Zachary Aman

List of Publications by Year
in descending order

106 papers	4,154 citations	101384 36 h-index	118652 62 g-index
107 all docs	107 docs citations	107 times ranked	2387 citing authors

#	Article	IF	Citations
1	Gas hydrates in sustainable chemistry. Chemical Society Reviews, 2020, 49, 5225-5309.	18.7	443
2	Interfacial mechanisms governing cyclopentane clathrate hydrate adhesion/cohesion. Physical Chemistry Chemical Physics, 2011, 13, 19796.	1.3	203
3	Interfacial phenomena in gas hydrate systems. Chemical Society Reviews, 2016, 45, 1678-1690.	18.7	189
4	Evolution of the Macondo Well Blowout: Simulating the Effects of the Circulation and Synthetic Dispersants on the Subsea Oil Transport. Environmental Science & Technology, 2012, 46, 13293-13302.	4.6	168
5	Adhesion force between cyclopentane hydrates and solid surface materials. Journal of Colloid and Interface Science, 2010, 343, 529-536.	5.0	137
6	Surface Evolution of the Deepwater Horizon Oil Spill Patch: Combined Effects of Circulation and Wind-Induced Drift. Environmental Science & Technology, 2012, 46, 7267-7273.	4.6	125
7	Characterisation of hyaluronic acid methylcellulose hydrogels for 3D bioprinting. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 77, 389-399.	1.5	125
8	Underinhibited Hydrate Formation and Transport Investigated Using a Single-Pass Gas-Dominant Flowloop. Energy & Fuels, 2014, 28, 7274-7284.	2.5	107
9	Hydrate Formation in Gas-Dominant Systems Using a Single-Pass Flowloop. Energy & Fuels, 2014, 28, 3043-3052.	2.5	107
10	Micromechanical Adhesion Force Measurements between Hydrate Particles in Hydrocarbon Oils and Their Modifications. Energy & Fuels, 2009, 23, 5966-5971.	2.5	94
11	Surfactant Adsorption and Interfacial Tension Investigations on Cyclopentane Hydrate. Langmuir, 2013, 29, 2676-2682.	1.6	92
12	Micromechanical cohesion force measurements to determine cyclopentane hydrate interfacial properties. Journal of Colloid and Interface Science, 2012, 376, 283-288.	5.0	91
13	Intercomparison of oil spill prediction models for accidental blowout scenarios with and without subsea chemical dispersant injection. Marine Pollution Bulletin, 2015, 96, 110-126.	2.3	90
14	Influence of Model Oil with Surfactants and Amphiphilic Polymers on Cyclopentane Hydrate Adhesion Forces. Energy & Fuels, 2010, 24, 5441-5445.	2.5	87
15	Quantitative kinetic inhibitor comparisons and memory effect measurements from hydrate formation probability distributions. Chemical Engineering Science, 2014, 107, 1-12.	1.9	87
16	Engineering spheroids potentiating cell-cell and cell-ECM interactions by self-assembly of stem cell microlayer. Biomaterials, 2018, 165, 105-120.	5.7	84
17	Hydrate plug formation risk with varying watercut and inhibitor concentrations. Chemical Engineering Science, 2015, 126, 711-718.	1.9	79
18	Stem Cell Mechanosensation on Gelatin Methacryloyl (GelMA) Stiffness Gradient Hydrogels. Annals of Biomedical Engineering, 2020, 48, 893-902.	1.3	72

