

Roman Lackner

List of Publications by Year in descending order

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109
papers

2,897
citations

147726

31
h-index

197736

49
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114
all docs

114
docs citations

114
times ranked

2115
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermo-chemo-mechanical characterization, modeling, and analysis of hydration of calcium-sulfoaluminate cement paste. <i>Construction and Building Materials</i> , 2022, 319, 125747.	3.2	3
2	Application of Hyperspectral Imaging for identification of aging state of Styrene-Butadiene-Styrene. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2022, 271, 120918.	2.0	2
3	On the Effect of Recycled Polyolefins on the Thermorheological Performance of Polymer-Modified Bitumen Used for Roofing-Applications. <i>Sustainability</i> , 2021, 13, 3284.	1.6	5
4	Phase development in RbInSe ₂ thin films – a temperature series. <i>Scripta Materialia</i> , 2021, 202, 113999.	2.6	1
5	On the effect of pore-space properties and water saturation on explosive spalling of fire-loaded concrete. <i>Construction and Building Materials</i> , 2020, 231, 117150.	3.2	18
6	Acrylic surface treatment applied to architectural High-Performance Concrete (HPC): Identification of potential pitfalls on the way to long-lasting protection. <i>Construction and Building Materials</i> , 2020, 237, 117415.	3.2	7
7	Micromechanics-based assessment of the effective viscosity of suspensions of generalized-Newtonian fluids embedding noncolloidal angular/spheroidal pores and particles. <i>Journal of Rheology</i> , 2020, 64, 899-913.	1.3	4
8	New approach for an industrial low-temperature roll-to-roll Cl(G)Se hybrid sputter coevaporation deposition process. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020, 38, 033201.	0.9	10
9	Viscoelastic Response of Closed-Cell Polyurethane Foams From Half Hour-Long Creep Tests: Identification of Lomnitz Behavior. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2019, 141, .	0.8	5
10	Mechanical performance of textile-reinforced hoses assessed by a truss-based unit cell model. <i>International Journal of Engineering Science</i> , 2019, 141, 47-66.	2.7	7
11	Engineering hydration model for ordinary Portland cement based on heat flow calorimetry data. <i>Journal of Thermal Analysis and Calorimetry</i> , 2019, 138, 2283-2288.	2.0	6
12	On the performance of film formers versus penetrants as water-repellent treatment of High-Performance Concrete (HPC) surfaces. <i>Construction and Building Materials</i> , 2019, 203, 481-490.	3.2	14
13	Analysis on the influence of grain size and grain layer thickness on the sorption kinetics of grained wood at low relative humidity with the use of water vapour sorption experiments. <i>Wood Science and Technology</i> , 2018, 52, 753-776.	1.4	12
14	Thermochemical assessment of the load-bearing capacity of steel-reinforced elastomeric bearings subjected to fire loading. <i>Engineering Structures</i> , 2018, 160, 12-23.	2.6	2
15	Stability analysis of shotcrete supported crown of NATM tunnels with discontinuity layout optimization. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2018, 42, 1199-1216.	1.7	50
16	RUC-based multi-scale model for braid-reinforced polymers: Application to coil springs. <i>Composites Part B: Engineering</i> , 2018, 155, 431-443.	5.9	12
17	Consideration of arbitrary inclusion shapes in the framework of isotropic continuum micromechanics: The replacement Eshelby tensor approach. <i>Mechanics of Materials</i> , 2018, 126, 126-139.	1.7	11
18	Closed-form expressions for effective viscoelastic properties of fiber-reinforced composites considering fractional matrix behavior. <i>Mechanics of Materials</i> , 2018, 127, 14-25.	1.7	8

