Ruud G M Van Der Sman

List of Publications by Year
in descending order

130	5,106	76294	106281
papers	citations	40 h-index	65 g-index

131	131	131	3823
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Membrane fractionation of milk: state of the art and challenges. Journal of Membrane Science, 2004, 243, 263-272.	4.1	351
2	Lattice Boltzmann Simulations of Droplet Formation in a T-Shaped Microchannel. Langmuir, 2006, 22, 4144-4152.	1.6	308
3	Analysis of droplet formation and interactions during cross-flow membrane emulsification. Journal of Membrane Science, 2002, 204, 125-137.	4.1	144
4	Multiscale modeling in food engineering. Journal of Food Engineering, 2013, 114, 279-291.	2.7	141
5	The impact of freeze-drying on microstructure and rehydration properties of carrot. Food Research International, 2012, 49, 687-693.	2.9	136
6	Prediction of the state diagram of starchwater mixtures using the Floryâ€“Huggins free volume theory. Soft Matter, 2011, 7, 429-442.	1.2	134
7	Droplet formation in a T-shaped microchannel junction: A model system for membrane emulsification. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 266, 106-116.	2.3	132
8	Influence of dynamic interfacial tension on droplet formation during membrane emulsification. Journal of Colloid and Interface Science, 2004, 277, 456-463.	5.0	111
9	The science of food structuring. Soft Matter, 2009, 5, 501-510.	1.2	104
10	Diffuse interface model of surfactant adsorption onto flat and droplet interfaces. Rheologica Acta, 2006, 46, 3-11.	1.1	103
11	Convection-Diffusion Lattice Boltzmann Scheme for Irregular Lattices. Journal of Computational Physics, 2000, 160, 766-782.	1.9	98
12	Moisture transport during cooking of meat: An analysis based on Floryâ€“Rehner theory. Meat Science, 2007, 76, 730-738.	2.7	98
13	Thermo-mechanical processing of plant proteins using shear cell and high-moisture extrusion cooking. Critical Reviews in Food Science and Nutrition, 2022, 62, 3264-3280.	5.4	80
14	Predictions of Glass Transition Temperature for Hydrogen Bonding Biomaterials. Journal of Physical Chemistry B, 2013, 117, 16303-16313.	1.2	79
15	Emulsion droplet deformation and breakup with Lattice Boltzmann model. Computer Physics Communications, 2008, 178, 492-504.	3.0	77
16	Lattice Boltzmann simulation of 2D and 3D non-Brownian suspensions in Couette flow. Chemical Engineering Science, 2006, 61, 858-873.	1.9	74
17	Prediction of airflow through a vented box by the Darcyâ€“Forchheimer equation. Journal of Food Engineering, 2002, 55, 49-57.	2.7	68
18	Soft matter approaches to food structuring. Advances in Colloid and Interface Science, 2012, 176-177, 18-30.	7.0	68

