Dominique Derome

List of Publications by Citations

174 papers	3,436 citations	30 h-index	47 g-index
195 ext. papers	4,151 ext. citations	4.7 avg, IF	5.87 L-index

#	Paper	IF	Citations
174	High-resolution CFD simulations for forced convective heat transfer coefficients at the facade of a low-rise building. *Building and Environment*, **2009**, 44, 2396-2412	6.5	126
173	Universal rescaling of drop impact on smooth and rough surfaces. *Journal of Fluid Mechanics*, **2016**, 786,	3.7	102
172	Rainwater runoff from building facades: A review. *Building and Environment*, **2013**, 60, 339-361	6.5	96
171	A comparative molecular dynamics study of crystalline, paracrystalline and amorphous states of cellulose. *Cellulose*, **2014**, 21, 1103-1116	5.5	90
170	Modeling the Maximum Spreading of Liquid Droplets Impacting Wetting and Nonwetting Surfaces. *Langmuir*, **2016**, 32, 1299-308	4	85
169	Hysteretic swelling of wood at cellular scale probed by phase-contrast X-ray tomography. *Journal of Structural Biology*, **2011**, 173, 180-90	3.4	84
168	Water Adsorption in Wood Microfibril-Hemicellulose System: Role of the Crystalline-Amorphous Interface. *Biomacromolecules*, **2015**, 16, 2972-8	6.9	78
167	CFD simulation and validation of wind-driven rain on a building facade with an Eulerian multiphase model. *Building and Environment*, **2013**, 61, 69-81	6.5	74
166	Visualization and quantification of liquid water transport in softwood by means of neutron radiography. *International Journal of Heat and Mass Transfer*, **2012**, 55, 6211-6221	4.9	72
165	Energy Budget of Liquid Drop Impact at Maximum Spreading: Numerical Simulations and Experiments. *Langmuir*, **2016**, 32, 1279-88	4	64
164	Role of hydrogen bonding in hysteresis observed in sorption-induced swelling of soft nanoporous polymers. *Nature Communications*, **2018**, 9, 3507	17.4	58
163	Impact of Moisture Adsorption on Structure and Physical Properties of Amorphous Biopolymers. *Macromolecules*, **2015**, 48, 2793-2800	5.5	54
162	Parametric study of the influence of environmental factors and tree properties on the transpirative cooling effect of trees. *Agricultural and Forest Meteorology*, **2018**, 248, 259-274	5.8	52
161	Numerical simulations of wind-driven rain on an array of low-rise cubic buildings and validation by field measurements. *Building and Environment*, **2014**, 81, 283-295	6.5	50
160	Molecular Mechanism of Moisture-Induced Transition in Amorphous Cellulose. *ACS Macro Letters*, **2014**, 3, 1037-1040	6.6	47
159	CFD analysis of forced convective heat transfer coefficients at windward building facades: Influence of building geometry. *Journal of Wind Engineering and Industrial Aerodynamics*, **2015**, 146, 102-116	3.7	46
158	Hysteretic moisture behavior of concrete: Modeling and analysis. *Cement and Concrete Research*, **2012**, 42, 1379-1388	10.3	46

157	Convective heat and mass transfer modelling at air–porous material interfaces: Overview of existing methods and relevance. *Chemical Engineering Science*, **2012**, 74, 49-58	4.4	46
156	Hygroscopic swelling and shrinkage of latewood cell wall micropillars reveal ultrastructural anisotropy. *Journal of the Royal Society Interface*, **2014**, 11, 20140126	4.1	45
155	Hysteresis in swelling and in sorption of wood tissue. *Journal of Structural Biology*, **2013**, 182, 226-34	3.4	44
154	Using life cycle assessment to derive an environmental index for light-frame wood wall assemblies. *Building and Environment*, **2010**, 45, 2111-2122	6.5	44
153	Computational up-scaling of anisotropic swelling and mechanical behavior of hierarchical cellular materials. *Composites Science and Technology*, **2012**, 72, 744-751	8.6	43
152	Unraveling wetting transition through surface textures with X-rays: liquid meniscus penetration phenomena. *Scientific Reports*, **2014**, 4, 4055	4.9	42
151	The use of permeable and reflective pavements as a potential strategy for urban heat island mitigation. *Urban Climate*, **2020**, 31, 100534	6.8	42
