

# Charles L Tucker Iii

## List of Publications by Year in descending order

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71  
papers

7,913  
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94433  
37  
h-index

88630  
70  
g-index

73  
all docs

73  
docs citations

73  
times ranked

3013  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Analysis of anisotropic rotary diffusion models for fiber orientation. Composites Part A: Applied Science and Manufacturing, 2019, 126, 105605.  | 7.6 | 23        |
| 2  | Uncertainty quantification of fiber orientation distribution measurements for long-fiber-reinforced thermoplastic composites. Journal of Composite Materials, 2018, 52, 1781-1797.             | 2.4 | 17        |
| 3  | Reliability in the characterization of fiber length distributions of injection molded long carbon fiber composites. Polymer Composites, 2018, 39, 4594-4604.                                   | 4.6 | 11        |
| 4  | Mechanics of random discontinuous long-fiber thermoplastics. Part II: Direct simulation of uniaxial compression. Journal of Rheology, 2013, 57, 1463-1489.                                     | 2.6 | 23        |
| 5  | A model for fiber length attrition in injection-molded long-fiber composites. Composites Part A: Applied Science and Manufacturing, 2013, 51, 11-21.   | 7.6 | 104       |
| 6  | Mechanics of Random Discontinuous Long-Fiber Thermoplasticsâ€”Part I: Generation and Characterization of Initial Geometry. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .        | 2.2 | 10        |
| 7  | Prediction of the Elasticâ€”Plastic Stress/Strain Response for Injection-Molded Long-Fiber Thermoplastics. Journal of Composite Materials, 2009, 43, 217-246.                                  | 2.4 | 39        |
| 8  | An anisotropic rotary diffusion model for fiber orientation in short- and long-fiber thermoplastics. Journal of Non-Newtonian Fluid Mechanics, 2009, 156, 165-176.                             | 2.4 | 269       |
| 9  | Prediction of fiber orientation in a rotating compressing and expanding mold. Polymer Engineering and Science, 2008, 48, 1405-1413.  | 3.1 | 22        |
| 10 | An objective model for slow orientation kinetics in concentrated fiber suspensions: Theory and rheological evidence. Journal of Rheology, 2008, 52, 1179-1200.                                 | 2.6 | 240       |
| 11 | Fiber Length and Orientation in Long-Fiber Injection-Molded Thermoplastics â€” Part I: Modeling of Microstructure and Elastic Properties. Journal of Composite Materials, 2008, 42, 1003-1029. | 2.4 | 80        |
| 12 | Lagrangian particle calculations of distributive mixing: Limitations and applications. Chemical Engineering Science, 2006, 61, 6826-6836.  | 3.8 | 49        |
| 13 | Stretch and Shape Distributions of Droplets with Interfacial Tension in Chaotic Mixing. International Polymer Processing, 2005, 20, 128-135.   | 0.5 | 4         |
| 14 | Stretching distributions in chaotic mixing of droplet dispersions with unequal viscosities. Physics of Fluids, 2005, 17, 053101.   | 4.0 | 8         |
| 15 | Microstructural Development of Polymer Blends in Chaotic Flows. AIP Conference Proceedings, 2004, , .  | 0.4 | 0         |
| 16 | Theory for drop deformation in viscoelastic systems. Journal of Rheology, 2004, 48, 417-438.   | 2.6 | 61        |
| 17 | Numerical simulation of mold filling in foam reaction injection molding. International Journal for Numerical Methods in Fluids, 2003, 42, 1105-1134.   | 1.6 | 31        |
| 18 | Enhanced conductivity of fuel cell plates through controlled fiber orientation. AIChE Journal, 2003, 49, 18-29.  | 3.6 | 43        |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 19 | A model for large deformation of an ellipsoidal droplet with interfacial tension. Journal of Rheology, 2003, 47, 659-682.  | 2.6  | 107       |
| 20 | Ideal Forming Analysis for Random Fiber Preforms. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2003, 125, 146-153.                                      | 2.2  | 8         |
| 21 | MICROSTRUCTURALEVOLUTION INPOLYMERBLENDS. Annual Review of Fluid Mechanics, 2002, 34, 177-210.   | 25.0 | 372       |
| 22 | Modeling and simulation of two-dimensional consolidation for thermoset matrix composites. Composites Part A: Applied Science and Manufacturing, 2002, 33, 877-892.                     | 7.6  | 56        |
| 23 | Fiber Suspensions in Complex Geometries: Flow/Orientation Coupling. Canadian Journal of Chemical Engineering, 2002, 80, 1093-1106.   | 1.7  | 109       |
| 24 | Material stretching in laminar mixing flows: extended mapping technique applied to the journal bearing flow. International Journal for Numerical Methods in Fluids, 2002, 40, 189-196. | 1.6  | 15        |
| 25 | A global, multi-scale simulation of laminar fluid mixing: the extended mapping method. International Journal of Multiphase Flow, 2002, 28, 497-523.                                    | 3.4  | 29        |
| 26 | Optimal curing for thermoset matrix composites: Thermochemical and consolidation considerations. Polymer Composites, 2002, 23, 739-757.  | 4.6  | 23        |
| 27 | Measurements of droplet deformation in simple shear flow with zero interfacial tension. Journal of Rheology, 2001, 45, 259-273.  | 2.6  | 20        |
| 28 | Numerical simulation of injection/compression liquid composite molding. Part 2: preform compression. Composites Part A: Applied Science and Manufacturing, 2001, 32, 207-220.          | 7.6  | 44        |
| 29 | Microstructural evolution during complex laminar flow of liquid-liquid dispersions. Journal of Non-Newtonian Fluid Mechanics, 2001, 101, 21-41.  | 2.4  | 5         |
| 30 | Optimal curing for thermoset matrix composites: Thermochemical considerations. Polymer Composites, 2001, 22, 118-131.  | 4.6  | 65        |
| 31 | Dimensional Accuracy of Thermoset Composites: Simulation of Process-Induced Residual Stresses. Journal of Composite Materials, 2001, 35, 2171-2205.                                    | 2.4  | 140       |
| 32 | Droplet deformation in dispersions with unequal viscosities and zero interfacial tension. Journal of Fluid Mechanics, 2001, 426, 199-228.  | 3.4  | 114       |
| 33 | Dimensional Accuracy of Thermoset Composites: Simulation of Process-Induced Residual Stresses. Journal of Composite Materials, 2001, 35, 2171-2205.                                    | 2.4  | 15        |
| 34 | Numerical simulation of injection/compression liquid composite molding. Part 1. Mesh generation. Composites Part A: Applied Science and Manufacturing, 2000, 31, 87-94.                | 7.6  | 27        |
| 35 | Fiber Orientation in 3-D Injection Molded Features. International Polymer Processing, 1999, 14, 409-420.   | 0.5  | 67        |
| 36 | Area tensors for modeling microstructure during laminar liquid-liquid mixing. International Journal of Multiphase Flow, 1999, 25, 35-61.   | 3.4  | 95        |

