

Kenneth T Christensen

List of Publications by Year in descending order

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107
papers

4,522
citations

117625

34
h-index

102487

66
g-index

111
all docs

111
docs citations

111
times ranked

3227
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Topographic perturbation of turbulent boundary layers by low-angle, early-stage aeolian dunes. <i>Earth Surface Processes and Landforms</i> , 2022, 47, 1439-1454. | 2.5 | 3 |
| 2 | Announcing the 2021 Measurement Science and Technology Outstanding Paper Awards. <i>Measurement Science and Technology</i> , 2022, 33, 070201. | 2.6 | 1 |
| 3 | A Methodology for Studying the Hydroelastic Response of Submerged Flexible Vegetation. <i>Water Resources Research</i> , 2022, 58, . | 4.2 | 2 |
| 4 | The Effect of Biofilms on Turbulent Flow Over Permeable Beds. <i>Water Resources Research</i> , 2021, 57, e2019WR026032. | 4.2 | 4 |
| 5 | Unsteady dynamics of turbulent flow in the wakes of barchan dunes modulated by overlying boundary-layer structure. <i>Journal of Fluid Mechanics</i> , 2021, 920, . | 3.4 | 4 |
| 6 | A particle-based image segmentation method for phase separation and interface detection in PIV images of immiscible multiphase flow. <i>Measurement Science and Technology</i> , 2021, 32, 095208. | 2.6 | 10 |
| 7 | Flow Past Mound-Bearing Impact Craters: An Experimental Study. <i>Fluids</i> , 2021, 6, 216. | 1.7 | 3 |
| 8 | Pore-Scale Dynamics of Liquid CO ₂ -Water Displacement in 2D Axisymmetric Porous Micromodels Under Strong Drainage and Weak Imbibition Conditions: High-Speed PIV Measurements. <i>Frontiers in Water</i> , 2021, 3, . | 2.3 | 2 |
| 9 | PIV measurements of turbulent flow overlying large, cubic- and hexagonally-packed hemisphere arrays. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 363-383. | 1.7 | 13 |
| 10 | A study of wall shear stress in turbulent channel flow with hemispherical roughness. <i>Journal of Fluid Mechanics</i> , 2020, 885, . | 3.4 | 15 |
| 11 | Novel Environment Enables PIV Measurements of Turbulent Flow around and within Complex Topographies. <i>Journal of Hydraulic Engineering</i> , 2020, 146, 04020033. | 1.5 | 9 |
| 12 | Secondary Flows and Vortex Structure Associated With Isolated and Interacting Barchan Dunes. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020, 125, e2019JF005257. | 2.8 | 18 |
| 13 | Nanoscale detection of metastable states in porous and granular media. <i>Journal of Applied Physics</i> , 2020, 127, 024901. | 2.5 | 4 |
| 14 | Experimental evidence of amplitude modulation in permeable-wall turbulence. <i>Journal of Fluid Mechanics</i> , 2020, 887, . | 3.4 | 34 |
| 15 | Modelling smooth- and transitionally rough-wall turbulent channel flow by leveraging inner-outer interactions and principal component analysis. <i>Journal of Fluid Mechanics</i> , 2019, 863, 407-453. | 3.4 | 22 |
| 16 | 12th International Symposium on Particle Image Velocimetry (PIV 2017). <i>Measurement Science and Technology</i> , 2019, 30, 020102. | 2.6 | 0 |
| 17 | High-Speed Quantification of Pore-Scale Multiphase Flow of Water and Supercritical CO ₂ in Heterogeneous Porous Micromodels: Flow Regimes and Interface Dynamics. <i>Water Resources Research</i> , 2019, 55, 3758-3779. | 4.2 | 20 |
| 18 | Characteristics of large-scale and superstructure motions in a turbulent boundary layer overlying complex roughness. <i>Journal of Turbulence</i> , 2019, 20, 147-173. | 1.4 | 10 |