150	Hygrothermal modeling and evaluation of freeze-thaw damage risk of masonry walls retrofitted with internal insulation. *Building and Environment*, **2017**, 125, 285-298	6.5	40
149	High-resolution field measurements of wind-driven rain on an array of low-rise cubic buildings. *Building and Environment*, **2014**, 78, 1-13	6.5	40
148	Coupled CFD, radiation and porous media transport model for evaluating evaporative cooling in an urban environment. *Journal of Wind Engineering and Industrial Aerodynamics*, **2012**, 104-106, 455-463	3.7	39
147	Influence of envelope properties on interior insulation solutions for masonry walls. *Building and Environment*, **2018**, 135, 246-256	6.5	36
146	Hygromorphic behaviour of cellular material: hysteretic swelling and shrinkage of wood probed by phase contrast X-ray tomography. *Philosophical Magazine*, **2012**, 92, 3680-3698	1.6	35
145	Characterizing saline uptake and salt distributions in porous limestone with neutron radiography and X-ray micro-tomography. *Journal of Building Physics*, **2013**, 36, 353-374	2.6	32
144	Thermal manikins controlled by human thermoregulation models for energy efficiency and thermal comfort research – A review. *Renewable and Sustainable Energy Reviews*, **2017**, 78, 1315-1330	16.2	30
143	Entropic multiple-relaxation-time multirange pseudopotential lattice Boltzmann model for two-phase flow. *Physics of Fluids*, **2018**, 30, 032104	4.4	30
142	Robust moisture reference year methodology for hygrothermal simulations. *Building and Environment*, **2016**, 110, 23-35	6.5	30
141	Absorption of impinging water droplet in porous stones. *Journal of Colloid and Interface Science*, **2016**, 471, 59-70	9.3	29
140	Multiscale analysis of free swelling of Norway spruce. *Composites Part A: Applied Science and Manufacturing*, **2013**, 54, 70-78	8.4	29

139	Dehydration of apple tissue: Intercomparison of neutron tomography with numerical modelling. *International Journal of Heat and Mass Transfer*, **2013**, 67, 173-182	4.9	29
138	Wind-driven rain on two parallel wide buildings: Field measurements and CFD simulations. *Journal of Wind Engineering and Industrial Aerodynamics*, **2015**, 146, 11-28	3.7	29
137	Hygrothermal behavior of a massive wall with interior insulation during wetting. *Building and Environment*, **2015**, 89, 59-71	6.5	28
136	Drop impact on natural porous stones. *Journal of Colloid and Interface Science*, **2016**, 469, 147-156	9.3	28
135	Probing inside fruit slices during convective drying by quantitative neutron imaging. *Journal of Food Engineering*, **2016**, 178, 198-202	6	28
134	Moisture adsorption of glucomannan and xylan hemicelluloses. *Cellulose*, **2016**, 23, 1629-1637	5.5	27
133	Beyond-Cassie Mode of Wetting and Local Contact Angles of Droplets on Checkboard-Patterned Surfaces. *Langmuir*, **2017**, 33, 6192-6200	4	26
132	Water diffusion in amorphous hydrophilic systems: a stop and go process. *Langmuir*, **2015**, 31, 10843-9	4	26
131	Numerical modeling of turbulent dispersion for wind-driven rain on building facades. *Environmental Fluid Mechanics*, **2015**, 15, 109-133	2.2	26
130	Study of non-isothermal liquid evaporation in synthetic micro-pore structures with hybrid lattice Boltzmann model. *Journal of Fluid Mechanics*, **2019**, 866, 33-60	3.7	25
129	Stomatal transpiration and droplet evaporation on leaf surfaces by a microscale modelling approach. *International Journal of Heat and Mass Transfer*, **2013**, 65, 180-191	4.9	25
128	Poroelastic model for adsorption-induced deformation of biopolymers obtained from molecular simulations. *Physical Review E*, **2015**, 92, 022605	2.4	25
127	Crystallization of hydrated and anhydrous salts in porous limestone resolved by synchrotron X-ray microtomography. *Nuclear Instruments & Methods in Physics Research B*, **2014**, 324, 102-112	1.2	24
126	Novel Application of Neutron Radiography to Forced Convective Drying of Fruit Tissue. *Food and Bioprocess Technology*, **2013**, 6, 3353-3367	5.1	23