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|----|---|-----|-----------|
| 37 | Stiffness predictions for unidirectional short-fiber composites: Review and evaluation. Composites Science and Technology, 1999, 59, 655-671.   | 7.8 | 597       |
| 38 | Optimal design for polymer extrusion. Part I: Sensitivity analysis for nonlinear steady-state systems. Computer Methods in Applied Mechanics and Engineering, 1998, 167, 283-302.                 | 6.6 | 52        |
| 39 | Optimal design for polymer extrusion. Part II: Sensitivity analysis for weakly-coupled nonlinear steady-state systems. Computer Methods in Applied Mechanics and Engineering, 1998, 167, 303-323. | 6.6 | 33        |
| 40 | Analysis and sensitivity analysis for polymer injection and compression molding. Computer Methods in Applied Mechanics and Engineering, 1998, 167, 325-344.                                       | 6.6 | 47        |
| 41 | Forming limit measurements for random-fiber mats. Polymer Composites, 1998, 19, 370-376.  | 4.6 | 3         |
| 42 | The Optimized Quasi-Planar Approximation for Predicting Fiber Orientation in Injection-Molded Composites1. International Polymer Processing, 1997, 12, 238-248.                                   | 0.5 | 15        |
| 43 | Heat transfer and reaction issues in liquid composite molding. Polymer Composites, 1996, 17, 60-72.   | 4.6 | 25        |
| 44 | A finite element method for flow in compression molding of thin and thick parts. Polymer Composites, 1995, 16, 70-82.   | 4.6 | 21        |
| 45 | Thermal dispersion in resin transfer molding. Polymer Composites, 1995, 16, 495-506.  | 4.6 | 39        |
| 46 | The Continuous Curing Process for Thermoset Polymer Composites. Part 1: Modeling and Demonstration. Journal of Composite Materials, 1995, 29, 1222-1253.  | 2.4 | 71        |
| 47 | Orthotropic closure approximations for flow-induced fiber orientation. Journal of Rheology, 1995, 39, 1095-1122.  | 2.6 | 370       |
| 48 | A theory for concentrated fiber suspensions with strong fiber-fiber interactions. Makromolekulare Chemie Macromolecular Symposia, 1993, 68, 291-300.  | 0.6 | 9         |
| 49 | Fiber orientation in simple injection moldings. Part I: Theory and numerical methods. Polymer Composites, 1992, 13, 317-331.  | 4.6 | 208       |
| 50 | Fiber orientation in simple injection moldings. Part II: Experimental results. Polymer Composites, 1992, 13, 332-341.   | 4.6 | 161       |
| 51 | Stereological measurement and error estimates for three-dimensional fiber orientation. Polymer Engineering and Science, 1992, 32, 240-253.  | 3.1 | 220       |
| 52 | Flow regimes for fiber suspensions in narrow gaps. Journal of Non-Newtonian Fluid Mechanics, 1991, 39, 239-268.   | 2.4 | 150       |
| 53 | A numerical simulation of short fiber orientation in compression molding. Polymer Composites, 1990, 11, 164-173.  | 4.6 | 100       |
| 54 | Stiffness and thermal expansion predictions for hybrid short fiber composites. Polymer Composites, 1990, 11, 229-239.   | 4.6 | 115       |