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|----|---|-----|-----------|
| 19 | Spatial Scales of Turbulent Flow Structures Associated With Interacting Barchan Dunes. <i>Journal of Geophysical Research F: Earth Surface</i> , 2019, 124, 1175-1200. | 2.8 | 22 |
| 20 | An Investigation into a Pressure Anomaly during Synthetic Jet Operation. , 2019, , . | | 0 |
| 21 | Investigation of inner-outer interactions in a turbulent boundary layer using high-speed particle image velocimetry. <i>Physical Review Fluids</i> , 2019, 4, . | 2.5 | 13 |
| 22 | Turbulence Links Momentum and Solute Exchange in Coarse-Grained Streambeds. <i>Water Resources Research</i> , 2018, 54, 3225-3242. | 4.2 | 36 |
| 23 | A phase-field lattice Boltzmann model for simulating multiphase flows in porous media: Application and comparison to experiments of CO ₂ sequestration at pore scale. <i>Advances in Water Resources</i> , 2018, 114, 119-134. | 3.8 | 68 |
| 24 | Flow Interactions Between Streamwise-Aligned Tandem Cylinders in Turbulent Channel Flow. <i>AIAA Journal</i> , 2018, 56, 1421-1433. | 2.6 | 14 |
| 25 | Seismic and strain detection of heterogeneous spatial distribution of CO ₂ in high-permeable sandstone. <i>International Journal of Greenhouse Gas Control</i> , 2018, 72, 65-73. | 4.6 | 4 |
| 26 | Lattice Boltzmann simulations of liquid CO ₂ displacing water in a 2D heterogeneous micromodel at reservoir pressure conditions. <i>Journal of Contaminant Hydrology</i> , 2018, 212, 14-27. | 3.3 | 61 |
| 27 | Turbulent Flow Structure Associated With Collision Between Laterally Offset, Fixed-Bed Barchan Dunes. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 2157-2188. | 2.8 | 29 |
| 28 | Experimental study of turbulent flow over and within cubically packed walls of spheres: Effects of topography, permeability and wall thickness. <i>International Journal of Heat and Fluid Flow</i> , 2018, 73, 16-29. | 2.4 | 26 |
| 29 | Cross-stream stereoscopic particle image velocimetry of a modified turbulent boundary layer over directional surface pattern. <i>Journal of Fluid Mechanics</i> , 2017, 813, 412-435. | 3.4 | 79 |
| 30 | 11th International Symposium on Particle Image Velocimetry (PIV 2015). <i>Measurement Science and Technology</i> , 2017, 28, 010103. | 2.6 | 2 |
| 31 | Volumetric Velocity Measurements in the Wake of a Hemispherical Roughness Element. <i>AIAA Journal</i> , 2017, 55, 2158-2173. | 2.6 | 20 |
| 32 | Experimental Study of Two-phase Fluid Flow in the Porous Sandstone by P-wave Velocity and Electrical Impedance Measurement. <i>Energy Procedia</i> , 2017, 114, 4948-4953. | 1.8 | 0 |
| 33 | Micro-PIV measurements of multiphase flow of water and liquid CO ₂ in 2D heterogeneous porous micromodels. <i>Water Resources Research</i> , 2017, 53, 6178-6196. | 4.2 | 39 |
| 34 | Incoming Editor-in-Chief. <i>Measurement Science and Technology</i> , 2017, 28, 010102. | 2.6 | 0 |
| 35 | Numerical and experimental study of flow over stages of an offset merger dune interaction. <i>Computers and Fluids</i> , 2017, 158, 72-83. | 2.5 | 16 |
| 36 | Inner-outer interactions in a turbulent boundary layer overlying complex roughness. <i>Physical Review Fluids</i> , 2017, 2, . | 2.5 | 49 |