125	Dynamic Wicking Process in Textiles. *Transport in Porous Media*, **2017**, 119, 611-632	3.1	22
124	Analysis of thermograms for the estimation of dimensions of cracks in building envelope. *Infrared Physics and Technology*, **2009**, 52, 70-78	2.7	22
123	Risk analysis of biodeterioration of wooden beams embedded in internally insulated masonry walls. *Construction and Building Materials*, **2015**, 99, 159-168	6.7	21
122	Coupling of physical phenomena in urban microclimate: A model integrating air flow, wind-driven rain, radiation and transport in building materials. *Urban Climate*, **2018**, 24, 398-418	6.8	21

121	Numerical analysis of convective drying of gypsum boards. *International Journal of Heat and Mass Transfer*, **2012**, 55, 2590-2600	4.9	21
120	Combining hygrothermal and corrosion models to predict corrosion of metal fasteners embedded in wood. *Building and Environment*, **2011**, 46, 2060-2068	6.5	21
119	CFD modeling of convective scalar transport in a macroporous material for drying applications. *International Journal of Thermal Sciences*, **2018**, 123, 86-98	4.1	20
118	Influence of sorption hysteresis on moisture transport in wood. *Wood Science and Technology*, **2016**, 50, 259-283	2.5	20
117	Quantitative neutron imaging of water distribution, venation network and sap flow in leaves. *Planta*, **2014**, 240, 423-36	4.7	20
116	Variation of measured cross-sectional cell dimensions and calculated water vapor permeability across a single growth ring of spruce wood. *Wood Science and Technology*, **2012**, 46, 827-840	2.5	20
115	Computational fluid dynamics simulations of wind-driven rain on a mid-rise residential building with various types of facade details. *Journal of Building Performance Simulation*, **2017**, 10, 125-143	2.8	19
114	Impact of hydration on the micromechanical properties of the polymer composite structure of wood investigated with atomistic simulations. *Journal of the Mechanics and Physics of Solids*, **2017**, 103, 221-235	5	19
113	Impact of evaporative cooling due to wetting of urban materials on local thermal comfort in a street canyon. *Sustainable Cities and Society*, **2019**, 49, 101574	10.1	19
112	Electrical conductivity sensors for water penetration monitoring in building masonry materials. *Materials and Structures/Materiaux Et Constructions*, **2016**, 49, 2535-2547	3.4	18
111	Sprays from droplets impacting a mesh. *Journal of Fluid Mechanics*, **2019**, 871, 489-509	3.7	18
110	Swelling interactions of earlywood and latewood across a growth ring: global and local deformations. *Wood Science and Technology*, **2018**, 52, 91-114	2.5	18
109	Simulation of quasi-static drainage displacement in porous media on pore-scale: Coupling lattice Boltzmann method and pore network model. *Journal of Hydrology*, **2020**, 588, 125080	6	18
108	Improved pore network models to simulate single-phase flow in porous media by coupling with lattice Boltzmann method. *Advances in Water Resources*, **2020**, 145, 103738	4.7	18
107	Comparative study of flow field and drag coefficient of model and small natural trees in a wind tunnel. *Urban Forestry and Urban Greening*, **2018**, 35, 230-239	5.4	18
106	Dynamics of Contact Line Pinning and Depinning of Droplets Evaporating on Microribs. *Langmuir*, **2018**, 34, 5635-5645	4	17
105	Time resolved analysis of water drainage in porous asphalt concrete using neutron radiography. *Applied Radiation and Isotopes*, **2013**, 77, 5-13	1.7	17
104	Numerical study of gravity-driven droplet displacement on a surface using the pseudopotential multiphase lattice Boltzmann model with high density ratio. *Computers and Fluids*, **2015**, 117, 42-53	2.8	17

103	Temperature driven inward vapor diffusion under constant and cyclic loading in small-scale wall assemblies: Part 1 experimental investigation. *Building and Environment*, **2012**, 48, 48-56	6.5	17
102	Hygroscopic Behavior of Paper and Books. *Journal of Building Physics*, **2007**, 31, 9-34	2.6	17
