

Vladimir I Nikora

List of Publications by Year in descending order

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123
papers

7,190
citations

71061

41
h-index

60583

81
g-index

129
all docs

129
docs citations

129
times ranked

3893
citing authors

#	ARTICLE	IF	CITATIONS
1	Despiking Acoustic Doppler Velocimeter Data. Journal of Hydraulic Engineering, 2002, 128, 117-126.	0.7	1,253
2	Spatially Averaged Open-Channel Flow over Rough Bed. Journal of Hydraulic Engineering, 2001, 127, 123-133.	0.7	396
3	Double-Averaging Concept for Rough-Bed Open-Channel and Overland Flows: Theoretical Background. Journal of Hydraulic Engineering, 2007, 133, 873-883.	0.7	318
4	Flow Turbulence over Fixed and Weakly Mobile Gravel Beds. Journal of Hydraulic Engineering, 2000, 126, 679-690.	0.7	266
5	<i>Hydrodynamics of aquatic ecosystems</i> : An interface between ecology, biomechanics and environmental fluid mechanics. River Research and Applications, 2010, 26, 367-384.	0.7	214
6	SUBSIDY AND STRESS RESPONSES OF STREAM PERIPHYTON TO GRADIENTS IN WATER VELOCITY AS A FUNCTION OF COMMUNITY GROWTH FORM. Journal of Phycology, 1998, 34, 598-607.	1.0	202
7	On gravel-bed roughness characterization. Water Resources Research, 1998, 34, 517-527.	1.7	186
8	On bed particle diffusion in gravel bed flows under weak bed load transport. Water Resources Research, 2002, 38, 17-1-17-9.	1.7	172
9	Double-Averaging Concept for Rough-Bed Open-Channel and Overland Flows: Applications. Journal of Hydraulic Engineering, 2007, 133, 884-895.	0.7	144
10	Statistical properties of armored gravel bed surfaces. Water Resources Research, 2006, 42, .	1.7	139
11	Velocity Distribution in the Roughness Layer of Rough-Bed Flows. Journal of Hydraulic Engineering, 2004, 130, 1036-1042.	0.7	125
12	Hydraulic Resistance due to Aquatic Vegetation in Small Streams: Field Study. Journal of Hydraulic Engineering, 2008, 134, 1326-1332.	0.7	102
13	Statistical sand wave dynamics in one-directional water flows. Journal of Fluid Mechanics, 1997, 351, 17-39.	1.4	94
14	Effects of fish size, time-to-fatigue and turbulence on swimming performance: a case study of <i>Galaxias maculatus</i> . Journal of Fish Biology, 2003, 63, 1365-1382.	0.7	94
15	Mass transfer-limited nitrogen and phosphorus uptake by stream periphyton: A conceptual model and experimental evidence. Limnology and Oceanography, 2004, 49, 1992-2000.	1.6	92
16	Origin of the ω^{-1} Spectral Law in Wall-Bounded Turbulence. Physical Review Letters, 1999, 83, 734-736.	2.9	90
17	Effects of bed material properties on cohesive sediment erosion. Marine Geology, 2004, 207, 83-93.	0.9	86
18	Velocity Profiles in Vegetated Open-Channel Flows: Combined Effects of Multiple Mechanisms. Journal of Hydraulic Engineering, 2013, 139, 1021-1032.	0.7	80

