. | 3.4 | 137 |
| 8 | 3D constitutive modeling of the biaxial mechanical response of intact and layer-dissected human carotid arteries. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 5, 116-128. | 3.1 | 95 |
| 9 | Multiaxial mechanical properties and constitutive modeling of human adipose tissue: A basis for preoperative simulations in plastic and reconstructive surgery. Acta Biomaterialia, 2013, 9, 9036-9048. | 8.3 | 88 |
| 10 | Mechanical strength of aneurysmatic and dissected human thoracic aortas at different shear loading modes. Journal of Biomechanics, 2016, 49, 2374-2382. | 2.1 | 75 |
| 11 | Quantification of Shear Deformations and Corresponding Stresses in the Biaxially Tested Human Myocardium. Annals of Biomedical Engineering, 2015, 43, 2334-2348. | 2.5 | 61 |
| 12 | Multiaxial mechanical response and constitutive modeling of esophageal tissues: Impact on esophageal tissue engineering. Acta Biomaterialia, 2013, 9, 9379-9391. | 8.3 | 60 |
| 13 | Selective enzymatic removal of elastin and collagen from human abdominal aortas: Uniaxial mechanical response and constitutive modeling. Acta Biomaterialia, 2015, 17, 125-136. | 8.3 | 60 |
| 14 | An orthotropic viscoelastic model for the passive myocardium: continuum basis and numerical treatment. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 1647-1664. | 1.6 | 59 |
| 15 | Towards microstructure-informed material models for human brain tissue. Acta Biomaterialia, 2020, 104, 53-65. | 8.3 | 57 |
| 16 | Dissection Properties and Mechanical Strength of Tissue Components in Human Carotid Bifurcations. Annals of Biomedical Engineering, 2011, 39, 1703-1719. | 2.5 | 49 |
| 17 | Arterial clamping: Finite element simulation and in vivo validation. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 12, 107-118. | 3.1 | 39 |
| 18 | Anisotropic residual stresses in arteries. Journal of the Royal Society Interface, 2019, 16, 20190029. | 3.4 | 36 |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 19 | An efficient and accurate method for modeling nonlinear fractional viscoelastic biomaterials. Computer Methods in Applied Mechanics and Engineering, 2020, 362, 112834. | 6.6 | 29 |
| 20 | Constitutive modeling using structural information on collagen fiber direction and dispersion in human superficial femoral artery specimens of different ages. Acta Biomaterialia, 2021, 121, 461-474. | 8.3 | 27 |
| 21 | Failure properties and microstructure of healthy and aneurysmatic human thoracic aortas subjected to uniaxial extension with a focus on the media. Acta Biomaterialia, 2019, 99, 443-456. | 8.3 | 26 |
| 22 | A viscoelastic model for human myocardium. Acta Biomaterialia, 2021, 135, 441-457. | 8.3 | 23 |
| 23 | Mechanical response of human subclavian and iliac arteries to extension, inflation and torsion. Acta Biomaterialia, 2018, 75, 235-252. | 8.3 | 20 |
| 24 | The effects of viscoelasticity on residual strain in aortic soft tissues. Acta Biomaterialia, 2022, 140, 398-411. | 8.3 | 13 |
| 25 | Quantifying stent-induced damage in coronary arteries by investigating mechanical and structural alterations. Acta Biomaterialia, 2020, 116, 285-301. | 8.3 | 10 |
| 26 | Esophagus stretch tests: Biomechanics for tissue engineering and possible implications on the outcome of esophageal atresia repairs performed under excessive tension. Esophagus, 2021, 18, 346-352. | 1.9 | 8 |
| 27 | Mechanical characterization of porcine liver properties for computational simulation of indentation on cancerous tissue. Mathematical Medicine and Biology, 2020, 37, 469-490. | 1.2 | 7 |
| 28 | An ultrastructural 3D reconstruction method for observing the arrangement of collagen fibrils and proteoglycans in the human aortic wall under mechanical load. Acta Biomaterialia, 2022, 141, 300-314. | 8.3 | 7 |
| 29 | An active approach of pressure waveform matching for stress-based testing of arteries. Artificial Organs, 2021, 45, 1562-1575. | 1.9 | 6 |
| 30 | Very large and giant microsurgical bifurcation aneurysms in rabbits: Proof of feasibility and comparability using computational fluid dynamics and biomechanical testing. Journal of Neuroscience Methods, 2016, 268, 7-13. | 2.5 | 5 |
| 31 | Experimental and mathematical characterization of coronary polyamide-12 balloon catheter membranes. PLoS ONE, 2020, 15, e0234340. | 2.5 | 4 |
| 32 | 2.3 BIOMECHANICAL AND STRUCTURAL QUANTIFICATION OF VASCULAR DAMAGE: A UNIQUE INVESTIGATION OF STENT IMPLANTATION. Artery Research, 2017, 20, 50. | 0.6 | 2 |