101	Experimental assessment of the velocity and temperature distribution in an indoor displacement ventilation jet. *Building and Environment*, **2012**, 47, 150-160	6.5	16
100	New insights into the apple fruit dehydration process at the cellular scale by 3D continuum modeling. *Journal of Food Engineering*, **2018**, 239, 52-63	6	15
99	Cross-scale modelling of transpiration from stomata via the leaf boundary layer. *Annals of Botany*, **2014**, 114, 711-23	4.1	15
98	Nonlinear Poro-Elastic Model for Unsaturated Porous Solids. *Journal of Applied Mechanics, Transactions ASME*, **2013**, 80,	2.7	15
97	Analysis of time-resolved wind-driven rain on an array of low-rise cubic buildings using large eddy simulation and an Eulerian multiphase model. *Building and Environment*, **2017**, 114, 68-81	6.5	14
96	Assessment of risk of freeze-thaw damage in internally insulated masonry in a changing climate. *Building and Environment*, **2020**, 175, 106773	6.5	14
95	Temperature driven inward vapor diffusion under constant and cyclic loading in small-scale wall assemblies: Part 2 heat-moisture transport simulations. *Building and Environment*, **2012**, 47, 161-169	6.5	14
94	A review on advanced imaging technologies for the quantification of wicking in textiles. *Textile Reseach Journal*, **2017**, 87, 110-132	1.7	13
93	Investigation of Water Uptake in Porous Asphalt Concrete Using Neutron Radiography. *Transport in Porous Media*, **2014**, 105, 431-450	3.1	13
92	Liquid uptake in Scots pine sapwood and hardwood visualized and quantified by neutron radiography. *Materials and Structures/Materiaux Et Constructions*, **2014**, 47, 1083-1096	3.4	13
91	Micromechanics investigation of hygro-elastic behavior of cellular materials with multi-layered cell walls. *Composite Structures*, **2013**, 95, 607-611	5.3	13
90	The role of water in the behavior of wood. *Journal of Building Physics*, **2013**, 36, 398-421	2.6	13
89	Hysteresis in modeling of poroelastic systems: quasistatic equilibrium. *Physical Review E*, **2011**, 83, 061408	2.4	13
88	Contact Angle Effects on Pore and Corner Arc Menisci in Polygonal Capillary Tubes Studied with the Pseudopotential Multiphase Lattice Boltzmann Model. *Computation*, **2016**, 4, 12	2.2	13
87	Distribution of moisture in reconstructed oil paintings on canvas during absorption and drying: A neutron radiography and NMR study. *Studies in Conservation*, **2017**, 62, 393-409	0.6	12
86	Tricoupled hybrid lattice Boltzmann model for nonisothermal drying of colloidal suspensions in micropore structures. *Physical Review E*, **2019**, 99, 053306	2.4	12

85	Masonry brick–cement mortar interface resistance to water transport determined with neutron radiography and numerical modeling. *Journal of Building Physics*, **2020**, 44, 251-271	2.6	12
84	Recent advances in drying at interfaces of biomaterials. *Drying Technology*, **2016**, 34, 1904-1925	2.6	12
83	Insights from modeling dynamics of water sorption in spherical particles for adsorption heat pumps. *International Journal of Heat and Mass Transfer*, **2017**, 105, 326-337	4.9	12
82	The role of geometrical disorder on swelling anisotropy of cellular solids. *Mechanics of Materials*, **2012**, 55, 49-59	3.3	12
81	Forced Convective Drying of Wet Porous Asphalt Imaged with Neutron Radiography. *Advanced Engineering Materials*, **2013**, 15, 1136-1145	3.5	12
80	Inward vapor diffusion due to high temperature gradients in experimentally tested large-scale wall assemblies. *Building and Environment*, **2010**, 45, 2790-2797	6.5	12
79	Comparison of experimental and numerical results of wood-frame wall assemblies wetted by simulated wind-driven rain infiltration. *Energy and Buildings*, **2007**, 39, 1131-1139	7	12
78	Smart wetting of permeable pavements as an evaporative-cooling measure for improving the urban climate during heat waves. *Journal of Building Physics*, **2021**, 45, 36-66	2.6	12
77	Impact of drying methods on the changes of fruit microstructure unveiled by X-ray micro-computed tomography.. *RSC Advances*, **2019**, 9, 10606-10624	3.7	11