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19	Suspension flow modelling in particle migration and microfiltration. Soft Matter, 2010, 6, 6052.	1.2	67
20	Classification and evaluation of microfluidic devices for continuous suspension fractionation. Advances in Colloid and Interface Science, 2008, 142, 53-66.	7.0	66
21	Thermodynamics of meat proteins. Food Hydrocolloids, 2012, 27, 529-535.	5.6	65
22	Simple model for estimating heat and mass transfer in regular-shaped foods. Journal of Food Engineering, 2003, 60, 383-390.	2.7	64
23	Biopolymer gel swelling analysed with scaling laws and Floryâ€“Rehner theory. Food Hydrocolloids, 2015, 48, 94-101.	5.6	63
24	Review of hypotheses for fouling during beer clarification using membranes. Journal of Membrane Science, 2012, 396, 22-31.	4.1	61
25	Enhancing the water holding capacity of model meat analogues through marinade composition. Journal of Food Engineering, 2021, 290, 110283.	2.7	60
26	Prediction of the time evolution of pH in meat. Food Chemistry, 2013, 141, 2363-2372.	4.2	58
27	Structuring of indirectly expanded snacks based on potato ingredients: A review. Journal of Food Engineering, 2013, 114, 413-425.	2.7	56
28	Shear-induced self-diffusion and microstructure in non-Brownian suspensions at non-zero Reynolds numbers. Journal of Fluid Mechanics, 2005, 529, 253-278.	1.4	55
29	Predicting the initial freezing point and water activity of meat products from composition data. Journal of Food Engineering, 2005, 66, 469-475.	2.7	49
30	Dextrose equivalence of maltodextrins determines particle morphology development during single sessile droplet drying. Food Research International, 2020, 131, 108988.	2.9	49
31	Galilean invariant lattice Boltzmann scheme for natural convection on square and rectangular lattices. Physical Review E, 2006, 74, 026705.	0.8	48
32	Analysis of mixed motion in deterministic ratchets via experiment and particle simulation. Microfluidics and Nanofluidics, 2011, 10, 843-853.	1.0	48
33	Moisture diffusivity in food materials. Food Chemistry, 2013, 138, 1265-1274.	4.2	45
34	Starch gelatinization temperature in sugar and polyol solutions explained by hydrogen bond density. Food Hydrocolloids, 2019, 94, 371-380.	5.6	45
35	A suspension flow model for hydrodynamics and concentration polarisation in crossflow microfiltration. Journal of Membrane Science, 2005, 253, 67-79.	4.1	44
36	Understanding functionality of sucrose in biscuits for reformulation purposes. Critical Reviews in Food Science and Nutrition, 2019, 59, 2225-2239.	5.4	44

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37	Ice crystal interspacing in frozen foods. Journal of Food Engineering, 2013, 116, 622-626.	2.7	43
38	Phase field simulations of ice crystal growth in sugar solutions. International Journal of Heat and Mass Transfer, 2016, 95, 153-161.	2.5	43
39	Prediction of enthalpy and thermal conductivity of frozen meat and fish products from composition data. Journal of Food Engineering, 2008, 84, 400-412.	2.7	42
40	Moisture sorption in mixtures of biopolymer, disaccharides and water. Food Hydrocolloids, 2013, 32, 186-194.	5.6	42
41	Modeling cooking of chicken meat in industrial tunnel ovens with the Floryâ€“Rehner theory. Meat Science, 2013, 95, 940-957.	2.7	42
42	Mixed motion in deterministic ratchets due to anisotropic permeability. Journal of Colloid and Interface Science, 2011, 354, 7-14.	5.0	41
43	Predicting the solubility of mixtures of sugars and their replacers using the Floryâ€“Huggins theory. Food and Function, 2017, 8, 360-371.	2.1	41
44	Simulations of confined suspension flow at multiple length scales. Soft Matter, 2009, 5, 4376.	1.2	40
45	Impact of different drying trajectories on degradation of nutritional compounds in broccoli (Brassica oleracea var. italica). LWT - Food Science and Technology, 2014, 59, 189-195.	2.5	40
46	Mechanisms controlling wheat starch gelatinization and pasting behaviour in presence of sugars and sugar replacers: Role of hydrogen bonding and plasticizer molar volume. Food Hydrocolloids, 2021, 119, 106880.	5.6	40
47	Impact of Processing Factors on Quality of Frozen Vegetables and Fruits. Food Engineering Reviews, 2020, 12, 399-420.	3.1	39
48	Shear-induced diffusion model for microfiltration of polydisperse suspensions. Desalination, 2002, 146, 63-68.	4.0	38
49	Evaluation of microsieve membrane design. Journal of Membrane Science, 2006, 278, 344-348.	4.1	38
50	Hyperelastic models for hydration of cellular tissue. Soft Matter, 2015, 11, 7579-7591.	1.2	34
51	Suspension flow in microfluidic devices â€" A review of experimental techniques focussing on concentration and velocity gradients. Advances in Colloid and Interface Science, 2012, 173, 23-34.	7.0	31
52	Hydration properties of vegetable foods explained by Floryâ€“Rehner theory. Food Research International, 2013, 54, 804-811.	2.9	31
53	Sugar and polyol solutions as effective solvent for biopolymers. Food Hydrocolloids, 2016, 56, 144-149.	5.6	31
54	Critical factors in microwave expansion of starchy snacks. Journal of Food Engineering, 2017, 211, 69-84.	2.7	31