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19	Quadrant analysis of persistent spatial velocity perturbations over square-bar roughness. <i>Experiments in Fluids</i> , 2007, 42, 413-423.	1.1	79
20	Plant patch hydrodynamics in streams: Mean flow, turbulence, and drag forces. <i>Water Resources Research</i> , 2012, 48, .	1.7	73
21	Aquatic interfaces: a hydrodynamic and ecological perspective. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2014, 52, 744-758.	0.7	73
22	Flow-plant interactions at a leaf scale: effects of leaf shape, serration, roughness and flexural rigidity. <i>Aquatic Sciences</i> , 2012, 74, 267-286.	0.6	72
23	Biomechanical properties of aquatic plants and their effects on plantâ€“flow interactions in streams and rivers. <i>Aquatic Sciences</i> , 2012, 74, 31-44.	0.6	67
24	Fractal structures of river plan forms. <i>Water Resources Research</i> , 1991, 27, 1327-1333.	1.7	66
25	Statistical characterization of bed roughness due to bed forms: A field study in the Elbe River at Aken, Germany. <i>Water Resources Research</i> , 2010, 46, .	1.7	65
26	Fluvial dunes: initiation, characterization, flow structure. <i>Earth Surface Processes and Landforms</i> , 2011, 36, 39-57.	1.2	65
27	Erosion of Cohesive Sediments: Resuspension, Bed Load, and Erosion Patterns from Field Experiments. <i>Journal of Hydraulic Engineering</i> , 2007, 133, 508-520.	0.7	64
28	Very-large-scale motions in rough-bed open-channel flow. <i>Journal of Fluid Mechanics</i> , 2017, 814, 416-429.	1.4	64
29	Some observations of the effects of micro-organisms growing on the bed of an open channel on the turbulence properties. <i>Journal of Fluid Mechanics</i> , 2002, 450, 317-341.	1.4	63
30	Friction factor decomposition for rough-wall flows: theoretical background and application to open-channel flows. <i>Journal of Fluid Mechanics</i> , 2019, 872, 626-664.	1.4	62
31	Spatially Averaged Turbulent Flow over Square Ribs. <i>Journal of Engineering Mechanics - ASCE</i> , 2007, 133, 194-204.	1.6	61
32	The debate about drag and reconfiguration of freshwater macrophytes: comparing results obtained by three recently discussed approaches. <i>Freshwater Biology</i> , 2006, 51, 2173-2183.	1.2	60
33	Spatially Averaged Flows over Mobile Rough Beds: Definitions, Averaging Theorems, and Conservation Equations. <i>Journal of Hydraulic Engineering</i> , 2013, 139, 803-811.	0.7	57
34	3D Lagrangian modelling of saltating particles diffusion in turbulent water flow. <i>Acta Geophysica</i> , 2012, 60, 1639-1660.	1.0	54
35	Synoptic velocity and pressure fields at the waterâ€“sediment interface of streambeds. <i>Journal of Fluid Mechanics</i> , 2010, 660, 55-86.	1.4	52
36	River network fractal geometry and its computer simulation. <i>Water Resources Research</i> , 1993, 29, 3569-3575.	1.7	50

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37	Flow structure over square bars at intermediate submergence: Large Eddy Simulation study of bar spacing effect. <i>Acta Geophysica</i> , 2008, 56, 876-893.	1.0	49
38	Characteristics of turbulent unidirectional flow over rough beds: Double-averaging perspective with particular focus on sand dunes and gravel beds. <i>Water Resources Research</i> , 2006, 42, .	1.7	44
39	Flow effects on periphyton patches and their ecological consequences in a <i>N</i> ew Zealand river. <i>Freshwater Biology</i> , 2013, 58, 1588-1602.	1.2	44
40	Scaling Relationships for Sand Wave Development in Unidirectional Flow. <i>Journal of Hydraulic Engineering</i> , 1997, 123, 1152-1156.	0.7	42
41	Flow–plant interactions at leaf, stem and shoot scales: drag, turbulence, and biomechanics. <i>Aquatic Sciences</i> , 2014, 76, 269-294.	0.6	42
42	Secondary currents and very-large-scale motions in open-channel flow over streamwise ridges. <i>Journal of Fluid Mechanics</i> , 2020, 887, .	1.4	42
43	Diffusion of saltating particles in unidirectional water flow over a rough granular bed. <i>Journal of Physics A</i> , 2001, 34, L743-L749.	1.6	41
44	Interpretation of alluvial beds through bed–elevation distribution moments. <i>Water Resources Research</i> , 2011, 47, .	1.7	41
45	Equilibrium hydrodynamics concept for developing dunes. <i>Physics of Fluids</i> , 2006, 18, 105104.	1.6	40
46	Dynamic reconfiguration of aquatic plants and its interrelations with upstream turbulence and drag forces. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2013, 51, 46-55.	0.7	40
47	A unifying framework for particle entrainment. <i>Water Resources Research</i> , 2008, 44, .	1.7	39
48	Scaling properties in landscape patterns: New Zealand experience. <i>Landscape Ecology</i> , 1999, 14, 17-33.	1.9	37
49	On stream periphyton–turbulence interactions. <i>New Zealand Journal of Marine and Freshwater Research</i> , 1997, 31, 435-448.	0.8	36
50	Spatially averaged turbulent stress and its partitioning. <i>Experiments in Fluids</i> , 2008, 45, 73-83.	1.1	36
51	Interactions between aquatic plants and turbulent flow: a field study using stereoscopic PIV. <i>Journal of Fluid Mechanics</i> , 2013, 732, 345-372.	1.4	35
52	Flow–plant interactions in open–channel flows: A comparative analysis of five freshwater plant species. <i>Water Resources Research</i> , 2012, 48, .	1.7	34
53	Fractal geometry of individual river channels and its computer simulation. <i>Water Resources Research</i> , 1993, 29, 3561-3568.	1.7	33
54	Large-scale turbulent structure of uniform shallow free-surface flows. <i>Environmental Fluid Mechanics</i> , 2007, 7, 159-172.	0.7	33