76	Is desiccation tolerance and avoidance reflected in xylem and phloem anatomy of two coexisting arid-zone coniferous trees?. *Plant, Cell and Environment*, **2018**, 41, 1551-1564	8.4	11
75	Wetting and drying in hydrophobic, macroporous asphalt structures. *Construction and Building Materials*, **2017**, 152, 82-95	6.7	11
74	Water uptake in clay brick at different temperatures: Experiments and numerical simulations. *Journal of Building Physics*, **2016**, 39, 373-389	2.6	10
73	Controlled 3D nanoparticle deposition by drying of colloidal suspension in designed thin micro-porous architectures. *International Journal of Heat and Mass Transfer*, **2020**, 158, 120000	4.9	10
72	Moisture uptake and permeability of canvas paintings and their components. *Journal of Cultural Heritage*, **2016**, 19, 445-453	2.9	10
71	Wood–Moisture Relationships Studied with Molecular Simulations: Methodological Guidelines. *Forests*, **2019**, 10, 628	2.8	10
70	The effect of moisture content on the corrosion of fasteners embedded in wood subjected to alkaline copper quaternary treatment. *Corrosion Science*, **2014**, 83, 67-74	6.8	10
69	Multicriteria decision analysis applied to the design of light-frame wood wall assemblies. *Journal of Building Performance Simulation*, **2010**, 3, 33-52	2.8	10
68	Hydrogen bonds dominated frictional stick-slip of cellulose nanocrystals. *Carbohydrate Polymers*, **2021**, 258, 117682	10.3	10

67	LBM Simulation of Self-Assembly of Clogging Structures by Evaporation of Colloidal Suspension in 2D Porous Media. *Transport in Porous Media*, **2019**, 128, 929-943	3.1	10
66	Detergency and Its Implications for Oil Emulsion Sieving and Separation. *Langmuir*, **2017**, 33, 4250-4259	4	9
65	A film flow model for analysing gravity-driven, thin wavy fluid films. *International Journal of Multiphase Flow*, **2015**, 73, 207-216	3.6	9
64	Moisture storage and transport properties of preservative treated and untreated southern pine wood. *Wood Material Science and Engineering*, **2016**, 11, 228-238	1.9	9
63	Identification of multiple criteria for the evaluation of light-frame wood wall assemblies. *Journal of Building Performance Simulation*, **2008**, 1, 221-236	2.8	9
62	Coupling of sorption and deformation in soft nanoporous polymers: Molecular simulation and poromechanics. *Journal of the Mechanics and Physics of Solids*, **2020**, 137, 103830	5	9
61	Ten questions concerning modeling of wind-driven rain in the built environment. *Building and Environment*, **2017**, 114, 495-506	6.5	8
60	Molecular Simulation of Sorption-Induced Deformation in Atomistic Nanoporous Materials. *Langmuir*, **2019**, 35, 7751-7758	4	8
59	Mapping of Air Leakage in Exterior Wall Assemblies. *Journal of Thermal Envelope and Building Science*, **2000**, 24, 132-154		8
58	Energy-efficient mitigation measures for improving indoor thermal comfort during heat waves. *Applied Energy*, **2020**, 278, 115620	10.7	8
57	Droplet impact of Newtonian fluids and blood on simple fabrics: Effect of fabric pore size and underlying substrate. *Physics of Fluids*, **2021**, 33, 033308	4.4	8
56	Poromechanical modeling of moisture induced swelling anisotropy in cellular tissues of softwoods. *RSC Advances*, **2015**, 5, 3560-3566	3.7	7
55	Non-Lithography Hydrodynamic Printing of Micro/Nanostructures on Curved Surfaces. *Angewandte Chemie - International Edition*, **2020**, 59, 14234-14240	16.4	7
54	Comparison of the corrosion of fasteners embedded in wood measured in outdoor exposure with the predictions from a combined hygrothermal-corrosion model. *Corrosion Science*, **2016**, 102, 178-185	6.8	7
53	Transport of Polar and Nonpolar Liquids in Softwood Imaged by Neutron Radiography. *Transport in Porous Media*, **2016**, 113, 383-404	3.1	7
52	A non-rigid registration method for the analysis of local deformations in the wood cell wall. *Advanced Structural and Chemical Imaging*, **2018**, 4, 1	3.9	7
