# Thao D Nguyen

List of Publications by Year
in descending order

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Version: 2024-02-01

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|---|---|---|---|
| 120 papers | 6,631 citations | 71061 41 h-index | 76872 74 g-index |
| 123 all docs | 123 docs citations | 123 times ranked | 5690 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Self-Folding Thermo-Magnetically Responsive Soft Microgrippers. ACS Applied Materials & Interfaces, 2015, 7, 3398-3405. | 4.0 | 499 |
| 2 | Finite deformation thermo-mechanical behavior of thermally induced shape memory polymers. Journal of the Mechanics and Physics of Solids, 2008, 56, 1730-1751. | 2.3 | 357 |
| 3 | A thermoviscoelastic model for amorphous shape memory polymers: Incorporating structural and stress relaxation. Journal of the Mechanics and Physics of Solids, 2008, 56, 2792-2814. | 2.3 | 351 |
| 4 | DNA sequenceâ€“directed shape change of photopatterned hydrogels via high-degree swelling. Science, 2017, 357, 1126-1130. | 6.0 | 331 |
| 5 | Biomechanics of the Human Posterior Sclera: Age- and Glaucoma-Related Changes Measured Using Inflation Testing. , 2012, 53, 1714. | | 286 |
| 6 | A versatile pH sensitive chondroitin sulfateâ€“PEG tissue adhesive and hydrogel. Biomaterials, 2010, 31, 2788-2797. | 5.7 | 280 |
| 7 | Bioâ€Origami Hydrogel Scaffolds Composed of Photocrosslinked PEG Bilayers. Advanced Healthcare Materials, 2013, 2, 1142-1150. | 3.9 | 210 |
| 8 | Full-field deformation of bovine cornea under constrained inflation conditions. Biomaterials, 2008, 29, 3896-3904. | 5.7 | 155 |
| 9 | Scleral structure and biomechanics. Progress in Retinal and Eye Research, 2020, 74, 100773. | 7.3 | 153 |
| 10 | Quantitative Mapping of Collagen Fiber Orientation in Non-glaucoma and Glaucoma Posterior Human Sclerae. , 2012, 53, 5258. | | 138 |
| 11 | Functional stimuli responsive hydrogel devices by self-folding. Smart Materials and Structures, 2014, 23, 094008. | 1.8 | 137 |
| 12 | Modeling the Relaxation Mechanisms of Amorphous Shape Memory Polymers. Advanced Materials, 2010, 22, 3411-3423. | 11.1 | 128 |
| 13 | Scleral anisotropy and its effects on the mechanical response of the optic nerve head. Biomechanics and Modeling in Mechanobiology, 2013, 12, 941-963. | 1.4 | 119 |
| 14 | Stress-controlled viscoelastic tensile response of bovine cornea. Journal of Biomechanics, 2007, 40, 2367-2376. | 0.9 | 118 |
| 15 | Full-field bulge test for planar anisotropic tissues: Part I â€“ Experimental methods applied to human skin tissue. Acta Biomaterialia, 2013, 9, 5913-5925. | 4.1 | 108 |
| 16 | Modeling the glass transition of amorphous networks for shape-memory behavior. Journal of the Mechanics and Physics of Solids, 2013, 61, 1612-1635. | 2.3 | 106 |
| 17 | Dual-Gel 4D Printing of Bioinspired Tubes. ACS Applied Materials & Interfaces, 2019, 11, 8492-8498. | 4.0 | 100 |
| 18 | Collagen Structure and Mechanical Properties of the Human Sclera: Analysis for the Effects of Age. Journal of Biomechanical Engineering, 2015, 137, 041006. | 0.6 | 99 |