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55	Exner equation: A continuum approximation of a discrete granular system. <i>Water Resources Research</i> , 2009, 45, .	1.7	33
56	Particle motion and diffusion at weak bed load: accounting for unsteadiness effects of entrainment and disentrainment. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2015, 53, 633-648.	0.7	33
57	A case study of longitudinal dispersion in small lowland rivers. <i>Water Environment Research</i> , 1997, 69, 1246-1253.	1.3	32
58	A Simple Model of Stream Periphyton-Flow Interactions. <i>Oikos</i> , 1998, 81, 607.	1.2	32
59	On statistical properties of bed load sediment concentration. <i>Water Resources Research</i> , 2009, 45, .	1.7	32
60	Compound open-channel flows: effects of transverse currents on the flow structure. <i>Journal of Fluid Mechanics</i> , 2020, 885, .	1.4	31
61	Entrainment of sediment particles by very large-scale motions. <i>Journal of Fluid Mechanics</i> , 2020, 888, .	1.4	31
62	Structure of the internal boundary layer over a patch of pinnid bivalves (<i>Atrina zelandica</i>) in an estuary. <i>Journal of Marine Research</i> , 2002, 60, 121-150.	0.3	31
63	The effects of the moss <i>Fissidens rigidulus</i> (Fissidentaceae: Musci) on near-bed flowstructure in an experimental cobble bed flume. <i>Limnology and Oceanography</i> , 1998, 43, 1321-1331.	1.6	30
64	Stream Bank Erosion: In Situ Flume Tests. <i>Journal of Irrigation and Drainage Engineering - ASCE</i> , 2007, 133, 256-264.	0.6	30
65	Pressure forces on sediment particles in turbulent open-channel flow: a laboratory study. <i>Journal of Fluid Mechanics</i> , 2014, 757, 458-497.	1.4	30
66	Biomechanical properties and morphological characteristics of lake and river plants: implications for adaptations to flow conditions. <i>Aquatic Sciences</i> , 2014, 76, 465-481.	0.6	30
67	Predictable changes in fish school characteristics due to a tidal turbine support structure. <i>Renewable Energy</i> , 2019, 141, 1092-1102.	4.3	30
68	On the definition of solid discharge in hydro-environment research and applications. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2014, 52, 173-184.	0.7	28
69	Fish distributions in a tidal channel indicate the behavioural impact of a marine renewable energy installation. <i>Energy Reports</i> , 2018, 4, 65-69.	2.5	28
70	Silverstream eco-hydraulics flume: Hydraulic design and tests. <i>New Zealand Journal of Marine and Freshwater Research</i> , 1998, 32, 607-620.	0.8	27
71	Turbulent friction in flows over permeable walls. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	27
72	On self-similarity and self-affinity of drainage basins. <i>Water Resources Research</i> , 1994, 30, 133-137.	1.7	26