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19	Fast assessing spalling risk of tunnel linings under RABT fire: From a coupled thermo-hydro-chemo-mechanical model towards an estimation method. <i>Engineering Structures</i> , 2017, 142, 1-19.	2.6	51
20	Apparent power-law fluid behavior of vibrated fresh concrete: Engineering arguments based on Stokes-type sphere viscometer measurements. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2017, 240, 44-55.	1.0	17
21	Influence of curing temperature dependent microstructure on early-age concrete strength development. <i>Cement and Concrete Research</i> , 2017, 102, 48-59.	4.6	33
22	Impact of molecular structure of SBS on thermomechanical properties of polymer modified bitumen. <i>European Polymer Journal</i> , 2017, 96, 256-265.	2.6	74
23	Effect of substrate moisture on the weatherability of surface treatment for High - Performance Concrete (HPC). <i>Cement and Concrete Composites</i> , 2017, 83, 57-65.	4.6	5
24	Thin-Shell Model for Effective Thermal and Electrical Conductivity of Highly Porous Closed-Cell Metal Foams. <i>Transport in Porous Media</i> , 2016, 113, 629-638.	1.2	8
25	Effect of Different Bearing Ratios on the Friction between Ultrahigh Molecular Weight Polyethylene Ski Bases and Snow. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 12552-12557.	4.0	12
26	Extending chemo-thermal quality assessment for jet grouting. <i>Proceedings of the Institution of Civil Engineers: Ground Improvement</i> , 2016, 169, 264-274.	0.7	2
27	Assessment of test methods for characterizing the hydrophobic nature of surface-treated High Performance Concrete. <i>Construction and Building Materials</i> , 2016, 110, 145-153.	3.2	43
28	Multifunctional Optimization of Viscoelastic Materials Subjected to Spherical Impact. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	1.1	1
29	Power-law scaling of thermal conductivity of highly porous ceramics. <i>Journal of the European Ceramic Society</i> , 2015, 35, 1933-1941.	2.8	8
30	Multi-level homogenization of strength properties of hierarchical-organized matrix-inclusion materials. <i>Mechanics of Materials</i> , 2015, 89, 98-118.	1.7	11
31	Friction Between Steel and Snow in Dependence of the Steel Roughness. <i>Tribology Letters</i> , 2015, 59, 1.	1.2	23
32	Strong discontinuity embedded approach with standard SOS formulation: Element formulation, energy-based crack-tracking strategy, and validations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 287, 335-366.	3.4	135
33	Gradient-based adaptive discontinuity layout optimization for the prediction of strength properties in matrix-inclusion materials. <i>International Journal of Solids and Structures</i> , 2015, 63, 82-98.	1.3	11
34	Synthesis and Crystal Structures of 1,1'-Methylene-bis(imidazolidine-2,4-dione) and Alkali Metal Salts. <i>Crystals</i> , 2014, 4, 1-10.	1.0	0
35	Introduction: New advances in the analysis of structures subjected to fire: Part II. <i>Engineering Structures</i> , 2014, 77, 171.	2.6	0
36	Creep response of bituminous mixtures-rheological model and microstructural interpretation. <i>Meccanica</i> , 2014, 49, 2687-2698.	1.2	8

