Peter T Cummings

List of Publications by Citations

460 papers	16,558 citations	66 h-index	103 g-index
483 ext. papers	17,797 ext. citations	4 avg, IF	6.67 L-index

#	Paper	IF	Citations
460	Tumor morphology and phenotypic evolution driven by selective pressure from the microenvironment. *Cell*, **2006**, 127, 905-15	56.2	573
459	Three-dimensional tracking of motile bacteria near a solid planar surface. *Proceedings of the National Academy of Sciences of the United States of America*, **1995**, 92, 6195-9	11.5	280
458	Supercapacitor Capacitance Exhibits Oscillatory Behavior as a Function of Nanopore Size. *Journal of Physical Chemistry Letters*, **2011**, 2, 2859-2864	6.4	263
457	Electric Double Layer at the Rutile (110) Surface. 1. Structure of Surfaces and Interfacial Water from Molecular Dynamics by Use of ab Initio Potentials. *Journal of Physical Chemistry B*, **2004**, 108, 12049-12060	3.4	245
456	Water in carbon nanotubes: adsorption isotherms and thermodynamic properties from molecular simulation. *Journal of Chemical Physics*, **2005**, 122, 234712	3.9	210
455	From dimer to condensed phases at extreme conditions: accurate predictions of the properties of water by a Gaussian charge polarizable model. *Journal of Chemical Physics*, **2005**, 122, 244511	3.9	190
454	Improvement of Quality in Publication of Experimental Thermophysical Property Data: Challenges, Assessment Tools, Global Implementation, and Online Support. *Journal of Chemical & Engineering Data*, **2013**, 58, 2699-2716	2.8	187
453	Water Adsorption in Carbon-Slit Nanopores. *Langmuir*, **2003**, 19, 8583-8591	4	181
452	Characterization of titanium dioxide nanoparticles using molecular dynamics simulations. *Journal of Physical Chemistry B*, **2005**, 109, 15243-9	3.4	179
451	Simulation of supercritical water and of supercritical aqueous solutions. *Journal of Chemical Physics*, **1991**, 94, 5606-5621	3.9	169
450	Quantitative comparison and optimization of methods for evaluating the chemical potential by molecular simulation. *Molecular Physics*, **1997**, 92, 973-996	1.7	162
449	Oscillatory Behavior of Double-Walled Nanotubes under Extension: A Simple Nanoscale Damped Spring. *Nano Letters*, **2003**, 3, 1001-1005	11.5	160
448	Fluidity of hydration layers nanoconfined between mica surfaces. *Physical Review Letters*, **2005**, 94, 026101	7.4	156
447	Solute-induced effects on the structure and thermodynamics of infinitely dilute mixtures. *AICHE Journal*, **1994**, 40, 1558-1573	3.6	151
446	Simulations of the Quartz(101 1)/Water Interface: A Comparison of Classical Force Fields, Ab Initio Molecular Dynamics, and X-ray Reflectivity Experiments. *Journal of Physical Chemistry C*, **2011**, 115, 2076-2088	3.8	145
445	Molecular simulation of water along the liquid–vapor coexistence curve from 25 °C to the critical point. *Journal of Chemical Physics*, **1990**, 93, 7355-7359	3.9	145
444	Engineering a simple polarizable model for the molecular simulation of water applicable over wide ranges of state conditions. *Journal of Chemical Physics*, **1996**, 105, 8274-8281	3.9	143