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19	Characterising thermally controlled CH₄â€“CO₂ hydrate exchange in unconsolidated sediments. Energy and Environmental Science, 2018, 11, 1828-1840.	15.6	70
20	Gas hydrate plug formation in partially-dispersed waterâ€“oil systems. Chemical Engineering Science, 2016, 140, 337-347.	1.9	69
21	Hydrate formation and deposition in a gas-dominant flowloop: Initial studies of the effect of velocity and subcooling. Journal of Natural Gas Science and Engineering, 2016, 35, 1490-1498.	2.1	65
22	Hydrate formation and particle distributions in gasâ€“water systems. Chemical Engineering Science, 2013, 104, 177-188.	1.9	59
23	Multiphase flow modeling of gas hydrates with a simple hydrodynamic slug flow model. Chemical Engineering Science, 2013, 99, 298-304.	1.9	59
24	Volume Adaptation Controls Stem Cell Mechanotransduction. ACS Applied Materials & Interfaces, 2019, 11, 45520-45530.	4.0	57
25	High-pressure visual experimental studies of oil-in-water dispersion droplet size. Chemical Engineering Science, 2015, 127, 392-400.	1.9	55
26	Adhesion Force between Cyclopentane Hydrate and Mineral Surfaces. Langmuir, 2013, 29, 15551-15557.	1.6	53
27	Gas hydrate formation probability distributions: Induction times, rates of nucleation and growth. Fuel, 2019, 252, 448-457.	3.4	53
28	High pressure rheological measurements of gas hydrate-in-oil slurries. Journal of Non-Newtonian Fluid Mechanics, 2017, 248, 40-49.	1.0	51
29	Lowering of Clathrate Hydrate Cohesive Forces by Surface Active Carboxylic Acids. Energy & Fuels, 2012, 26, 5102-5108.	2.5	50
30	Gas hydrate formation probability and growth rate as a function of kinetic hydrate inhibitor (KHI) concentration. Chemical Engineering Journal, 2020, 388, 124177.	6.6	47
31	The delay of gas hydrate formation by kinetic inhibitors. Chemical Engineering Journal, 2021, 411, 128478.	6.6	46
32	Adhesion force interactions between cyclopentane hydrate and physically and chemically modified surfaces. Physical Chemistry Chemical Physics, 2014, 16, 25121-25128.	1.3	45
33	Hydrate Shell Growth Measured Using NMR. Langmuir, 2015, 31, 8786-8794.	1.6	44
34	Gas Hydrate Formation Probability Distributions: The Effect of Shear and Comparisons with Nucleation Theory. Langmuir, 2018, 34, 3186-3196.	1.6	43
35	Raman Spectroscopic Studies of Clathrate Hydrate Formation in the Presence of Hydrophobized Particles. Journal of Physical Chemistry A, 2016, 120, 417-424.	1.1	40
36	Simulating Hydrate Growth and Transport Behavior in Gas-Dominant Flow. Energy & Fuels, 2018, 32, 1012-1023.	2.5	40

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37	Quantifying the Effect of Salinity on Oilfield Water-in-Oil Emulsion Stability. Energy & Fuels, 2018, 32, 10042-10049.	2.5	39
38	Modelling hydrate deposition and sloughing in gas-dominant pipelines. Journal of Chemical Thermodynamics, 2018, 117, 81-90.	1.0	38
39	Gas Hydrate Thermodynamic Inhibition with MDEA for Reduced MEG Circulation. Journal of Chemical & Engineering Data, 2017, 62, 2578-2583.	1.0	36
40	Reduction of Clathrate Hydrate Film Growth Rate by Naturally Occurring Surface Active Components. Energy & Fuels, 2017, 31, 5798-5805.	2.5	32
41	Effect of Brine Salinity on the Stability of Hydrate-in-Oil Dispersions and Water-in-Oil Emulsions. Energy & Fuels, 2015, 29, 7948-7955.	2.5	30
42	Corrosion inhibitor interaction at hydrateâ€“oil interfaces from differential scanning calorimetry measurements. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 448, 81-87.	2.3	27
43	Microscale Detection of Hydrate Blockage Onset in High-Pressure Gasâ€“Water Systems. Energy & Fuels, 2017, 31, 4875-4885.	2.5	24
44	Hydrate nucleation and growth on water droplets acoustically-levitated in high-pressure natural gas. Physical Chemistry Chemical Physics, 2019, 21, 21685-21688.	1.3	24
45	Influence of Graphene Nanoplatelet and Silver Nanoparticle on the Rheological Properties of WaterBased Mud â€. Applied Sciences (Switzerland), 2018, 8, 1386.	1.3	23
46	Hydrate Growth on Methane Gas Bubbles in the Presence of Salt. Langmuir, 2020, 36, 84-95.	1.6	23
47	Effect of Kinetic Hydrate Inhibitor Polyvinylcaprolactam on Cyclopentane Hydrate Cohesion Forces and Growth. Energy & Fuels, 2014, 28, 3632-3637.	2.5	22
48	Methane Hydrate Bed Formation in a Visual Autoclave: Cold Restart and Reynolds Number Dependence. Journal of Chemical & Engineering Data, 2015, 60, 409-417.	1.0	22
49	Investigating hydrate formation rate and the viscosity of hydrate slurries in water-dominant flow: Flowloop experiments and modelling. Fuel, 2021, 292, 120193.	3.4	22
50	Hydrate Risk Management in Gas Transmission Lines. Energy & Fuels, 2021, 35, 14265-14282.	2.5	22
51	Development of a Tool to Assess Hydrate-Plug-Formation Risk in Oil-Dominant Pipelines. SPE Journal, 2015, 20, 884-892.	1.7	21
52	Rapid assessments of hydrate blockage risk in oil-continuous flowlines. Journal of Natural Gas Science and Engineering, 2016, 30, 284-294.	2.1	20
53	BP Gulf Science Data Reveals Ineffectual Subsea Dispersant Injection for the Macondo Blowout. Frontiers in Marine Science, 2018, 5, .	1.2	20
54	Nano- and Macroscale Study of the Lubrication of Titania Using Pure and Diluted Ionic Liquids. Frontiers in Chemistry, 2019, 7, 287.	1.8	20