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37	Model-based risk assessment of concrete spalling in tunnel linings under fire loading. <i>Engineering Structures</i> , 2014, 77, 207-215.	2.6	47
38	Real-scale CFD simulations of fire in single- and double-track railway tunnels of arched and rectangular shape under different ventilation conditions. <i>Engineering Structures</i> , 2014, 77, 193-206.	2.6	15
39	Underground concrete frame structures subjected to fire loading: Part I "Large-scale fire tests. <i>Engineering Structures</i> , 2014, 58, 175-187.	2.6	28
40	Underground concrete frame structures subjected to fire loading: Part II "Re-analysis of large-scale fire tests. <i>Engineering Structures</i> , 2014, 58, 188-196.	2.6	18
41	Micromechanics-based modelling of post-yield behavior of porous materials and its effect on hardness properties from conical indentation. <i>Journal of the Mechanics and Physics of Solids</i> , 2013, 61, 1655-1669.	2.3	0
42	A Coupled Thermo-Hygro-Chemo-Mechanical Model for the Simulation of Spalling of Concrete Subjected to Fire Loading. , 2013, , .		1
43	Micromechanics-based multifield framework for early-age concrete. <i>Engineering Structures</i> , 2013, 47, 16-24.	2.6	27
44	Sesqui-power scaling of plateau strength of closed-cell foams. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 580, 313-321.	2.6	13
45	Experimental Investigation of Strain Behaviour of Heated Cement Paste and Concrete. <i>Strain</i> , 2013, 49, 249-256.	1.4	14
46	Differential-scheme based dissolution/diffusion model for calcium leaching in cement-based materials accounting for mix design and binder composition. <i>Cement and Concrete Research</i> , 2012, 42, 686-699.	4.6	27
47	Sesqui-power scaling of elasticity of closed-cell foams. <i>Materials Letters</i> , 2012, 73, 212-215.	1.3	4
48	MULTISCALE VISCOELASTIC~VISCOPLASTIC MODEL FOR THE PREDICTION OF PERMANENT DEFORMATION IN FLEXIBLE PAVEMENTS. <i>International Journal for Multiscale Computational Engineering</i> , 2012, 10, 615-634.	0.8	3
49	Holistic Analysis of Underground Infrastructure Subjected to Fire. <i>Procedia Engineering</i> , 2011, 14, 41-51.	1.2	4
50	Effect of Styrene~Butadiene Rubber Latex on Mechanical Properties of Cementitious Materials Highlighted by Means of Nanoindentation. <i>Strain</i> , 2011, 47, 117-126.	1.4	32
51	Multiscale fatigue model for bituminous mixtures. <i>International Journal of Fatigue</i> , 2011, 33, 1435-1450.	2.8	17
52	Upscaling of Permeability of Porous Materials: First Insight into the Effect of Pore-Space Characteristics. <i>International Journal for Multiscale Computational Engineering</i> , 2010, 8, 103-112.	0.8	3
53	Computational mechanics of materials and structures. <i>Engineering Structures</i> , 2009, 31, 1288-1297.	2.6	6
54	Finer~Scale Extraction of Viscoelastic Properties from Nanoindentation Characterised by Viscoelastic~Plastic Response. <i>Strain</i> , 2009, 45, 45-54.	1.4	16

