

# Gabriel Walton

## List of Publications by Year in descending order

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82  
papers

1,613  
citations

257357

24  
h-index

377752

34  
g-index

84  
all docs

84  
docs citations

84  
times ranked

907  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Laboratory-Testing-Based Study on the Strength, Deformability, and Dilatancy of Carbonate Rocks at Low Confinement. <i>Rock Mechanics and Rock Engineering</i> , 2015, 48, 941-958.	2.6	90
2	Development of an elliptical fitting algorithm to improve change detection capabilities with applications for deformation monitoring in circular tunnels and shafts. <i>Tunnelling and Underground Space Technology</i> , 2014, 43, 336-349.	3.0	81
3	Post-yield Strength and Dilatancy Evolution Across the Brittle–Ductile Transition in Indiana Limestone. <i>Rock Mechanics and Rock Engineering</i> , 2017, 50, 1691-1710.	2.6	66
4	Strength and dilation of jointed granite specimens in servo-controlled triaxial tests. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2014, 69, 93-104.	2.6	54
5	A New Model for the Dilation of Brittle Rocks Based on Laboratory Compression Test Data with Separate Treatment of Dilatancy Mobilization and Decay. <i>Geotechnical and Geological Engineering</i> , 2015, 33, 661-679.	0.8	48
6	Back analysis of a pillar monitoring experiment at 2.4 km depth in the Sudbury Basin, Canada. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2016, 85, 33-51.	2.6	48
7	The effect of mineralogical parameters on the mechanical properties of granitic rocks. <i>Engineering Geology</i> , 2018, 240, 204-225.	2.9	45
8	Classification methods for point clouds in rock slope monitoring: A novel machine learning approach and comparative analysis. <i>Engineering Geology</i> , 2019, 263, 105326.	2.9	44
9	Analysis of size effects on the geomechanical parameters of intact granite samples under unconfined conditions. <i>Acta Geotechnica</i> , 2017, 12, 1229-1242.	2.9	43
10	A DEM-based study of the disturbance in dry sandy ground caused by EPB shield tunneling. <i>Tunnelling and Underground Space Technology</i> , 2020, 101, 103410.	3.0	41
11	A study on Bonded Block Model (BBM) complexity for simulation of laboratory-scale stress-strain behavior in granitic rocks. <i>Computers and Geotechnics</i> , 2020, 118, 103363.	2.3	39
12	Crack Damage Parameters and Dilatancy of Artificially Jointed Granite Samples Under Triaxial Compression. <i>Rock Mechanics and Rock Engineering</i> , 2018, 51, 1637-1656.	2.6	38
13	A study of rock pillar behaviors in laboratory and in-situ scales using combined finite-discrete element method models. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2019, 118, 21-32.	2.6	37
14	Investigation of the anisotropic confinement-dependent brittleness of a Utah coal. <i>International Journal of Coal Science and Technology</i> , 2021, 8, 274-290.	2.7	35
15	Non-invasive detection of fractures, fracture zones, and rock damage in a hard rock excavation – Experience from the Åspå Hard Rock Laboratory in Sweden. <i>Engineering Geology</i> , 2015, 196, 210-221.	2.9	33
16	Understanding roof deformation mechanics and parametric sensitivities of coal mine entries using the discrete element method. <i>International Journal of Mining Science and Technology</i> , 2020, 30, 123-129.	4.6	32
17	A progressive S-shaped yield criterion and its application to rock pillar behavior. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 105, 98-109.	2.6	31
18	Verification of a laboratory-based dilation model for in situ conditions using continuum models. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2014, 6, 522-534.	3.7	29