443	Process optimization via simulated annealing: Application to network design. *AICHE Journal*, **1989**, 35, 725-736	3.6	140
442	Nanoscale perturbations of room temperature ionic liquid structure at charged and uncharged interfaces. *ACS Nano*, **2012**, 6, 9818-27	16.7	137
441	Statistical mechanical models of chemical reactions. *Molecular Physics*, **1984**, 51, 253-287	1.7	136
440	Na+Cl ion pair association in supercritical water. *Journal of Chemical Physics*, **1995**, 103, 9379-9387	3.9	131
439	Molecular simulation of the transition from liquidlike to solidlike behavior in complex fluids confined to nanoscale gaps. *Journal of Chemical Physics*, **2001**, 114, 7189-7195	3.9	127
438	Comparison of shear flow of hexadecane in a confined geometry and in bulk. *Journal of Chemical Physics*, **1997**, 106, 7303-7314	3.9	126
437	Computational Insights into Materials and Interfaces for Capacitive Energy Storage. *Advanced Science*, **2017**, 4, 1700059	13.6	122
436	Molecular dynamics simulation of titanium dioxide nanoparticle sintering. *Journal of Physical Chemistry B*, **2005**, 109, 24280-7	3.4	122
435	Molecular simulations of liquid-liquid interfacial properties: water-n-alkane and water-methanol-n-alkane systems. *Physical Review E*, **2003**, 67, 011603	2.4	122
434	C60 binds to and deforms nucleotides. *Biophysical Journal*, **2005**, 89, 3856-62	2.9	120
433	Microstructure of Ambient and Supercritical Water. Direct Comparison between Simulation and Neutron Scattering Experiments. *The Journal of Physical Chemistry*, **1996**, 100, 1309-1316		119
432	Electric Double Layer at the Rutile (110) Surface. 2. Adsorption of Ions from Molecular Dynamics and X-ray Experiments. *Journal of Physical Chemistry B*, **2004**, 108, 12061-12072	3.4	118
431	Bias-dependent molecular-level structure of electrical double layer in ionic liquid on graphite. *Nano Letters*, **2013**, 13, 5954-60	11.5	117
430	Dynamics and Structure of Hydration Water on Rutile and Cassiterite Nanopowders Studied by Quasielastic Neutron Scattering and Molecular Dynamics Simulations. *Journal of Physical Chemistry C*, **2007**, 111, 4328-4341	3.8	117
429	Molecular Insights into Carbon Supercapacitors Based on Room-Temperature Ionic Liquids. *Journal of Physical Chemistry Letters*, **2013**, 4, 3367-3376	6.4	112
428	Alkyl Chain Length and Temperature Effects on Structural Properties of Pyrrolidinium-Based Ionic Liquids: A Combined Atomistic Simulation and Small-Angle X-ray Scattering Study. *Journal of Physical Chemistry Letters*, **2012**, 3, 125-130	6.4	112
427	Molecular dynamics simulations of the rheology of normal decane, hexadecane, and tetracosane. *Journal of Chemical Physics*, **1996**, 105, 1214-1220	3.9	111
426	Comparison of nonequilibrium molecular dynamics with experimental measurements in the nonlinear shear-thinning regime. *Physical Review Letters*, **2002**, 88, 058302	7.4	110

425	Hydrogen bonding in supercritical water. *Journal of Chemical Physics*, **1994**, 101, 4466-4469	3.9	109
424	Interaction site models for molecular fluids. *Molecular Physics*, **1982**, 46, 383-426	1.7	105
423	Curvature Effect on the Capacitance of Electric Double Layers at Ionic Liquid/Onion-Like Carbon Interfaces. *Journal of Chemical Theory and Computation*, **2012**, 8, 1058-63	6.4	104
422	Nonequilibrium molecular dynamics approaches to transport properties and non-Newtonian fluid rheology. *Industrial & Engineering Chemistry Research*, **1992**, 31, 1237-1252	3.9	100
421	The oscillatory damped behaviour of incommensurate double-walled carbon nanotubes. *Nanotechnology*, **2005**, 16, 186-98	3.4	99
420	Hydration structure of water confined between mica surfaces. *Journal of Chemical Physics*, **2006**, 124, 74711	3.9	97
419	Structural Origins of Potential Dependent Hysteresis at the Electrified Graphene/Ionic Liquid Interface. *Journal of Physical Chemistry C*, **2014**, 118, 569-574	3.8	96
418	Supercritical fluid behavior at nanoscale interfaces: Implications for CO2 sequestration in geologic formations. *Philosophical Magazine*, **2010**, 90, 2339-2363	1.6	96
417	Generation of percolation cluster perimeters by a random walk. *Journal of Physics A*, **1984**, 17, 3009-3017		96
416	Molecular Dynamics Study of the Structure and Thermophysical Properties of Model sI Clathrate Hydrates. *Journal of Physical Chemistry B*, **2002**, 106, 442-451	3.4	94
415	Multiple time step nonequilibrium molecular dynamics simulation of the rheological properties of liquid n-decane. *Journal of Chemical Physics*, **1996**, 104, 255-262	3.9	94
414	Molecular Simulation of a Dichain Surfactant/Water/Carbon Dioxide System. 1. Structural Properties of Aggregates. *Langmuir*, **2001**, 17, 1773-1783	4	93
413	Simulated water adsorption isotherms in carbon nanopores. *Molecular Physics*, **2004**, 102, 243-251	1.7	86
412	Enhancing graphene capacitance by nitrogen: effects of doping configuration and concentration. *Physical Chemistry Chemical Physics*, **2016**, 18, 4668-74	3.6	84
411	Intermolecular potentials and vapor□liquid phase equilibria of perfluorinated alkanes. *Fluid Phase Equilibria*, **1998**, 146, 51-61	2.5	84
410	Surface protonation at the rutile (110) interface: explicit incorporation of solvation structure within the refined MUSIC model framework. *Langmuir*, **2008**, 24, 12331-9	4	84
409	Self-Assembly of Reverse Micelles in Water/Surfactant/Carbon Dioxide Systems by Molecular Simulation. *Langmuir*, **1999**, 15, 5188-5192	4	82
408	Phase transformations during sintering of titania nanoparticles. *ACS Nano*, **2008**, 2, 1620-4	16.7	81