51	Neutron imaging of moisture displacement due to steep temperature gradients in hardwood. *International Journal of Thermal Sciences*, **2014**, 81, 1-12	4.1	7
50	Moisture Accumulation in Cellulose Insulation Caused by Air Leakage in Flat Wood Frame Roofs. *Journal of Thermal Envelope and Building Science*, **2005**, 28, 269-287		7

49	Moisture-induced crossover in the thermodynamic and mechanical response of hydrophilic biopolymer. *Cellulose*, **2020**, 27, 89-99	5.5	7
48	Advancement in Urban Climate Modelling at Local Scale: Urban Heat Island Mitigation and Building Cooling Demand. *Atmosphere*, **2020**, 11, 1313	2.7	7
47	Lattice Boltzmann Modeling of Drying of Porous Media Considering Contact Angle Hysteresis. *Transport in Porous Media*, **2021**, 140, 395-420	3.1	7
46	Investigation of Gravity-Driven Drainage and Forced Convective Drying in a Macroporous Medium Using Neutron Radiography. *Transport in Porous Media*, **2017**, 118, 119-142	3.1	6
45	A hygrothermo-mechanical model for wood: part A. Poroelastic formulation and validation with neutron imaging. *Holzforschung*, **2015**, 69, 825-837	2	6
44	A cluster-based pore network model of drying with corner liquid films, with application to a macroporous material. *International Journal of Heat and Mass Transfer*, **2019**, 140, 620-633	4.9	6
43	Understanding forced convective drying of apple tissue: Combining neutron radiography and numerical modelling. *Innovative Food Science and Emerging Technologies*, **2014**, 24, 97-105	6.8	6
42	Moisture Migration in Wood Under Heating Measured by Thermal Neutron Radiography. *Experimental Heat Transfer*, **2014**, 27, 160-179	2.4	6
41	Swelling of cellular solids: From conventional to re-entrant honeycombs. *Applied Physics Letters*, **2013**, 102, 211907	3.4	6
40	Exposure to Condensation Moisture of Sheathing in Retrofitted Leaky Wall Assemblies. *Journal of Architectural Engineering*, **2006**, 12, 72-82	1.5	6
39	Saline Water Evaporation and Crystallization-Induced Deformations in Building Stone: Insights from High-Resolution Neutron Radiography. *Transport in Porous Media*, **2019**, 128, 895-913	3.1	6
38	Disentangling Heat and Moisture Effects on Biopolymer Mechanics. *Macromolecules*, **2020**, 53, 1527-1535	5.5	5
37	A hygrothermo-mechanical model for wood: Part B. Parametric studies and application to wood welding. *Holzforschung*, **2015**, 69, 839-849	2	5
36	Droplet evaporation in finite-size systems: Theoretical analysis and mesoscopic modeling.. *Physical Review E*, **2022**, 105, 025101	2.4	5
35	Modeling wicking in textiles using the dual porosity approach. *Textile Reseach Journal*, **2019**, 89, 3519-3528	2.7	5
34	Assessment of moisture risk of wooden beam embedded in internally insulated masonry walls with 2D and 3D models. *Building and Environment*, **2021**, 193, 107460	6.5	5
33	Spontaneous Imbibition in a Square Tube With Corner Films: Theoretical Model and Numerical Simulation. *Water Resources Research*, **2021**, 57, e2020WR029190	5.4	5
32	Three-dimensional model of air speed in the secondary zone of displacement ventilation jet. *Building and Environment*, **2017**, 114, 483-494	6.5	4

31	Large-Scale Testing of Two Flat Roof Assemblies Insulated with Cellulose. *Journal of Architectural Engineering*, **2000**, 6, 12-23	1.5	4
30	A Poromechanical Model for Sorption Hysteresis in Nanoporous Polymers. *Journal of Physical Chemistry B*, **2020**, 124, 8690-8703	3.4	4
29	Two-stage wicking of yarns at the fiber scale investigated by synchrotron X-ray phase-contrast fast tomography. *Textile Reseach Journal*, **2019**, 89, 4967-4979	1.7	3
28	Turbulent airflow above a full-scale macroporous material: Boundary layer characterization and conditional statistical analysis. *Experimental Thermal and Fluid Science*, **2016**, 74, 390-403	3	3
27	Analysis of moisture risk in internally insulated masonry walls. *Building and Environment*, **2022**, 212, 108734	6.3	3
26	Hygromechanical mechanisms of wood cell wall revealed by molecular modeling and mixture rule analysis. *Science Advances*, **2021**, 7, eabi8919	14.3	3