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55	A Finite Element Approach to Predict Permanent Deformation Behaviour of Hot Mix Asphalt Based on Fundamental Material Tests and Advanced Rheological Models. <i>Strain</i> , 2009, 45, 3-16.	1.4	4
56	Identification of Logarithmic-Type Creep of Calcium Silicate Hydrates by Means of Nanoindentation. <i>Strain</i> , 2009, 45, 17-25.	1.4	41
57	Upscaling of viscoelastic properties of highly-filled composites: Investigation of matrix-inclusion-type morphologies with power-law viscoelastic material response. <i>Composites Science and Technology</i> , 2009, 69, 2410-2420.	3.8	34
58	Multiscale Prediction of Viscoelastic Properties of Asphalt Concrete. <i>Journal of Materials in Civil Engineering</i> , 2009, 21, 771-780.	1.3	83
59	Underground Structures under Fire – From Material Modeling of Concrete Under Combined Thermal and Mechanical Loading to Structural Safety Assessment. , 2009, , 71-78.		2
60	Identification of model parameters from elastic/elasto-plastic spherical indentation. <i>International Journal of Materials Research</i> , 2009, 100, 926-932.	0.1	1
61	Highlighting the Effect of Gel-Pore Diffusivity on the Effective Diffusivity of Cement Paste – A Multiscale Investigation. , 2009, , 973-981.		0
62	Experimental insight into spalling behavior of concrete tunnel linings under fire loading. <i>Acta Geotechnica</i> , 2008, 3, 295-308.	2.9	44
63	Failure modes and effective strength of two-phase materials determined by means of numerical limit analysis. <i>Acta Mechanica</i> , 2008, 195, 185-202.	1.1	28
64	Thermo-hydro-chemical couplings considered in safety assessment of shallow tunnels subjected to fire load. <i>Fire Safety Journal</i> , 2008, 43, 83-95.	1.4	40
65	Identification of residual gas-transport properties of concrete subjected to high temperatures. <i>Cement and Concrete Research</i> , 2008, 38, 699-716.	4.6	28
66	Multi-phase hydration model for prediction of hydration-heat release of blended cements. <i>Cement and Concrete Research</i> , 2008, 38, 794-802.	4.6	46
67	Artificial Ground Freezing of Fully Saturated Soil: Viscoelastic Behavior. <i>Journal of Engineering Mechanics - ASCE</i> , 2008, 134, 1-11.	1.6	38
68	Identification of viscoelastic model parameters by means of cyclic nanoindentation testing. <i>International Journal of Materials Research</i> , 2008, 99, 829-835.	0.1	7
69	Scaling relations for viscoelastic – cohesive conical indentation. <i>International Journal of Materials Research</i> , 2008, 99, 836-846.	0.1	9
70	Multiscale Model for Creep of Shotcrete - From Logarithmic-Type Viscous Behavior of CSH at the 1/4m-Scale to Macroscopic Tunnel Analysis. <i>Journal of Advanced Concrete Technology</i> , 2008, 6, 91-110.	0.8	22
71	A multiscale creep model as basis for simulation of early-age concrete behavior. <i>Computers and Concrete</i> , 2008, 5, 295-328.	0.7	39
72	A multiscale micromechanics model for the autogenous-shrinkage deformation of early-age cement-based materials. <i>Engineering Fracture Mechanics</i> , 2007, 74, 34-58.	2.0	103

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73	Identification of viscoelastic properties by means of nanoindentation taking the real tip geometry into account. <i>Meccanica</i> , 2007, 42, 293-306.	1.2	55
74	The Effect of Styrene-Butadiene-Styrene Modification on the Characteristics and Performance of Bitumen. <i>Monatshefte für Chemie</i> , 2007, 138, 301-307.	0.9	33
75	Microscale characterization of bitumen – back-analysis of viscoelastic properties by means of nanoindentation. <i>International Journal of Materials Research</i> , 2007, 98, 404-413.	0.1	32
76	Low-temperature performance prediction of asphalt mixtures used for LLP – new approach based on fundamental test methods and numerical modeling. <i>International Journal of Pavement Engineering</i> , 2006, 7, 121-132.	2.2	7
77	How do polypropylene fibers improve the spalling behavior of in-situ concrete?. <i>Cement and Concrete Research</i> , 2006, 36, 929-942.	4.6	203
78	A posteriori error estimation and adaptive mesh refinement in chemoplastic analyses of shotcrete tunnel linings. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 363-372.	3.4	1
79	Hybrid analysis method for on-line quantification of stress states in tunnel shells. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 5361-5376.	3.4	9
80	Safety Assessment of Concrete Tunnel Linings under Fire Load. <i>Journal of Structural Engineering</i> , 2006, 132, 961-969.	1.7	35
81	Microstructure-based identification of bitumen performance. <i>Road Materials and Pavement Design</i> , 2006, 7, 111-142.	2.0	53
82	Stability assessment of shallow tunnels subjected to fire load. <i>Fire Safety Journal</i> , 2005, 40, 745-763.	1.4	64
83	Ground-Shotcrete Interaction of NATM Tunnels with High Overburden. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2005, 131, 886-897.	1.5	10
84	Is Low-Temperature Creep of Asphalt Mastic Independent of Filler Shape and Mineralogy? – Arguments from Multiscale Analysis. <i>Journal of Materials in Civil Engineering</i> , 2005, 17, 485-491.	1.3	78
85	Artificial Ground Freezing of Fully Saturated Soil: Thermal Problem. <i>Journal of Engineering Mechanics - ASCE</i> , 2005, 131, 211-220.	1.6	64
86	Concrete Subjected to Triaxial Stress States: Application to Pull-Out Analyses. <i>Journal of Engineering Mechanics - ASCE</i> , 2004, 130, 1486-1498.	1.6	8
87	Chemoplastic material model for the simulation of early-age cracking: From the constitutive law to numerical analyses of massive concrete structures. <i>Cement and Concrete Composites</i> , 2004, 26, 551-562.	4.6	66
88	Identification of Microstructural Components of Bitumen by Means of Atomic Force Microscopy (AFM). <i>Proceedings in Applied Mathematics and Mechanics</i> , 2004, 4, 400-401.	0.2	90
89	Optimization of jet-grouted support in NATM tunnelling. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2004, 28, 781-796.	1.7	13
90	Comparative studies of 3D-constitutive models for concrete: application to mixed-mode fracture. <i>International Journal for Numerical Methods in Engineering</i> , 2004, 60, 549-570.	1.5	42