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|---|---|---|---|
| 19 | Studies of Scleral Biomechanical Behavior Related to Susceptibility for Retinal Ganglion Cell Loss in Experimental Mouse Glaucoma. , 2013, 54, 1767. | | 89 |
| 20 | Full-field bulge test for planar anisotropic tissues: Part II â€“ A thin shell method for determining material parameters and comparison of two distributed fiber modeling approaches. Acta Biomaterialia, 2013, 9, 5926-5942. | 4.1 | 83 |
| 21 | Modeling the anisotropic finite-deformation viscoelastic behavior of soft fiber-reinforced composites. International Journal of Solids and Structures, 2007, 44, 8366-8389. | 1.3 | 81 |
| 22 | Glaucoma-related Changes in the Mechanical Properties and Collagen Micro-architecture of the Human Sclera. PLoS ONE, 2015, 10, e0131396. | 1.1 | 80 |
| 23 | Solvent-driven temperature memory and multiple shape memory effects. Soft Matter, 2015, 11, 3977-3985. | 1.2 | 80 |
| 24 | Viscoelastic effects on electromechanical instabilities in dielectric elastomers. Soft Matter, 2013, 9, 1031-1042. | 1.2 | 79 |
| 25 | A Nonlinear Anisotropic Viscoelastic Model for the Tensile Behavior of the Corneal Stroma. Journal of Biomechanical Engineering, 2008, 130, 041020. | 0.6 | 78 |
| 26 | An inverse finite element method for determining the anisotropic properties of the cornea. Biomechanics and Modeling in Mechanobiology, 2011, 10, 323-337. | 1.4 | 75 |
| 27 | Experimental scleral cross-linking increases glaucoma damage in a mouse model. Experimental Eye Research, 2014, 128, 129-140. | 1.2 | 75 |
| 28 | Modeling Shape-Memory Behavior of Polymers. Polymer Reviews, 2013, 53, 130-152. | 5.3 | 74 |
| 29 | The pressure-induced deformation response of the human lamina cribrosa: Analysis of regional variations. Acta Biomaterialia, 2017, 53, 123-139. | 4.1 | 68 |
| 30 | The inflation response of the posterior bovine sclera. Acta Biomaterialia, 2010, 6, 4327-4335. | 4.1 | 67 |
| 31 | The in vitro inflation response of mouse sclera. Experimental Eye Research, 2010, 91, 866-875. | 1.2 | 67 |
| 32 | Modeling the solvent-induced shape-memory behavior of glassy polymers. Soft Matter, 2013, 9, 9455. | 1.2 | 65 |
| 33 | An effective temperature theory for the nonequilibrium behavior of amorphous polymers. Journal of the Mechanics and Physics of Solids, 2015, 82, 62-81. | 2.3 | 64 |
| 34 | Indirect traumatic optic neuropathy. Military Medical Research, 2016, 3, 2. | 1.9 | 60 |
| 35 | A material force method for inelastic fracture mechanics. Journal of the Mechanics and Physics of Solids, 2005, 53, 91-121. | 2.3 | 59 |
| 36 | Influence of thermoviscoelastic properties and loading conditions on the recovery performance of shape memory polymers. Mechanics of Materials, 2011, 43, 127-138. | 1.7 | 57 |

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|---|---|---|---|
| 37 | Modeling the multiple shape memory effect and temperature memory effect in amorphous polymers. RSC Advances, 2015, 5, 416-423. | 1.7 | 50 |
| 38 | Biomechanical Responses of Lamina Cribrosa to Intraocular Pressure Change Assessed by Optical Coherence Tomography in Glaucoma Eyes. , 2017, 58, 2566. | | 50 |
| 39 | Losartan Treatment Protects Retinal Ganglion Cells and Alters Scleral Remodeling in Experimental Glaucoma. PLoS ONE, 2015, 10, e0141137. | 1.1 | 50 |
| 40 | Viscoelasticity of the polydomain-monodomain transition in main-chain liquid crystal elastomers. Polymer, 2016, 98, 165-171. | 1.8 | 49 |
| 41 | Effect of physical aging on the shape-memory behavior of amorphous networks. Polymer, 2012, 53, 2453-2464. | 1.8 | 46 |
| 42 | Partially constrained recovery of (meth)acrylate shapeâ€memory polymer networks. Journal of Applied Polymer Science, 2012, 126, 72-82. | 1.3 | 45 |
| 43 | The effects of glycosaminoglycan degradation on the mechanical behavior of the posterior porcine sclera. Acta Biomaterialia, 2015, 12, 195-206. | 4.1 | 45 |
| 44 | Mice with an induced mutation in collagen 8A2 develop larger eyes and are resistant to retinal ganglion cell damage in an experimental glaucoma model. Molecular Vision, 2012, 18, 1093-106. | 1.1 | 43 |
| 45 | A computational model of blast loading on the human eye. Biomechanics and Modeling in Mechanobiology, 2014, 13, 123-140. | 1.4 | 42 |
| 46 | Impact of shape-memory programming on mechanically-driven recovery in polymers. Polymer, 2011, 52, 4947-4954. | 1.8 | 41 |
| 47 | In vivo characterization of the deformation of the human optic nerve head using optical coherence tomography and digital volume correlation. Acta Biomaterialia, 2019, 96, 385-399. | 4.1 | 41 |
| 48 | Depth-Dependent Changes in Collagen Organization in the Human Peripapillary Sclera. PLoS ONE, 2015, 10, e0118648. | 1.1 | 41 |
| 49 | Changes in Scleral Collagen Organization in Murine Chronic Experimental Glaucoma. , 2014, 55, 6554. | | 40 |
| 50 | The contribution of glycosaminoglycans to the mechanical behaviour of the posterior human sclera. Journal of the Royal Society Interface, 2016, 13, 20160367. | 1.5 | 39 |
| 51 | The presence and distribution of elastin in the posterior and retrobulbar regions of the mouse eye. Experimental Eye Research, 2010, 90, 210-215. | 1.2 | 34 |
| 52 | The inflation response of the human lamina cribrosa and sclera: Analysis of deformation and interaction. Acta Biomaterialia, 2020, 106, 225-241. | 4.1 | 34 |
| 53 | Effects of Age and Diabetes on Scleral Stiffness. Journal of Biomechanical Engineering, 2015, 137, . | 0.6 | 33 |
| 54 | Artificial Intelligence Classification of Central Visual Field Patterns in Glaucoma. Ophthalmology, 2020, 127, 731-738. | 2.5 | 33 |