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55	Anomalies in moisture transport during broccoli drying monitored by MRI?. Faraday Discussions, 2012, 158, 65.	1.6	30
56	Diffusion Lattice Boltzmann Scheme on a Orthorhombic Lattice. Journal of Statistical Physics, 1999, 94, 203-217.	0.5	29
57	Optimization of the membrane and pore design for micro-machined membranes. Journal of Membrane Science, 2006, 278, 239-250.	4.1	29
58	Amino acids, polyols and soluble fibres as sugar replacers in bakery applications: Egg white proteins denaturation controlled by hydrogen bond density of solutions. Food Hydrocolloids, 2020, 108, 106034.	5.6	28
59	Soft matter approaches as enablers for food macroscale simulation. Faraday Discussions, 2012, 158, 435.	1.6	27
60	Effects of cellular structure and cell wall components on water holding capacity of mushrooms. Journal of Food Engineering, 2016, 187, 106-113.	2.7	27
61	Solving the Vent Hole Design Problem for Seed Potato Packagings, with the Lattice Boltzmann Scheme. International Journal of Computational Fluid Dynamics, 1999, 11, 237-248.	0.5	26
62	Effect of morphology on water sorption in cellular solid foods. Part I: Pore scale network model. Journal of Food Engineering, 2012, 109, 301-310.	2.7	26
63	Effect of mechanical interaction on the hydration of mixed soy protein and gluten gels. Current Research in Food Science, 2020, 3, 134-145.	2.7	26
64	Model for particle migration in bidisperse suspensions by use of effective temperature. Faraday Discussions, 2012, 158, 89.	1.6	25
65	Lattice Boltzmann simulations of droplet formation during microchannel emulsification. Journal of Colloid and Interface Science, 2009, 335, 112-122.	5.0	24
66	Moisture Sorption Isotherms of Broccoli Interpreted with the Flory-Huggins Free Volume Theory. Food Biophysics, 2014, 9, 1-9.	1.4	24
67	Model for electrical conductivity of muscle meat during Ohmic heating. Journal of Food Engineering, 2017, 208, 37-47.	2.7	24
68	Lattice Boltzmann scheme for cooling of packed cut flowers. International Journal of Heat and Mass Transfer, 2000, 43, 577-587.	2.5	23
69	Finite Boltzmann schemes. Computers and Fluids, 2006, 35, 849-854.	1.3	23
70	On the prediction of the remaining vase life of cut roses. Postharvest Biology and Technology, 2012, 70, 42-50.	2.9	23
71	Rehydration kinetics of freeze-dried carrots. Innovative Food Science and Emerging Technologies, 2014, 24, 40-47.	2.7	23
72	Evaluation of the Free Volume Theory to Predict Moisture Transport and Quality Changes During Broccoli Drying. Drying Technology, 2011, 29, 1963-1971.	1.7	22