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73	Morphological and mechanical properties of blades of <i>Saccharina latissima</i> . <i>Estuarine, Coastal and Shelf Science</i> , 2017, 196, 1-9.	0.9	26
74	Hydraulic resistance in open-channel flows over self-affine rough beds. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 183-196.	0.7	26
75	The Structure and Dynamics of the Thin Near-bed Layer in a Complex Marine Environment: A Case Study in Beatrix Bay, New Zealand. <i>Estuarine, Coastal and Shelf Science</i> , 2002, 54, 915-926.	0.9	25
76	Fish swimming speed variability at constant flow: <i>Galaxias maculatus</i> . <i>New Zealand Journal of Marine and Freshwater Research</i> , 2007, 41, 185-195.	0.8	25
77	Rough-bed flows in geophysical, environmental, and engineering systems: Double-Averaging Approach and its applications. <i>Acta Geophysica</i> , 2008, 56, 529-533.	1.0	25
78	Bed load transport by bed form migration. <i>Acta Geophysica</i> , 2012, 60, 1720-1743.	1.0	25
79	Diffusion of bedload particles in open-channel flows: distribution of travel times and second-order statistics of particle trajectories. <i>Environmental Fluid Mechanics</i> , 2015, 15, 1281-1292.	0.7	25
80	Spatially-averaged momentum fluxes and stresses in flows over mobile granular beds: a DNS-based study. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 208-223.	0.7	24
81	Double-averaged velocity profiles over fixed dune shapes. <i>Acta Geophysica</i> , 2008, 56, 669-697.	1.0	23
82	Drag forces on a bed particle in open-channel flow: effects of pressure spatial fluctuations and very-large-scale motions. <i>Journal of Fluid Mechanics</i> , 2019, 863, 494-512.	1.4	23
83	Bed and flow dynamics leading to sediment-wave initiation. <i>Water Resources Research</i> , 2009, 45, .	1.7	22
84	Flow interactions with an aquatic macrophyte: a field study using stereoscopic particle image velocimetry. <i>Journal of Ecohydraulics</i> , 2019, 4, 113-130.	1.6	22
85	Extended Self-Similarity in Geophysical and Geological Applications. <i>Mathematical Geosciences</i> , 2001, 33, 251-271.	0.9	21
86	Automatic active acoustic target detection in turbulent aquatic environments. <i>Limnology and Oceanography: Methods</i> , 2017, 15, 184-199.	1.0	21
87	Flow dynamics in alluvial channels: the legacy of Kirill V. Grishanin. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2011, 49, 285-292.	0.7	19
88	Momentum balance in flows over mobile granular beds: application of double-averaging methodology to DNS data. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 190-207.	0.7	19
89	Active interactions between turbulence and bed load: Conceptual picture and experimental evidence. <i>Water Resources Research</i> , 2013, 49, 90-99.	1.7	18
90	Flow-seaweed interactions: a laboratory study using blade models. <i>Environmental Fluid Mechanics</i> , 2018, 18, 611-636.	0.7	18