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|---|---|---|---|
| 55 | Minimal Preconditioning Effects Observed for Inflation Tests of Planar Tissues. Journal of Biomechanical Engineering, 2013, 135, 114502. | 0.6 | 32 |
| 56 | Collagen network strengthening following cyclic tensile loading. Interface Focus, 2016, 6, 20150088. | 1.5 | 32 |
| 57 | Measuring Deformation in the Mouse Optic Nerve Head and Peripapillary Sclera. , 2017, 58, 721. | | 32 |
| 58 | A predictive parameter for the shape memory behavior of thermoplastic polymers. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 1405-1414. | 2.4 | 31 |
| 59 | Quantification of collagen fiber structure using second harmonic generation imaging and twoâ€dimensional discrete Fourier transform analysis: Application to the human optic nerve head. Journal of Biophotonics, 2019, 12, e201800376. | 1.1 | 31 |
| 60 | Unique Recovery Behavior in Amorphous Shapeâ€Memory Polymer Networks. Macromolecular Materials and Engineering, 2012, 297, 1160-1166. | 1.7 | 30 |
| 61 | Susceptibility to glaucoma damage related to age and connective tissue mutations in mice. Experimental Eye Research, 2014, 119, 54-60. | 1.2 | 27 |
| 62 | Biomechanical assessment in models of glaucomatous optic neuropathy. Experimental Eye Research, 2015, 141, 125-138. | 1.2 | 27 |
| 63 | Synergistic Energy Absorption Mechanisms of Architected Liquid Crystal Elastomers. Advanced Materials, 2022, 34, e2200272. | 11.1 | 27 |
| 64 | A comparison of 2D and 3D digital image correlation for a membrane under inflation. Optics and Lasers in Engineering, 2016, 77, 92-99. | 2.0 | 26 |
| 65 | The Effects of Glaucoma on the Pressure-Induced Strain Response of the Human Lamina Cribrosa. , 2020, 61, 41. | | 25 |
| 66 | Effectiveness of eye armor during blast loading. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1227-1237. | 1.4 | 24 |
| 67 | Micromechanical Modeling Study of Mechanical Inhibition of Enzymatic Degradation of Collagen Tissues. Biophysical Journal, 2015, 109, 2689-2700. | 0.2 | 23 |
| 68 | Characterizing the Collagen Network Structure and Pressure-Induced Strains of the Human Lamina Cribrosa. , 2019, 60, 2406. | | 23 |
| 69 | Effects of Geometry on the Mechanics and Alignment of Three-Dimensional Engineered Microtissues. ACS Biomaterials Science and Engineering, 2019, 5, 3843-3855. | 2.6 | 23 |
| 70 | In Situ Measurement of the Toughness of the Interface Between a Thermal Barrier Coating and a Ni Alloy. Journal of the American Ceramic Society, 2011, 94, s120. | 1.9 | 22 |
| 71 | The Temperature-Dependent Viscoelastic Behavior of Dielectric Elastomers. Journal of Applied Mechanics, Transactions ASME, 2015, 82, . | 1.1 | 22 |
| 72 | Electrostatically Driven Creep in Viscoelastic Dielectric Elastomers. Journal of Applied Mechanics, Transactions ASME, 2014, 81, . | 1.1 | 21 |