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73	Scale analysis and integral approximation applied to heat and mass transfer in packed beds. Journal of Food Engineering, 2008, 85, 243-251.	2.7	21
74	Effect of morphology on water sorption in cellular solid foods. Part II: Sorption in cereal crackers. Journal of Food Engineering, 2012, 109, 311-320.	2.7	21
75	Energy efficient drying strategies to retain nutritional components in broccoli (Brassica oleracea) Tj ETQq1 1 0.784314 rgBT /Overlock	2.7	21
76	Change in Water-Holding Capacity in Mushroom with Temperature Analyzed by Flory-Rehner Theory. Food and Bioprocess Technology, 2015, 8, 960-970.	2.6	21
77	Analysis of improved Lattice Boltzmann phase field method for soluble surfactants. Computer Physics Communications, 2016, 199, 12-21.	3.0	21
78	The importance of swelling for in vitro gastric digestion of whey protein gels. Food Chemistry, 2020, 330, 127182.	4.2	21
79	Mesoscale models of dispersions stabilized by surfactants and colloids. Advances in Colloid and Interface Science, 2014, 211, 63-76.	7.0	20
80	Multiphysics pore-scale model for the rehydration of porous foods. Innovative Food Science and Emerging Technologies, 2014, 24, 69-79.	2.7	20
81	Measuring and modelling of diffusivities in carbohydrate-rich matrices during thin film drying. Journal of Food Engineering, 2014, 122, 38-47.	2.7	19
82	Transient critical flux due to coupling of fouling mechanisms during crossflow microfiltration of beer. Journal of Membrane Science, 2013, 435, 21-37.	4.1	17
83	Phase separation, antiplasticization and moisture sorption in ternary systems containing polysaccharides and polyols. Food Hydrocolloids, 2019, 87, 360-370.	5.6	17
84	Physical chemistry of gastric digestion of proteins gels. Current Research in Food Science, 2020, 2, 45-60.	2.7	17
85	Water release kinetics from soy protein gels and meat analogues as studied with confined compression. Innovative Food Science and Emerging Technologies, 2020, 66, 102528.	2.7	17
86	Quality loss in packed rose flowers due to Botrytis cinerea infection as related to temperature regimes and packaging design. Postharvest Biology and Technology, 1996, 7, 341-350.	2.9	16
87	Moisture distribution in broccoli: measurements by MRI hot air drying experiments. Procedia Food Science, 2011, 1, 640-646.	0.6	16
88	Multiscale analysis of structure development in expanded starch snacks. Journal of Physics Condensed Matter, 2014, 26, 464103.	0.7	16
89	Effects of salt on the expansion of starchy snacks: a multiscale analysis. Food and Function, 2014, 5, 3076-3082.	2.1	16
90	Filler functionality in edible solid foams. Advances in Colloid and Interface Science, 2016, 231, 23-35.	7.0	16

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91	Understanding functionality of sucrose in cake for reformulation purposes. Critical Reviews in Food Science and Nutrition, 2021, 61, 2756-2772.	5.4	16
92	Lattice-Boltzmann Scheme for Natural Convection in Porous Media. International Journal of Modern Physics C, 1997, 08, 879-888.	0.8	15
93	Sugar replacement with zwitterionic plasticizers like amino acids. Food Hydrocolloids, 2020, 109, 106113.	5.6	15
94	Effective temperature for sheared suspensions: A route towards closures for migration in bidisperse suspension. Advances in Colloid and Interface Science, 2012, 185-186, 1-13.	7.0	14
95	MRT Lattice Boltzmann schemes for confined suspension flows. Computer Physics Communications, 2010, 181, 1562-1569.	3.0	13
96	Drag force on spheres confined on the center line of rectangular microchannels. Journal of Colloid and Interface Science, 2010, 351, 43-49.	5.0	13
97	Theoretical investigation of the swelling of polysaccharide microgels in sugar solutions. Food and Function, 2018, 9, 2716-2724.	2.1	13
98	Scaling of Flory-Huggins interaction parameter for polyols with chain length and number of hydroxyl groups. Food Hydrocolloids, 2019, 96, 396-401.	5.6	13
99	Apparent universality of leguminous proteins in swelling and fibre formation when mixed with gluten. Food Hydrocolloids, 2021, 120, 106788.	5.6	13
100	Diffusion on unstructured triangular grids using Lattice Boltzmann. Future Generation Computer Systems, 2004, 20, 965-971.	4.9	12
101	Investigation of Lattice Boltzmann wetting boundary conditions for capillaries with irregular polygonal cross-section. Computer Physics Communications, 2013, 184, 2751-2760.	3.0	10
102	Food texture design in sugar reduced cakes: Predicting batters rheology and physical properties of cakes from physicochemical principles. Food Hydrocolloids, 2022, 131, 107795.	5.6	10
103	Moisture transport in swelling media modelled with a Lattice Boltzmann scheme having a deforming lattice. Journal of Food Engineering, 2014, 124, 54-63.	2.7	9
104	Effects of Porosity and Thermal Treatment on Hydration of Mushrooms. Food and Bioprocess Technology, 2016, 9, 511-519.	2.6	9
105	Prediction of postharvest firmness of apple using biological switch model. Journal of Theoretical Biology, 2012, 310, 239-248.	0.8	8
106	Study on the Rehydration Quality Improvement of shiitake Mushroom by Combined Drying Methods. Foods, 2021, 10, 769.	1.9	8
107	Rheological properties of artificial boluses of cereal foods enriched with legume proteins. Food Hydrocolloids, 2022, 122, 107096.	5.6	8
108	Rheological behaviour of concentrated maltodextrins describes skin formation and morphology development during droplet drying. Food Hydrocolloids, 2022, 126, 107442.	5.6	8