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|----|---|-----|-----------|
| 37 | Characterization of immiscible fluid displacement processes with various capillary numbers and viscosity ratios in 3D natural sandstone. <i>Advances in Water Resources</i> , 2016, 95, 3-15. | 3.8 | 145 |
| 38 | A topological evaluation procedure to assess the integrity of a PIV vector field. <i>Measurement Science and Technology</i> , 2016, 27, 094007. | 2.6 | 8 |
| 39 | Coherent structures in oscillatory flows within the laminar-to-turbulent transition regime for smooth and rough walls. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2016, 54, 502-515. | 1.7 | 4 |
| 40 | Turbulence Amplitude Modulation in an Externally Forced, Subsonic Turbulent Boundary Layer. , 2016, , . | | 2 |
| 41 | Quantifying the flow dynamics of supercritical CO ₂ water displacement in a 2D porous micromodel using fluorescent microscopy and microscopic PIV. <i>Advances in Water Resources</i> , 2016, 95, 352-368. | 3.8 | 62 |
| 42 | Numerical and experimental study of mechanisms responsible for turbulent secondary flows in boundary layer flows over spanwise heterogeneous roughness. <i>Journal of Fluid Mechanics</i> , 2015, 768, 316-347. | 3.4 | 135 |
| 43 | A methodology for velocity field measurement in multiphase high-pressure flow of CO ₂ and water in micromodels. <i>Water Resources Research</i> , 2015, 51, 3017-3029. | 4.2 | 37 |
| 44 | Structure of Turbulent Channel Flow Perturbed by a Wall-Mounted Cylindrical Element. <i>AIAA Journal</i> , 2015, 53, 1277-1286. | 2.6 | 12 |
| 45 | A microscopic particle image velocimetry method for studying the dynamics of immiscible liquid-liquid interactions in a porous micromodel. <i>Microfluidics and Nanofluidics</i> , 2015, 18, 1391-1406. | 2.2 | 38 |
| 46 | Uncertainty quantification in particle image velocimetry. <i>Measurement Science and Technology</i> , 2015, 26, 070201. | 2.6 | 17 |
| 47 | Surrogate immiscible liquid pairs with refractive indexes matchable over a wide range of density and viscosity ratios. <i>Physics of Fluids</i> , 2015, 27, . | 4.0 | 13 |
| 48 | Turbulent boundary layer flow over transverse aerodynamic roughness transitions: Induced mixing and flow characterization. <i>Physics of Fluids</i> , 2014, 26, . | 4.0 | 86 |
| 49 | Observations of meandering superstructures in the roughness sublayer of a turbulent boundary layer. <i>International Journal of Heat and Fluid Flow</i> , 2014, 48, 43-51. | 2.4 | 22 |
| 50 | PIV experiments in rough-wall, laminar-to-turbulent, oscillatory boundary-layer flows. <i>Experiments in Fluids</i> , 2014, 55, 1. | 2.4 | 6 |
| 51 | The study of heterogeneous two-phase flow around small-scale heterogeneity in porous sandstone by measured elastic wave velocities and lattice Boltzmann method simulation. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 7564-7577. | 3.4 | 12 |
| 52 | Observations of turbulent secondary flows in a rough-wall boundary layer. <i>Journal of Fluid Mechanics</i> , 2014, 748, . | 3.4 | 114 |
| 53 | Fluorescent Thermometry. , 2014, , 1-15. | | 0 |
| 54 | Structural characteristics of a heated jet in cross-flow emanating from a raised, circular stack. <i>Experiments in Fluids</i> , 2013, 54, 1. | 2.4 | 3 |