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| 73 | Pressure-Induced Changes in Astrocyte GFAP, Actin, and Nuclear Morphology in Mouse Optic Nerve. , 2020, 61, 14. | | 20 |
| 74 | A nonlinear viscoelasticity theory for nematic liquid crystal elastomers. Journal of the Mechanics and Physics of Solids, 2022, 163, 104829. | 2.3 | 20 |
| 75 | A rate-dependent cohesive continuum model for the study of crack dynamics. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 3239-3265. | 3.4 | 19 |
| 76 | Damping behavior of 3D woven metallic lattice materials. Scripta Materialia, 2015, 106, 1-4. | 2.6 | 19 |
| 77 | Numerical study of geometric constraint and cohesive parameters in steady-state viscoelastic crack growth. International Journal of Fracture, 2006, 141, 255-268. | 1.1 | 18 |
| 78 | Bidirectional and biaxial curving of thermoresponsive bilayer plates with soft and stiff segments. Extreme Mechanics Letters, 2017, 16, 6-12. | 2.0 | 18 |
| 79 | Modeling energy storage and structural evolution during finite viscoplastic deformation of glassy polymers. Physical Review E, 2017, 95, 063001. | 0.8 | 18 |
| 80 | Periodic buckling of soft 3D printed bioinspired tubes. Extreme Mechanics Letters, 2019, 30, 100514. | 2.0 | 18 |
| 81 | Micromechanical models for the stiffness and strength of UHMWPE macrofibrils. Journal of the Mechanics and Physics of Solids, 2018, 116, 70-98. | 2.3 | 17 |
| 82 | The Contribution of Sulfated Glycosaminoglycans to the Inflation Response of the Human Optic Nerve Head. , 2018, 59, 3144. | | 17 |
| 83 | A thermodynamic modeling approach for dynamic softening in glassy amorphous polymers. Extreme Mechanics Letters, 2016, 8, 70-77. | 2.0 | 16 |
| 84 | Age-Related Changes in Quantitative Strain of Mouse Astrocytic Lamina Cribrosa and Peripapillary Sclera Using Confocal Microscopy in an Explant Model. , 2018, 59, 5157. | | 16 |
| 85 | Biomimetic human small muscular pulmonary arteries. Science Advances, 2020, 6, eaaz2598. | 4.7 | 16 |
| 86 | Biomechanical Evaluations of Ocular Injury Risk for Blast Loading. Journal of Biomechanical Engineering, 2017, 139, . | 0.6 | 15 |
| 87 | Modeling the Thermoviscoelastic Properties and Recovery Behavior of Shape Memory Polymer Composites. Journal of Applied Mechanics, Transactions ASME, 2014, 81, . | 1.1 | 14 |
| 88 | A Dynamic Inflation Test for Soft Materials. Experimental Mechanics, 2016, 56, 759-769. | 1.1 | 14 |
| 89 | The effect of alignment on the rate-dependent behavior of a main-chain liquid crystal elastomer. Soft Matter, 2020, 16, 8782-8798. | 1.2 | 14 |
| 90 | A micromechanical model for the growth of collagenous tissues under mechanics-mediated collagen deposition and degradation. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 98, 96-107. | 1.5 | 13 |