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55	Cyclodextrins as eco-friendly nucleation promoters for methane hydrate. Chemical Engineering Journal, 2021, 417, 127932.	6.6	19
56	Micromechanical Cohesive Force Measurements between Precipitated Asphaltene Solids and Cyclopentane Hydrates. Energy & Fuels, 2015, 29, 6277-6285.	2.5	18
57	High-resolution performance tests of nucleation and growth suppression by two kinetic hydrate inhibitors. Chemical Engineering Science, 2021, 244, 116776.	1.9	18
58	Characterization of Crude Oils That Naturally Resist Hydrate Plug Formation. Energy & Fuels, 2017, 31, 5806-5816.	2.5	17
59	Rapid Simulation of Solid Deposition in Cryogenic Heat Exchangers To Improve Risk Management in Liquefied Natural Gas Production. Energy & Fuels, 2018, 32, 255-267.	2.5	16
60	The impact of mono-ethylene glycol and kinetic inhibitors on methane hydrate formation. Chemical Engineering Journal, 2022, 427, 131531.	6.6	14
61	Response to Comment on â€œEvolution of the Macondo Well Blowout: Simulating the Effects of the Circulation and Synthetic Dispersants on the Subsea Oil Transportâ€• Environmental Science & Technology, 2013, 47, 11906-11907.	4.6	13
62	Use of Terahertz Waves To Monitor Moisture Content in High-Pressure Natural Gas Pipelines. Energy & Fuels, 2019, 33, 8026-8031.	2.5	13
63	The use of computational fluid dynamics to predict the turbulent dissipation rate and droplet size in a stirred autoclave. Chemical Engineering Science, 2019, 196, 433-443.	1.9	13
64	Self-assembled nanostructure induced in deep eutectic solvents via an amphiphilic hydrogen bond donor. Journal of Colloid and Interface Science, 2022, 616, 121-128.	5.0	13
65	Nucleation rates of carbon dioxide hydrate. Chemical Engineering Journal, 2022, 443, 136359.	6.6	13
66	Extracting nucleation rates from ramped temperature measurements of gas hydrate formation. Chemical Engineering Journal, 2022, 450, 137895.	6.6	13
67	High-Fidelity Evaluation of Hybrid Gas Hydrate Inhibition Strategies. Energy & Fuels, 2020, 34, 15983-15989.	2.5	11
68	NMR-Compatible Sample Cell for Gas Hydrate Studies in Porous Media. Energy & Fuels, 2020, 34, 12388-12398.	2.5	11
69	Rheological Method To Describe Metastable Hydrate-in-Oil Slurries. Energy & Fuels, 2020, 34, 7955-7964.	2.5	10
70	Far-Field Modeling of aÂDeep-Sea Blowout: Sensitivity Studies of Initial Conditions, Biodegradation, Sedimentation, and Subsurface Dispersant Injection on Surface Slicks and Oil Plume Concentrations. , 2020, , 170-192.		10
71	Measurements of Cohesion Hysteresis between Cyclopentane Hydrates in Liquid Cyclopentane. Energy & Fuels, 2013, 27, 5168-5174.	2.5	9
72	Crystal growth phenomena of CH4Â+ÂC3H8Â+ÂCO2 ternary gas hydrate systems. Journal of Natural Gas Science and Engineering, 2016, 35, 1426-1434.	2.1	9