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|----|--|------|-----------|
| 55 | Robust suppression of background reflections in PIV images. Measurement Science and Technology, 2013, 24, 027003. | 2.6 | 19 |
| 56 | Multi-physics optimization of three-dimensional microvascular polymeric components. Journal of Computational Physics, 2013, 233, 132-147. | 3.8 | 29 |
| 57 | Wall-parallel stereo particle-image velocimetry measurements in the roughness sublayer of turbulent flow overlying highly irregular roughness. Physics of Fluids, 2013, 25, . | 4.0 | 61 |
| 58 | Inkjet Printing: High-Throughput Printing via Microvascular Multinozzle Arrays (Adv. Mater. 1/2013). Advanced Materials, 2013, 25, 2-2. | 21.0 | 8 |
| 59 | Large eddy simulation of interacting barchan dunes in a steady, unidirectional flow. Journal of Geophysical Research F: Earth Surface, 2013, 118, 2089-2104. | 2.8 | 26 |
| 60 | High-Throughput Printing via Microvascular Multinozzle Arrays. Advanced Materials, 2013, 25, 96-102. | 21.0 | 132 |
| 61 | Temperature Measurement, Methods. , 2013, , 1-17. | | 0 |
| 62 | Vortex organization in a turbulent boundary layer overlying sparse roughness elements. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 465-481. | 1.7 | 27 |
| 63 | A versatile refractive-index-matched flow facility for studies of complex flow systems across scientific disciplines. , 2012, , . | | 11 |
| 64 | Polymer-induced turbulence modifications in an impinging jet. Experiments in Fluids, 2012, 52, 1237-1260. | 2.4 | 1 |
| 65 | Particle-image velocimetry measurements of flow over interacting barchan dunes. Experiments in Fluids, 2012, 52, 809-829. | 2.4 | 50 |
| 66 | Non-intrusive measurements of transitional and turbulent convective heat transfer in a rectangular microchannel. Journal of Micromechanics and Microengineering, 2011, 21, 085001. | 2.6 | 6 |
| 67 | Modeling Cumulative Surface Damage and Assessing its Impact on Wall Turbulence. AIAA Journal, 2011, 49, 2305-2320. | 2.6 | 13 |
| 68 | Spatial structure of a turbulent boundary layer with irregular surface roughness. Journal of Fluid Mechanics, 2010, 655, 380-418. | 3.4 | 174 |
| 69 | Non-intrusive measurements of convective heat transfer in smooth- and rough-wall microchannels: laminar flow. Experiments in Fluids, 2010, 49, 1021-1037. | 2.4 | 19 |
| 70 | The impact of surface roughness on flow through a rectangular microchannel from the laminar to turbulent regimes. Microfluidics and Nanofluidics, 2010, 9, 95-121. | 2.2 | 35 |
| 71 | Characterization of Active Cooling and Flow Distribution in Microvascular Polymers. Journal of Intelligent Material Systems and Structures, 2010, 21, 1147-1156. | 2.5 | 34 |
| 72 | Natural advection from a microcantilever heat source. Applied Physics Letters, 2010, 96, 063113. | 3.3 | 2 |

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|----|---|-----|-----------|
| 73 | Low-order representations of irregular surface roughness and their impact on a turbulent boundary layer. <i>Physics of Fluids</i> , 2010, 22, 015106. | 4.0 | 76 |
| 74 | Particle-Image Velocimetry Study of a Pediatric Ventricular Assist Device. <i>Journal of Biomechanical Engineering</i> , 2010, 132, 071004. | 1.3 | 6 |
| 75 | Turbulent Flow over Low-Order Models of Highly Irregular Surface Roughness. <i>AIAA Journal</i> , 2009, 47, 1288-1299. | 2.6 | 12 |
| 76 | Experimental investigation of gaseous reactive flows around catalytically coated micro-wires. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 3043-3050. | 3.9 | 4 |
| 77 | Intermediate Reynolds number flat plate boundary layer flows over catalytic surfaces for micro-combustion applications. <i>Proceedings of the Combustion Institute</i> , 2009, 32, 3035-3042. | 3.9 | 23 |
| 78 | Structural characteristics of transition to turbulence in microscale capillaries. <i>Physics of Fluids</i> , 2009, 21, 034104. | 4.0 | 11 |
| 79 | Two-color laser-induced fluorescent thermometry for microfluidic systems. <i>Measurement Science and Technology</i> , 2009, 20, 015401. | 2.6 | 98 |
| 80 | Review of Particle Image Velocimetry: A Practical Guide, Second Edition. <i>AIAA Journal</i> , 2008, 46, 2974-2975. | 2.6 | 8 |
| 81 | Fluorescent Thermometry. , 2008, , 750-759. | | 1 |
| 82 | Temperature Measurement, Methods. , 2008, , 1994-2005. | | 0 |
| 83 | Outer-layer similarity in the presence of a practical rough-wall topography. <i>Physics of Fluids</i> , 2007, 19, 085108. | 4.0 | 129 |
| 84 | Direct Flow Visualization of Colloidal Gels in Microfluidic Channels. <i>Langmuir</i> , 2007, 23, 8726-8731. | 3.5 | 33 |
| 85 | Spatial signatures of retrograde spanwise vortices in wall turbulence. <i>Journal of Fluid Mechanics</i> , 2007, 574, 155-167. | 3.4 | 56 |
| 86 | Microscopic particle image velocimetry measurements of transition to turbulence in microscale capillaries. <i>Experiments in Fluids</i> , 2007, 43, 1-16. | 2.4 | 29 |
| 87 | Population trends of spanwise vortices in wall turbulence. <i>Journal of Fluid Mechanics</i> , 2006, 568, 55. | 3.4 | 211 |
| 88 | The role of coherent structures in subgrid-scale energy transfer within the log layer of wall turbulence. <i>Physics of Fluids</i> , 2006, 18, 065104. | 4.0 | 42 |
| 89 | Statistical and structural similarities between micro- and macroscale wall turbulence. <i>Microfluidics and Nanofluidics</i> , 2006, 3, 89-100. | 2.2 | 22 |
| 90 | Development of a Two-Dye LIF Technique for Measuring Fluid Temperature Fields in Microfluidic Devices. , 2006, , 535. | | 0 |