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406	A molecular dynamics study of a short-chain polyethylene melt.. *Journal of Non-Newtonian Fluid Mechanics*, **2000**, 93, 83-99	2.7	81
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404	Molecular Dynamics Study of Water Adsorption on TiO2Nanoparticles. *Journal of Physical Chemistry C*, **2007**, 111, 6920-6926	3.8	78
403	Recent developments in non-Newtonian molecular dynamics. *Physics Reports*, **1998**, 305, 1-92	27.7	75
402	Precision and accuracy of staged free-energy perturbation methods for computing the chemical potential by molecular simulation. *Fluid Phase Equilibria*, **1998**, 150-151, 41-49	2.5	75
401	SHARP REGULARITY COEFFICIENT ESTIMATES FOR COMPLEX-VALUED ACOUSTIC AND ELASTIC HELMHOLTZ EQUATIONS. *Mathematical Models and Methods in Applied Sciences*, **2006**, 16, 139-160	3.5	74
400	Critical behavior of the Yukawa fluid in the mean spherical approximation. *Journal of Chemical Physics*, **1983**, 78, 1917-1923	3.9	72
399	Dynamics of Hydration Water on Rutile Studied by Backscattering Neutron Spectroscopy and Molecular Dynamics Simulation. *Journal of Physical Chemistry C*, **2008**, 112, 12334-12341	3.8	71
398	Molecular simulation study of solvation structure in supercritical aqueous solutions. *Chemical Engineering Science*, **1994**, 49, 2735-2748	4.4	70
397	Shear behavior of squalane and tetracosane under extreme confinement. I. Model, simulation method, and interfacial slip. *Journal of Chemical Physics*, **1997**, 107, 10316-10326	3.9	69
396	Electric Double Layer at the Rutile (110) Surface. 3. Inhomogeneous Viscosity and Diffusivity Measurement by Computer Simulations. *Journal of Physical Chemistry C*, **2007**, 111, 3071-3079	3.8	66
395	Rheology of lubricant basestocks: A molecular dynamics study of C30 isomers. *Journal of Chemical Physics*, **2000**, 113, 8833-8840	3.9	66
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391	Solvation in supercritical water. *Fluid Phase Equilibria*, **1992**, 71, 1-16	2.5	63
390	On the Yukawa closure of the Ornstein-Zernike equation. *Molecular Physics*, **1979**, 38, 997-1001	1.7	63

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388	Electric double layer at metal oxide surfaces: static properties of the cassiterite-water interface. *Langmuir*, **2007**, 23, 4925-37	4	61
387	Molecular dynamics study of the nano-rheology of n-dodecane confined between planar surfaces. *Journal of Chemical Physics*, **2003**, 118, 8941-8944	3.9	61
386	Molecular Insights into Carbon Nanotube Supercapacitors: Capacitance Independent of Voltage and Temperature. *Journal of Physical Chemistry C*, **2013**, 117, 9178-9186	3.8	60
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381	Evaluation of force fields for molecular simulation of polyhedral oligomeric silsesquioxanes. *Journal of Physical Chemistry B*, **2006**, 110, 2502-10	3.4	58
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368	Ejection of atoms upon self-trapping of an atomic exciton in solid argon. *Physical Review B*, **1989**, 39, 9580-9583	3.3	53
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366	Scheduling of serial multiproduct batch processes via simulated annealing. *Computers and Chemical Engineering*, **1990**, 14, 1351-1362	4	53
365	Examining the rheology of 9-octylheptadecane to giga-pascal pressures. *Journal of Chemical Physics* , **2001**, 114, 1887-1891	3.9	52
364	Algorithmic efficiency of simulated annealing for heat exchanger network design. *Computers and Chemical Engineering*, **1990**, 14, 1039-1050	4	52
363	Molecular-Based Modeling of Water and Aqueous Solutions at Supercritical Conditions. *Advances in Chemical Physics*, **2007**, 115-205		51
362	Vapor–liquid equilibrium simulations of the SCPDP model of water. *Chemical Physics Letters*, **2002**, 357, 189-194	2.5	50
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358	In Situ Electrochemical Dilatometry of Onion-Like Carbon and Carbon Black. *Journal of the Electrochemical Society*, **2012**, 159, A1897-A1903	3.9	46
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348	Scalable Screening of Soft Matter: A Case Study of Mixtures of Ionic Liquids and Organic Solvents. *Journal of Physical Chemistry B*, **2019**, 123, 1340-1347	3.4	44
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