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73	Gas hydrate nucleation in acoustically levitated water droplets. Chemical Engineering Journal, 2021, , 133494.	6.6	9
74	Nanostructure, electrochemistry and potential-dependent lubricity of the catanionic surface-active ionic liquid [P6,6,6,14] [AOT]. Journal of Colloid and Interface Science, 2022, 608, 2120-2130.	5.0	8
75	EXPERIMENTAL INVESTIGATION, SCALE-UP AND MODELING OF DROPLET SIZE DISTRIBUTIONS IN TURBULENT MULTIPHASE JETS. Multiphase Science and Technology, 2020, 32, 113-136.	0.2	7
76	Insights into CO2-CH4 hydrate exchange in porous media using magnetic resonance. Fuel, 2022, 312, 122830.	3.4	7
77	Hydrate Plug Dissociation via Active Heating: Uniform Heating and a Simple Predictive Model. Energy & Fuels, 2016, 30, 9275-9284.	2.5	6
78	Carbon Dioxide Capture from Flue Gas Using Tri-Sodium Phosphate as an Effective Sorbent. Energies, 2019, 12, 2889.	1.6	6
79	Behavior of Rising Droplets and Bubbles: Impact on the Physics of Deep-Sea Blowouts and Oil Fate. , 2020, , 65-82.		6
80	Deposition and Shear Stress Initial Investigations for Hydrate Blockage. , 2018, , .		5
81	Quantitative Ranking and Development of Hydrate Anti-Agglomerants. , 2018, , .		5
82	Risk-Based Flow Assurance Design for Natural Gas Hydrate Production Systems. , 2018, , .		5
83	The choice of droplet size probability distribution function for oil spill modeling is not trivial. Marine Pollution Bulletin, 2021, 163, 111920.	2.3	5
84	Jet Formation at the Spill Site and Resulting Droplet Size Distributions. , 2020, , 43-64.		5
85	The Effect of Chemistry and System Conditions on Hydrate Interparticle Adhesion Forces Toward Aggregation and Hydrate Plug Formation. , 2011, , .		4
86	Resolving the dilemma of dispersant use for deep oil spill response. Environmental Research Letters, 2019, 14, 091002.	2.2	4
87	Thermophysical Study of Binary Systems of tert-Amyl Methyl Ether with n-Hexane and m-Xylene. Journal of Chemical & Engineering Data, 2019, 64, 459-470.	1.0	4
88	Effect of hydrate anti-agglomerants on water-in-crude oil emulsion stability. Journal of Petroleum Exploration and Production, 2020, 10, 139-148.	1.2	4
89	Hydrate Blockage Assessment in a Pilot-Scale Subsea Jumper. , 2020, , .		4
90	Simulating Deep Oil Spills Beyond the Gulf of Mexico. , 2020, , 315-336.		3

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91	Summary of Contemporary Research on theÂUse of Chemical Dispersants for Deep-Sea Oil Spills. , 2020, , 494-512.		3
92	Hydrate Management in Restart Operations of a Subsea Jumper. , 2020, , .		3
93	A New Rheology Model for Hydrate-in-Oil Slurries. , 2018, , .		2
94	Emulsion Breakage Mechanism Using Pressurized Carbon Dioxide. Energy & Fuels, 2019, 33, 4939-4945.	2.5	2
95	Managing Hydrate Formation in Subsea Production. , 2020, , .		2
96	Behavior of Methane Hydrate-in-Water Slurries from Shut-in to Flow Restart. Energy & Fuels, 2021, 35, 13086-13097.	2.5	2
97	Validation of a Novel MEG Sensor Employing a Pilot-Scale Subsea Jumper. , 2020, , .		2
98	Attributes and behaviours of crude oils that naturally inhibit hydrate plug formation. APPEA Journal, 2015, 55, 416.	0.4	2
99	Subcooling and Induction Time Measurements of Probabilistic Hydrate Formation. , 2018, , .		1
100	Correlation between rate of deposition and temperature of asphaltene particles. Materials Today: Proceedings, 2018, 5, 22128-22136.	0.9	1
101	Application of a Transient Deposition Model for Hydrate Management in a Subsea Gas-Condensate Tieback. , 2019, , .		1
102	Assessing the risk of hydrate plug formation: a new probability and management tool. APPEA Journal, 2015, 55, 477.	0.4	1
103	Micromechanical Force Measurement of Clotted Blood Particle Cohesion: Understanding Thromboembolic Aggregation Mechanisms. Cardiovascular Engineering and Technology, 2022, 13, 816-828.	0.7	1
104	Interfacial Tension and Mineral Adhesion Properties of Cyclopentane Hydrate. , 2013, , .		0
105	Development of a Model and Simulation Tool to Predict Hydrate Growth in Flowlines for Gas Hydrate Production. , 2020, , .		0
106	Dynamics of methane hydrate particles in water-dominant systems during transient flow. Fuel, 2022, 324, 124772.	3.4	0