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|----|---|-----|-----------|
| 55 | Compression Mold Filling Simulation for Non-Planar Parts. International Polymer Processing, 1990, 5, 79-87.   | 0.5 | 53        |
| 56 | Closure approximations for three-dimensional structure tensors. Journal of Rheology, 1990, 34, 367-386.   | 2.6 | 333       |
| 57 | A boundary element simulation of compression mold filling. Polymer Engineering and Science, 1988, 28, 413-420.  | 3.1 | 36        |
| 58 | The Use of Tensors to Describe and Predict Fiber Orientation in Short Fiber Composites. Journal of Rheology, 1987, 31, 751-784.   | 2.6 | 1,474     |
| 59 | Flow and heat transfer in compression mold filling. Journal of Non-Newtonian Fluid Mechanics, 1987, 24, 245-264.  | 2.4 | 31        |
| 60 | Predicting the Orientation of Short Fibers in Thin Compression Moldings. Journal of Composite Materials, 1986, 20, 539-557.   | 2.4 | 99        |
| 61 | Mechanical Property Predictions for Short Fiber/Brittle Matrix Composites. Journal of Reinforced Plastics and Composites, 1984, 3, 120-129.   | 3.1 | 25        |
| 62 | Simulation of Compression Molding for Fiber-Reinforced Thermosetting Polymers. Journal of Engineering for Industry, 1984, 106, 114-125.   | 0.8 | 81        |
| 63 | Orientation Behavior of Fibers in Concentrated Suspensions. Journal of Reinforced Plastics and Composites, 1984, 3, 98-119.   | 3.1 | 936       |
| 64 | Prediction and Control of Fiber Orientation in Molded Parts. Advances in Chemistry Series, 1984, , 279-299.   | 0.6 | 10        |
| 65 | A model of compression mold filling. Polymer Engineering and Science, 1983, 23, 69-73.  | 3.1 | 49        |
| 66 | Sample variance measurement of mixing. Chemical Engineering Science, 1981, 36, 1829-1839.   | 3.8 | 15        |
| 67 | Mixing for reaction injection molding. I. Impingement mixing of liquids. Polymer Engineering and Science, 1980, 20, 875-886.  | 3.1 | 85        |
| 68 | Mixing for reaction injection molding II. Impingement mixing of fiber suspensions. Polymer Engineering and Science, 1980, 20, 887-898.  | 3.1 | 16        |
| 69 | Discussion: "Vortex Motions Induced by V-Groove Rotating Cylinders and Their Effect on Mixing Performance" (Rotz, C. A., and Suh, N. P., 1979, ASME J. Fluids Eng., 100, pp. 186-192). Journal of Fluids Engineering, Transactions of the ASME, 1980, 102, 387-388. | 1.5 | 1         |
| 70 | Fluid Delivery and Metering for Reaction-Injection Molding. Journal of Engineering for Industry, 1977, 99, 678-681.   | 0.8 | 2         |
| 71 | Electrostatic powder mixing. Polymer Engineering and Science, 1976, 16, 657-663.  | 3.1 | 13        |