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19	A Combined Support System Associated with the Segmental Lining in a Jointed Rock Mass: The Case of the Inclined Shaft Tunnel at the Bulianta Coal Mine. <i>Rock Mechanics and Rock Engineering</i> , 2020, 53, 2653-2669.	2.6	29
20	Initial guidelines for the selection of input parameters for cohesion-weakening-friction-strengthening (CWFS) analysis of excavations in brittle rock. <i>Tunnelling and Underground Space Technology</i> , 2019, 84, 189-200.	3.0	28
21	Evaluation of an Ultrasonic Method for Damage Characterization of Brittle Rocks. <i>Rock Mechanics and Rock Engineering</i> , 2020, 53, 2077-2094.	2.6	28
22	Laboratory Model Test of EPB Shield Tunneling in a Cobble-Rich Soil. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2020, 146, .	1.5	28
23	A mine shaft case study on the accurate prediction of yield and displacements in stressed ground using lab-derived material properties. <i>Tunnelling and Underground Space Technology</i> , 2015, 49, 98-113.	3.0	27
24	Investigation of shaft stability and anisotropic deformation in a deep shaft in Idaho, United States. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 105, 160-171.	2.6	27
25	Modeling behaviors of a coal pillar rib using the progressive S-shaped yield criterion. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2020, 12, 484-492.	3.7	25
26	Full scale tests and a progressive failure model to simulate full mechanical behavior of concrete tunnel segmental lining joints. <i>Tunnelling and Underground Space Technology</i> , 2021, 110, 103834.	3.0	25
27	Analysis of the behaviour of a novel support system in an anisotropically jointed rock mass. <i>Tunnelling and Underground Space Technology</i> , 2019, 83, 113-134.	3.0	23
28	Experimental study on the confinement-dependent characteristics of a Utah coal considering the anisotropy by cleats. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 105, 182-191.	2.6	22
29	Blasting-enhanced water injection for coal and gas out-burst control. <i>Chemical Engineering Research and Design</i> , 2020, 140, 233-243.	2.7	22
30	Dilation and Post-peak Behaviour Inputs for Practical Engineering Analysis. <i>Geotechnical and Geological Engineering</i> , 2015, 33, 15-34.	0.8	21
31	Understanding continuum and discontinuum models of rock-support interaction for excavations undergoing stress-induced spalling. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2019, 123, 104089.	2.6	21
32	On the Residual Strength of Rocks and Rockmasses. <i>Rock Mechanics and Rock Engineering</i> , 2019, 52, 4821-4833.	2.6	21
33	Scale Effects Observed in Compression Testing of Stanstead Granite Including Post-peak Strength and Dilatancy. <i>Geotechnical and Geological Engineering</i> , 2018, 36, 1091.	0.8	17
34	Effects of polypyrrole coated rebar on corrosion behavior of tunnel lining with the combination effect of sustained loading and pre-existing cracks when exposed to chlorides. <i>Construction and Building Materials</i> , 2019, 221, 318-331.	3.2	16
35	Experimental Relationship Between Compressional Wave Attenuation and Surface Strains in Brittle Rock. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 5770-5793.	1.4	16
36	Investigation of pillar damage mechanisms and rock-support interaction using Bonded Block Models. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2021, 138, 104652.	2.6	16

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37	Sensitivity Testing of the Newly Developed Elliptical Fitting Method for the Measurement of Convergence in Tunnels and Shafts. <i>Rock Mechanics and Rock Engineering</i> , 2015, 48, 651-667.	2.6	15
38	Laboratory Determination of Rock Fracture Shear Stiffness Using Seismic Wave Propagation and Digital Image Correlation. <i>Geotechnical Testing Journal</i> , 2017, 40, 20160035.	0.5	15
39	Non-linear ultrasonic monitoring of damage progression in disparate rocks. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 111, 33-44.	2.6	14
40	Change detection in drill and blast tunnels from point cloud data. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 105, 172-181.	2.6	13
41	Quantifying spatial uncertainty in rock through geostatistical integration of borehole data and a geologist's cross-section. <i>Engineering Geology</i> , 2019, 260, 105246.	2.9	13
42	Investigation of factors influencing roof stability at a Western U.S. longwall coal mine. <i>International Journal of Mining Science and Technology</i> , 2019, 29, 139-143.	4.6	13
43	Illumination of Damage in Intact Rocks by Ultrasonic Transmission Reflection and Digital Image Correlation. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB019526.	1.4	13
44	An approach for automated lithological classification of point clouds. , 2016, 12, 1833-1841.		12
45	Liner Behavior of a Tunnel Constructed Below a Caved Zone. <i>KSCJ Journal of Civil Engineering</i> , 2018, 22, 4163-4172.	0.9	12
46	Investigation of the Micromechanical Damage Process in a Granitic Rock Using an Inelastic Bonded Block Model (BBM). <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018844.	1.4	12
47	Study on the interaction between squeezing ground and yielding supports with different yielding materials. <i>Tunnelling and Underground Space Technology</i> , 2020, 97, 103242.	3.0	12
48	Integration of three-dimensional continuum model and two-dimensional bonded block model for studying the damage process in a granite pillar at the Creighton Mine, Sudbury, Canada. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2021, 13, 275-288.	3.7	11
49	Development of Improved Semi-Automated Processing Algorithms for the Creation of Rockfall Databases. <i>Remote Sensing</i> , 2021, 13, 1479.	1.8	11
50	Classifying rock slope materials in photogrammetric point clouds using robust color and geometric features. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2021, 176, 15-29.	4.9	11
51	Response of sandy soil to the volume losses at the tunnel face level. <i>Soils and Foundations</i> , 2021, 61, 1399-1418.	1.3	11
52	Residual strength of granitic rocks. <i>Tunnelling and Underground Space Technology</i> , 2021, 118, 104189.	3.0	11
53	Monitoring the Effects of Slope Hazard Mitigation and Weather on Rockfall along a Colorado Highway Using Terrestrial Laser Scanning. <i>Remote Sensing</i> , 2021, 13, 4584.	1.8	11
54	Challenges associated with numerical back analysis in rock mechanics. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2022, 14, 2058-2071.	3.7	11