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91	Identification of four material phases in bitumen by atomic force microscopy. Road Materials and Pavement Design, 2004, 5, 9-24.	2.0	109
92	Identification of macroscopic material properties of multi-composed materials from finer scales of observation. , 2004, , 173-194.		0
93	Back analysis of model parameters in geotechnical engineering by means of soft computing. International Journal for Numerical Methods in Engineering, 2003, 57, 1943-1978.	1.5	78
94	Cracking in shotcrete tunnel shells. Engineering Fracture Mechanics, 2003, 70, 1047-1068.	2.0	36
95	Shapes of loading surfaces of concrete models and their influence on the peak load and failure mode in structural analyses. International Journal of Engineering Science, 2003, 41, 1649-1665.	2.7	20
96	Scale Transition in Steel-Concrete Interaction. I: Model. Journal of Engineering Mechanics - ASCE, 2003, 129, 393-402.	1.6	28
97	Scale Transition in Steel-Concrete Interaction. II: Applications. Journal of Engineering Mechanics - ASCE, 2003, 129, 403-413.	1.6	9
98	Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling. Journal of Engineering Mechanics - ASCE, 2003, 129, 951-962.	1.6	16
99	Quantification of stress states in shotcrete shells. , 2003, , 225-248.		5
100	Material model for soil and applications. , 2003, , 83-116.		1
101	Hybrid Method for Analysis of Segmented Shotcrete Tunnel Linings. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2002, 128, 298-308.	1.5	32
102	A posteriori error estimation in non-linear FE analyses of shell structures. International Journal for Numerical Methods in Engineering, 2002, 53, 2329-2355.	1.5	10
103	Constitutive modeling of cementitious materials in the framework of chemoplasticity. International Journal for Numerical Methods in Engineering, 2002, 53, 2357-2388.	1.5	31
104	Mesh generation and mesh refinement procedures for the analysis of concrete shells. Advances in Engineering Software, 2002, 33, 389-402.	1.8	7
105	Adaptivity in computational mechanics of concrete structures. International Journal for Numerical and Analytical Methods in Geomechanics, 2001, 25, 711-739.	1.7	12
106	Adaptive FE Analysis of RC Shells. II: Applications. Journal of Engineering Mechanics - ASCE, 2001, 127, 1213-1222.	1.6	13
107	Adaptive FE Analysis of RC Shells. I: Theory. Journal of Engineering Mechanics - ASCE, 2001, 127, 1203-1212.	1.6	11
108	An anisotropic elastoplastic-damage model for plain concrete. International Journal for Numerical Methods in Engineering, 1998, 42, 703-727.	1.5	146

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109	Mechanical and Transport Properties of Concrete at High Temperatures. Applied Mechanics and Materials, 0, 24-25, 1-11.	0.2	1