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91	The structure of gravel-bed flow with intermediate submergence: A laboratory study. <i>Water Resources Research</i> , 2015, 51, 9232-9255.	1.7	17
92	Coupling Unmanned Aerial Vehicle (UAV) and hydraulic surveys to study the geometry and spatial distribution of aquatic macrophytes. <i>Journal of Ecohydraulics</i> , 2018, 3, 45-58.	1.6	17
93	Flow-seaweed interactions of <i>Saccharina latissima</i> at a blade scale: turbulence, drag force, and blade dynamics. <i>Aquatic Sciences</i> , 2019, 81, 1.	0.6	16
94	Mars topography: bulk statistics and spectral scaling. <i>Chaos, Solitons and Fractals</i> , 2004, 19, 427-439.	2.5	15
95	Biomechanical properties of aquatic plants: The effect of test conditions. <i>Limnology and Oceanography: Methods</i> , 2018, 16, 222-236.	1.0	15
96	Double-averaged velocity and stress distributions for hydraulically-smooth and transitionally-rough turbulent flows. <i>Acta Geophysica</i> , 2008, 56, 642-653.	1.0	14
97	Statistics and characteristic scales for bed load in a channel flow with sidewall effects. <i>Acta Geophysica</i> , 2010, 58, 1072-1093.	1.0	14
98	Hydrodynamic performance of vegetation surrogates in hydraulic studies: a comparative analysis of seaweed blades and their physical models. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 248-261.	0.7	13
99	High-Order Structure Functions for Planet Surfaces: A Turbulence Metaphor. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2005, 2, 362-365.	1.4	12
100	Spatially-averaged flows over mobile rough beds: equations for the second-order velocity moments. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 133-151.	0.7	12
101	Momentum and energy transfer in open-channel flow over streamwise ridges. <i>Journal of Fluid Mechanics</i> , 2021, 915, .	1.4	12
102	Double-averaged kinetic energy budgets in flows over mobile granular beds: insights from DNS data analysis. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 653-672.	0.7	11
103	A submersible device for measuring drag forces on aquatic plants and other organisms. <i>New Zealand Journal of Marine and Freshwater Research</i> , 2007, 41, 119-127.	0.8	10
104	Spatially-averaged oscillatory flow over a rough bed. <i>Acta Geophysica</i> , 2008, 56, 698-733.	1.0	10
105	Hydrodynamic Impacts of a Marine Renewable Energy Installation on the Benthic Boundary Layer in a Tidal Channel. <i>Energy Procedia</i> , 2017, 125, 250-259.	1.8	10
106	On Channel Network Fractal Properties: A Case of Study of the Hutt River Basin, New Zealand. <i>Water Resources Research</i> , 1996, 32, 3375-3384.	1.7	9
107	A lattice Boltzmann-based model of plankton-flow interaction around a mussel cluster. <i>Ecological Modelling</i> , 2006, 192, 645-657.	1.2	9
108	Hydrodynamics of aquatic ecosystems: spatial-averaging perspective. <i>Acta Geophysica</i> , 2007, 55, 3-10.	1.0	9

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109	Effects of Streamwise Ridges on Hydraulic Resistance in Open-Channel Flows. <i>Journal of Hydraulic Engineering</i> , 2020, 146, .	0.7	8
110	Flow Measurement Using Flying ADV Probes. <i>Journal of Hydraulic Engineering</i> , 2007, 133, 1345-1355.	0.7	7
111	SWAT.nz: New-Zeland-based "Sand Waves and Turbulence" experimental programme. <i>Acta Geophysica</i> , 2008, 56, 417-439.	1.0	7
112	Martian Topography: Scaling, Craters, and High-Order Statistics. <i>Mathematical Geosciences</i> , 2005, 37, 337-355.	0.9	6
113	Comment on "Drag, turbulence, and diffusion in flow through emergent vegetation" by H. M. Nepf. <i>Water Resources Research</i> , 2000, 36, 1985-1986.	1.7	5
114	Heterogeneity in catchment properties: a case study of Grey and Buller catchments, New Zealand. <i>Hydrology and Earth System Sciences</i> , 2002, 6, 167-184.	1.9	5
115	Spectral scaling in Mars topography: effect of craters. <i>Acta Geophysica</i> , 2006, 54, 102-112.	1.0	5
116	A novel experimental technique and its application to study the effects of particle density and flow submergence on bed particle saltation. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 101-113.	0.7	5
117	Bed particle dynamics at entrainment. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2019, 57, 464-474.	0.7	5
118	Implications of hyposaline stress for seaweed morphology and biomechanics. <i>Aquatic Botany</i> , 2020, 162, 103188.	0.8	5
119	Ocean-atmosphere CO ₂ exchange: An accessible lab simulation for considering biological effects. <i>Climatic Change</i> , 1994, 27, 299-320.	1.7	3
120	A PIV investigation into the interaction between wave motion and sediment ripples. , 2006, , .		3
121	Formula for the discharge of the bed load propagating as sand waves. <i>Power Technology and Engineering</i> , 1982, 16, 544-546.	0.0	0
122	Stephen Edward Coleman (1966"2012). <i>Acta Geophysica</i> , 2012, 60, 1500-1501.	1.0	0
123	Self-similarity and Reynolds number invariance in Froude modelling. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2018, 56, 291-292.	0.7	0