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109	A Paradigm Shift in Drying of Food Materials via Free-Volume Concepts. Drying Technology, 2013, 31, 1817-1825.	1.7	7
110	Effects of filler ingredients on the structure and texture of starchy, extruded snacks. Food Structure, 2018, 18, 1-13.	2.3	7
111	Progress in understanding of supplemented state diagrams of hydrophilic food materials. Current Opinion in Food Science, 2018, 21, 32-38.	4.1	7
112	Clumping of frozen par-fried foods: Lessons from frosting on structured surfaces. Food Structure, 2018, 17, 9-20.	2.3	7
113	Scaling relations in rheology of concentrated starches and maltodextrins. Food Hydrocolloids, 2022, 124, 107306.	5.6	7
114	Effects of confinement on hydrodynamic interactions between a suspended sphere and stationary obstacles. Computers and Fluids, 2012, 58, 63-69.	1.3	5
115	Optimal adaptive scheduling and control of beer membrane filtration. Control Engineering Practice, 2015, 34, 77-87.	3.2	5
116	Thermodynamic description of the chemical leavening in biscuits. Current Research in Food Science, 2021, 4, 191-199.	2.7	5
117	Multiscale simulations of directional ice crystal growth in sugar solutions. Food Structure, 2021, 30, 100214.	2.3	5
118	MULTICUBED: Multiscale-multiphysics simulation of food processing. Food Structure, 2022, 33, 100278.	2.3	5
119	Flow through a filter plate backed by a packed bed of spheres. Chemical Engineering Science, 2017, 158, 154-163.	1.9	4
120	Comparison of first principles model of beer microfiltration to experiments via systematic parameter identification. Journal of Membrane Science, 2015, 484, 64-79.	4.1	3
121	In-situ Single Mode Dielectric Measurements of microwaveable snack pellets. Journal of Food Engineering, 2018, 231, 109-122.	2.7	3
122	Moisture diffusivity in concentrated and dry protein-carbohydrate films. Food Hydrocolloids, 2019, 97, 105219.	5.6	3
123	Interaction between large deformation and moisture transport during dehydration of vegetables. Food Structure, 2022, 32, 100269.	2.3	3
124	Lattice Boltzmann Simulation of Microstructures. Food Additives, 2006, , 15-39.	0.1	1
125	Deterministic Ratchets for Particle Separation Fabricated With Si MEMS Technology. Procedia Chemistry, 2009, 1, 345-348.	0.7	1
126	The Effect of Structure and Imbibition Mode on the Rehydration Kinetics of Freeze-dried Carrots. Special Publication - Royal Society of Chemistry, 2013, , 112-121.	0.0	1

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127	Investigation of Structural Transformations During the Manufacturing of Expanded Snacks for Reformulation Purposes. Food Biophysics, 2021, 16, 119-138.	1.4	1
128	Editorial overview: Food physics and material science. Current Opinion in Food Science, 2015, 3, vi-viii.	4.1	0
129	Subgrid particle method for porous media and suspension flow. , 2008, , .		0
130	Variations of the viscous properties of a sponge cake artificial bolus with some physiological parameters. Food and Function, 2022, 13, 3198-3205.	2.1	0