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55	Laboratory physical modelling of block toppling instability by means of tilt tests. <i>Engineering Geology</i> , 2021, 282, 105994.	2.9	10
56	A New Perspective on the Brittle–Ductile Transition of Rocks. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 5993-6006.	2.6	10
57	Four-dimensional filtering of InSAR persistent scatterers elucidates subsidence induced by tunnel excavation in the Sri Lankan highlands. <i>Journal of Applied Remote Sensing</i> , 2019, 13, 1.	0.6	10
58	Modeling the behavior of a coal pillar rib using Bonded Block Models with emphasis on ground-support interaction. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2021, 148, 104965.	2.6	10
59	The influence of constitutive model selection on predicted stresses and yield in deep mine pillars - A case study at the Creighton mine, Sudbury, Canada. <i>Geomechanik Und Tunnelbau</i> , 2015, 8, 441-449.	0.2	9
60	Numerical analyses of pillar behavior with variation in yield criterion, dilatancy, rock heterogeneity and length to width ratio. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2019, 11, 46-60.	3.7	8
61	Generalization considerations and solutions for point cloud hillslope classifiers. <i>Geomorphology</i> , 2020, 354, 107039.	1.1	8
62	A Method to Correct Indirect Strain Measurements in Laboratory Uniaxial and Triaxial Compressive Strength Tests. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 2643-2670.	2.6	8
63	Assessment of rock unit variability through use of spatial variograms. <i>Engineering Geology</i> , 2018, 233, 200-212.	2.9	7
64	Experimental Analysis of Shield TBM Tunnel Lining Mechanical Behaviour in an Anisotropically-Jointed Rock Mass. <i>KSCE Journal of Civil Engineering</i> , 2019, 23, 2733-2745.	0.9	7
65	Validity of continuous-failure-state unloading triaxial tests as a means to estimate the residual strength of rocks. <i>Journal of Rock Mechanics and Geotechnical Engineering</i> , 2021, 13, 717-726.	3.7	7
66	A detailed look at pre-peak dilatancy in a granite – determining –plastic–strains from laboratory test data. , 2014, , 211-216.		6
67	Registration of multi-platform point clouds using edge detection for rockfall monitoring. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2021, 175, 366-385.	4.9	5
68	Statistical Assessment of the Effects of Grain-Structure Representation and Micro-Properties on the Behavior of Bonded Block Models for Brittle Rock Damage Prediction. <i>Sustainability</i> , 2021, 13, 7889.	1.6	5
69	Effect of Damping Mode in Laboratory and Field-Scale Universal Distinct Element Code (UDEC) Models. <i>Rock Mechanics and Rock Engineering</i> , 2022, 55, 2899-2915.	2.6	5
70	Factors predictive of roof instability in addition to the existing CMRR criteria at two case study coal mines. <i>International Journal of Coal Geology</i> , 2019, 213, 103255.	1.9	4
71	An algorithm for measuring landslide deformation in terrestrial Lidar point clouds using trees. <i>Landslides</i> , 2021, 18, 3547-3558.	2.7	4
72	The influence of training data variability on a supervised machine learning classifier for Structure from Motion (SfM) point clouds of rock slopes. <i>Engineering Geology</i> , 2021, 294, 106344.	2.9	4

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73	Relating Plastic Potential Function to Experimentally Obtained Dilatancy Observations for Geomaterials with a Confinement-Dependent Dilation Angle. International Journal of Geomechanics, 2019, 19, .	1.3	3
74	Writing skills development in an engineering geology course through practice and feedback on report submissions using a rubric. Journal of Geoscience Education, 2020, 68, 33-48.	0.8	3
75	Improved empirical hard rock pillar strength predictions using unconfined compressive strength as a proxy for brittleness. International Journal of Rock Mechanics and Minings Sciences, 2021, 148, 104934.	2.6	3
76	Extraction and Comparison of Spatial Statistics For Geometric Parameters of Sedimentary Layers from Static and Mobile Terrestrial Laser Scanning Data. Environmental and Engineering Geoscience, 2019, 25, 155-168.	0.3	2
77	Geostatistical estimation of Ground Class prior to and during excavation for the Caldecott Tunnel Fourth Bore project. Tunnelling and Underground Space Technology, 2020, 100, 103391.	3.0	2
78	Considerations Relevant to the Stability of Granite Boulders. Rock Mechanics and Rock Engineering, 0, , 1.	2.6	2
79	Scoring system to predict landslide runout in the Pacific Northwest, USA. Landslides, 2022, 19, 1449-1461.	2.7	2
80	Evaluating the Impact of Blast-Induced Damage on the Rock Load Supported by Liner in Construction of a Deep Shaft: A Case Study of Ventilation Shaft of Micangshan Road Tunnel Project. Advances in Civil Engineering, 2020, 2020, 1-19.	0.4	1
81	A case study on the efficacy of different roof bolting schemes in Lhoist North America's Crab Orchard Mine. International Journal of Mining Science and Technology, 2020, 30, 99-104.	4.6	1
82	Introduction to Selected Contributions from the 54th US Rock Mechanics/Geomechanics Symposium, Golden, CO, 2020. Rock Mechanics and Rock Engineering, 2022, , 1-2.	2.6	0