25	A new procedure for selecting moisture reference years for hygrothermal simulations. *Bauphysik*, **2016**, 38, 361-365	0.4	2
24	Using Modeling to Understand the Hygromechanical and Hysteretic Behavior of the S2 Cell Wall Layer of Wood **2018**, 247-269		2
23	Coupled Hygro-Thermo-Mechanical Behavior of Amorphous Biopolymers: Molecular Dynamic Study of Softwood Lignin **2017**,		2
22	Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs. *Journal of Architectural Engineering*, **2003**, 9, 26-40	1.5	2
21	Life-Cycle Analysis of Improvements to an Existing Energy-Efficient House in Montreal. *Architectural Science Review*, **2003**, 46, 341-352	2.6	2
20	Four-dimensional imaging and free-energy analysis of sudden pore-filling events in wicking of yarns. *Physical Review E*, **2021**, 103, 053101	2.4	2
19	Lattice Boltzmann modeling of heat conduction enhancement by colloidal nanoparticle deposition in microporous structures. *Physical Review E*, **2021**, 103, 023311	2.4	2
18	Three influential factors on colloidal nanoparticle deposition for heat conduction enhancement in 3D chip stacks. *Applied Thermal Engineering*, **2021**, 187, 116585	5.8	2
17	Role of cellulose nanocrystals on hysteretic sorption and deformation of nanocomposites. *Cellulose* , **2020**, 27, 6945-6960	5.5	1
16	Micro-Scale Restraint Methodology for Humidity Induced Swelling Investigated by Phase Contrast X-Ray Tomography. *Experimental Mechanics*, **2014**, 54, 1215-1226	2.6	1
15	Mitigation measures for urban heat island and their impact on pedestrian thermal comfort. *Journal of Physics: Conference Series*, **2021**, 2069, 012058	0.3	1
14	Hygromechanics of softwood cellulosic nanocomposite with intermolecular interactions at fiber-matrix interface investigated with molecular dynamics. *Composites Part B: Engineering*, **2022**, 228, 109449	10	1

13	Design of smart wetting of building materials as evaporative cooling measure for improving the urban climate during heat waves. *E3S Web of Conferences*, **2020**, 172, 03001	0.5	1
12	Self-Driven Multiplex Reaction: Reactant and Product Diffusion via a Transpiration-Inspired Capillary. *ACS Applied Materials & Interfaces*, **2021**, 13, 22031-22039	9.5	1
11	Investigation of coupled vapor and heat transport in hygroscopic material during adsorption and desorption. *Building and Environment*, **2022**, 108845	6.5	0
10	A study on diurnal microclimate hysteresis and plant morphology of a Buxus sempervirens using PIV, infrared thermography, and X-ray imaging. *Agricultural and Forest Meteorology*, **2022**, 313, 108722	5.8	0
9	Impact of climate change on the wind-driven rain exposure of a historical building. *Journal of Physics: Conference Series*, **2021**, 2069, 012054	0.3	0
8	Combined Use of Wind-Driven Rain Load and Potential Evaporation to Evaluate Moisture Damage Risk: Case Study on the Parliament Buildings in Ottawa, Canada. *Buildings*, **2021**, 11, 476	3.2	0
7	Pore-scale simulation of drying in porous media using a hybrid lattice Boltzmann: pore network model. *Drying Technology*,1-16	2.6	0
6	Coupled numerical simulations of cooling potential due to evaporation in a street canyon and an urban public square. *Journal of Physics: Conference Series*, **2019**, 1343, 012016	0.3	0
5	Non-Lithography Hydrodynamic Printing of Micro/Nanostructures on Curved Surfaces. *Angewandte Chemie*, **2020**, 132, 14340-14346	3.6	
4	Swelling of Wood Tissue: Interactions at the Cellular Scale **2014**, 153-170		
3	Moisture-induced deformations of wood and shape memory. *Journal of Physics: Conference Series*, **2021**, 2069, 012012	0.3	
2	Drying of porous materials at pore scale using lattice Boltzmann and pore network models. *Journal of Physics: Conference Series*, **2021**, 2069, 012001	0.3	
1	Simulation of indoor temperature and humidity conditions in the suburban and urban area over a hot summer. *Journal of Physics: Conference Series*, **2019**, 1343, 012168	0.3	