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| 91 | Reynolds-Stress Enhancement Associated with a Short Fetch of Roughness in Wall Turbulence. AIAA Journal, 2006, 44, 3098-3106. | 2.6 | 37 |
| 92 | Visualization and characterization of small-scale spanwise vortices in turbulent channel flow. Journal of Visualization, 2005, 8, 177-185. | 1.8 | 17 |
| 93 | Review of Optical Metrology for Fluids, Combustion and Solids. AIAA Journal, 2004, 42, 1054-1055. | 2.6 | 0 |
| 94 | The influence of peak-locking errors on turbulence statistics computed from PIV ensembles. Experiments in Fluids, 2004, 36, 484-497. | 2.4 | 161 |
| 95 | Direct Assessment of the Accuracy of Stereo PIV in Turbulent Channel Flow. , 2004, , . | | 0 |
| 96 | Microstreaming effects on particle concentration in an ultrasonic standing wave. AIChE Journal, 2003, 49, 2773-2782. | 3.6 | 106 |
| 97 | Effect of a Roughness Transition on Turbulent Structures in the Outer Layer. , 2003, , 23-28. | | 0 |
| 98 | The velocity and acceleration signatures of small-scale vortices in turbulent channel flow. Journal of Turbulence, 2002, 3, N23. | 1.4 | 29 |
| 99 | Measurement of instantaneous Eulerian acceleration fields by particle image accelerometry: method and accuracy. Experiments in Fluids, 2002, 33, 759-769. | 2.4 | 77 |
| 100 | Statistical evidence of hairpin vortex packets in wall turbulence. Journal of Fluid Mechanics, 2001, 431, 433-443. | 3.4 | 344 |
| 101 | Observation of yeast cell movement and aggregation in a small-scale MHz-ultrasonic standing wave field. Bioseparation, 2000, 9, 329-341. | 0.7 | 66 |
| 102 | A Kalman tracker for super-resolution PIV. Experiments in Fluids, 2000, 29, S034-S041. | 2.4 | 56 |
| 103 | Analysis and interpretation of instantaneous turbulent velocity fields. Experiments in Fluids, 2000, 29, 275-290. | 2.4 | 680 |
| 104 | Anderson localization in one-dimensional randomly disordered optical systems that are periodic on average. Physical Review B, 1993, 47, 13120-13125. | 3.2 | 130 |
| 105 | Mueller et al. reply. Physical Review Letters, 1992, 69, 2454-2454. | 7.8 | 1 |
| 106 | Laminar boundary layer on an impulsively started rotating sphere. Physics of Fluids, 1979, 22, 1. | 1.4 | 26 |
| 107 | MST Outgoing EIC Editorial. Measurement Science and Technology, 0, , . | 2.6 | 0 |