

List of Publications

International Journal Publications

- [1] I. Simonini, A. Ni Annaidh, and A. Pandolfi. Numerical estimation of stress and refractive power maps in healthy and keratoconus eyes. *Journal of the Mechanical Behavior of Biomedical Materials*, in press:1–20, 2022.
- [2] A. Pandolfi, M. L. De Bellis, A. Gizzi, and M. Vasta. Modelling the degeneration of the collagen architecture in a microstructural model of the human cornea. *Mathematics and Mechanics of Solids*, in press:1–8, 2022.
- [3] M. Werner, A. Pandolfi, and K. Weinberg. A multi-field model for charging and discharging of lithium-ion battery electrodes. *Continuum Mechanics and Thermodynamics*, 33(3):661–685, 2021.
- [4] D. Briccola, M. Cuni, A. De Juli, M. Ortiz, and A. Pandolfi. Experimental validation of the attenuation properties in the sonic range of metaconcrete containing two types of resonant inclusions. *Experimental Mechanics*, 61:515–532, 2021.
- [5] A. Pandolfi, K. Weinberg, and M. Ortiz. A comparative accuracy and convergence study of eigenegrosion and phase-field models of fracture. *Computer Methods in Applied Mechanics and Engineering*, 386:1–15, 2021.
- [6] F. Boschetti, D. Conti, E. M. Soriano, C. Mazzotta, and A. Pandolfi. Experimental in-vitro investigation on Epi-Off-Crosslinking on porcine corneas. *PLOS One*, 16:e0249949:1–16, 2021.
- [7] A. Gizzi, M. L. De Bellis, M. Vasta, and A. Pandolfi. Diffusion-based degeneration of the collagen reinforcement in the pathologic human cornea. *Journal of Engineering Mathematics*, 127(3):1–10, 2021.
- [8] D. Briccola and A. Pandolfi. Analysis on the dynamic wave attenuation properties of metaconcrete considering a quasi-random arrangement of inclusions. *Frontiers in Materials*, 7:615189:1–14, 2021.
- [9] A. Cornaggia, L. M. Clerici, M. Felizietti, T. Rossi, and A. Pandolfi. A numerical model of capsulorhexis to assess the relevance of size and position of the rhexis on the IOL decentering and tilt. *Journal of the Mechanical Behavior of Biomedical Materials*, 114:104170, 2021.
- [10] A. Cornaggia, F. Boschetti, C. Mazzotta, and A. Pandolfi. Numerical investigation on Epi-Off-Crosslinking effects on porcine corneas. *Mechanics of Soft Materials*, 2:15:1–17, 2020.
- [11] A. Montanino and A. Pandolfi. On the recovery of the unstressed configuration of the human cornea. *Journal for Modelling in Ophthalmology*, 2:11–33, 2020.
- [12] A. Qinami, A. Pandolfi, and M. Kaliske. Variational eigenegrosion for rate dependent plasticity in concrete modelling at small strain. *International Journal for Numerical Methods in Engineering*, 121:1388–1409, 2020.
- [13] M. Angelillo, A. Montanino, and A. Pandolfi. An interpretation of the connection between collagen fibril microstructure and statically determined principal stress line distribution in the human cornea. *Journal of Biomechanical Engineering*, 142:051006–1–121, 2020.
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- [15] C. Mazzotta, G. Wollensak, F. Raiskup, A. Pandolfi, and E. Spoerl. The meaning of the demarcation line after riboflavin-UVA corneal collagen crosslinking. *Expert Review of Ophthalmology*, 14(2):115–131, 2019.
- [16] D. Briccola, M. Tomasin, T. Netti, and A. Pandolfi. The influence of a lattice-like pattern of inclusions on the attenuation properties of metaconcrete. *Frontiers in Materials*, 6:1–11, 2019.

- [17] A. Montanino, M. Angelillo, and A. Pandolfi. A 3d fluid-structure interaction model of the air puff test in the human cornea. *Journal of the Mechanical Behavior of Biomedical Materials*, 94:22–31, 2019.
- [18] A. Pandolfi, A. Gizzi, and M. Vasta. A microstructural model of crosslink interaction between collagen fibrils in the human cornea. *Philosophical Transactions A*, 377:20180079, 2019.
- [19] A. Scelsi, M. L. De Bellis, A. Pandolfi, G. Musso, and G. Della Vecchia. A step-by-step analytical procedure to estimate the in-situ stress state from borehole data. *Journal of Petroleum Science and Engineering*, 176:994–1007, 2019.
- [20] M. Vasta, A. Gizzi, and A. Pandolfi. A spectral decomposition approach for the mechanical statistical characterization of distributed fiber-reinforced tissues. *International Journal of Nonlinear Mechanics*, 106:258–265, 2018.
- [21] A. Montanino, A. Gizzi, M. Vasta, M. Angelillo, and A. Pandolfi. Modeling the biomechanics of the human cornea accounting for local variations of the collagen fibril architecture. *ZAMM Zeitschrift für Angewandte Mathematik und Mechanik*, 98:2122–2134, 2018.
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- [27] M. L. De Bellis, G. Della Vecchia, M. Ortiz, and A. Pandolfi. A multiscale model of distributed fracture and permeability in solids in all-round compression. *Journal of the Mechanics and Physics of Solids*, 104:12–31, 2017.
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Book Chapters

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Editorials

- [95] A. Pandolfi. The 55th anniversary of meccanica. *Meccanica*, 56(12):2877–2878, 2021.
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Submitted to International Journals

- [100] M. L. De Bellis and A. Pandolfi. Applications of a micro-structured brittle damage model to laboratory tests on rocks. *International Journal of Fracture*, submitted:1–26, 2022.