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|---|---|---|---|
| 91 | General Finite-Element Framework of the Virtual Fields Method in Nonlinear Elasticity. Journal of Elasticity, 2021, 145, 265-294. | 0.9 | 13 |
| 92 | Biomechanics of the optic nerve head and peripapillary sclera in a mouse model of glaucoma. Journal of the Royal Society Interface, 2020, 17, 20200708. | 1.5 | 13 |
| 93 | Regional Differences and Physiologic Behaviors in Peripapillary Scleral Fibroblasts. , 2021, 62, 27. | | 12 |
| 94 | Tissue Engineering: Bioâ€Origami Hydrogel Scaffolds Composed of Photocrosslinked PEG Bilayers (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 | 3.9 | 11 |
| 95 | Extending the effective temperature model to the large strain hardening behavior of glassy polymers. Journal of the Mechanics and Physics of Solids, 2021, 146, 104175. | 2.3 | 11 |
| 96 | The Strain Response to Intraocular Pressure Decrease in the Lamina Cribrosa of Patients with Glaucoma. Ophthalmology Glaucoma, 2023, 6, 11-22. | 0.9 | 10 |
| 97 | Thermo-mechanics of Amorphous Shape-memory Polymers. Procedia IUTAM, 2015, 12, 154-161. | 1.2 | 9 |
| 98 | On the flexural and extensional behavior of a large-tow triaxial braided composite. Composites Science and Technology, 2000, 60, 2989-2999. | 3.8 | 8 |
| 99 | Increased stiffness of collagen fibrils following cyclic tensile loading. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 82, 345-354. | 1.5 | 8 |
| 100 | Biomechanics of the Cornea and Sclera. , 2016, , 285-315. | | 5 |
| 101 | Mechanical strain in the mouse astrocytic lamina increases after exposure to recombinant trypsin. Acta Biomaterialia, 2023, 163, 312-325. | 4.1 | 4 |
| 102 | Nanoindentation of Compliant Substrate Systems: Effects of Geometry and Compliance. Journal of Engineering Materials and Technology, Transactions of the ASME, 2010, 132, . | 0.8 | 3 |
| 103 | Estimations of the effective Young's modulus of specimens prepared by fused filament fabrication. Additive Manufacturing, 2021, 42, 101983. | 1.7 | 3 |
| 104 | Effectiveness of Eye Armor During Blast Loading. , 2013, , . | | 2 |
| 105 | Modeling the Anisotropic Finite-Deformation Viscoelastic Behavior of Soft Fiber-Reinforced Tissues. , 2007, , . | | 1 |
| 106 | A Thermoviscoelastic Approach for Modeling Shape Memory Polymers. Materials Research Society Symposia Proceedings, 2009, 1190, 19. | 0.1 | 1 |
| 107 | Regional Variations in the Mechanical Strains of the Human Optic Nerve Head. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 119-127. | 0.3 | 1 |
| 108 | The Biomechanical Response of Normal and Glaucoma Human Sclera. , 2010, , . | | 1 |

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| 109 | The Scleral Inflation Response of Mouse Eyes to Increases in Pressure. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 87-92. | 0.3 | 1 |
| 110 | On the Elastic-Plastic Response of a Large-Tow Triaxially Braided Composite. Journal of Thermoplastic Composite Materials, 2003, 16, 183-191. | 2.6 | 0 |
| 111 | Modeling the Inflation Response of C57BL/6 Mouse Sclera. , 2011, , . | | 0 |
| 112 | Modeling the Anisotropic Properties of Human Skin Tissues. , 2012, , . | | 0 |
| 113 | A Significant Advance in the Biomechanical Evaluation of the Optic Nerve Head. , 2014, 55, 215. | | 0 |
| 114 | Modeling the Finite Deformation Anisotropic Viscoelastic Behavior of the Cornea. , 2008, , . | | 0 |
| 115 | The Bulge Inflation Response of Bovine Sclera. , 2009, , . | | 0 |
| 116 | The Inflation Response of Mouse Sclera: Age Effects on the Mechanical Properties of Scleral Tissue. , 2010, , . | | 0 |
| 117 | Effects of the Scleral Collagen Structure on the Biomechanical Response of the Optic Nerve Head. , 2012, , . | | 0 |
| 118 | Modeling Study Incorporating Depth-Dependent Transverse Reinforcement due to Variation in Collagen Lamellae Interweaving in Corneal Tissue. , 2012, , . | | 0 |
| 119 | Comparing 2D and 3D Digital Image Correlation for an Inflation Test. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 61-67. | 0.3 | 0 |
| 120 | Developing and characterizing human biomimetic arteriole for studying pulmonary hypertension. FASEB Journal, 2018, 32, 568.16. | 0.2 | 0 |