

# Stefan B Williams

## List of Publications by Year in descending order

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Version: 2024-02-01

101  
papers

4,149  
citations

159585

30  
h-index

175258

52  
g-index

107  
all docs

107  
docs citations

107  
times ranked

4599  
citing authors

#	ARTICLE	IF	CITATIONS
1	Decoding, Calibration and Rectification for Lenselet-Based Plenoptic Cameras. , 2013, , .		389
2	BioTIME: A database of biodiversity time series for the Anthropocene. Global Ecology and Biogeography, 2018, 27, 760-786.	5.8	289
3	Information based adaptive robotic exploration. , 0, , .		259
4	Generation and visualization of large-scale three-dimensional reconstructions from underwater robotic surveys. Journal of Field Robotics, 2010, 27, 21-51.	6.0	229
5	Monitoring of Benthic Reference Sites: Using an Autonomous Underwater Vehicle. IEEE Robotics and Automation Magazine, 2012, 19, 73-84.	2.0	153
6	Efficient View-Based SLAM Using Visual Loop Closures. IEEE Transactions on Robotics, 2008, 24, 1002-1014.	10.3	143
7	Towards component-based robotics. , 2005, , .		134
8	Linear Volumetric Focus for Light Field Cameras. ACM Transactions on Graphics, 2015, 34, 1-20.	7.2	116
9	Multi-Scale Measures of Rugosity, Slope and Aspect from Benthic Stereo Image Reconstructions. PLoS ONE, 2012, 7, e50440.	2.5	115
10	Topography, substratum and benthic macrofaunal relationships on a tropical mesophotic shelf margin, central Great Barrier Reef, Australia. Coral Reefs, 2011, 30, 143-153.	2.2	88
11	Towards terrain-aided navigation for underwater robotics. Advanced Robotics, 2001, 15, 533-549.	1.8	83
12	Variability in mesophotic coral reef communities along the Great Barrier Reef, Australia. Marine Ecology - Progress Series, 2011, 428, 63-75.	1.9	81
13	Quantifying the response of structural complexity and community composition to environmental change in marine communities. Global Change Biology, 2016, 22, 1965-1975.	9.5	81
14	True Color Correction of Autonomous Underwater Vehicle Imagery. Journal of Field Robotics, 2016, 33, 853-874.	6.0	77
15	A simple, fast, and repeatable survey method for underwater visual 3D benthic mapping and monitoring. Ecology and Evolution, 2017, 7, 1770-1782.	1.9	69
16	Large-Scale Geographic Variation in Distribution and Abundance of Australian Deep-Water Kelp Forests. PLoS ONE, 2015, 10, e0118390.	2.5	66
17	Map Management for Efficient Simultaneous Localization and Mapping (SLAM). Autonomous Robots, 2002, 12, 267-286.	4.8	65
18	A featureless approach to efficient bathymetric SLAM using distributed particle mapping. Journal of Field Robotics, 2011, 28, 19-39.	6.0	64

#	ARTICLE	IF	CITATIONS
19	Orca: A Component Model and Repository. , 2007, , 231-251.		63
20	Parametric POMDPs for planning in continuous state spaces. Robotics and Autonomous Systems, 2006, 54, 887-897.	5.1	62
21	Autonomous underwater vehicleâ€‘assisted surveying of drowned reefs on the shelf edge of the Great Barrier Reef, Australia. Journal of Field Robotics, 2010, 27, 675-697.	6.0	62
22	Habitat structural complexity metrics improve predictions of fish abundance and distribution. Ecography, 2018, 41, 1077-1091.	4.5	61
23	Regional-scale benthic monitoring for ecosystem-based fisheries management (EBFM) using an autonomous underwater vehicle (AUV). ICES Journal of Marine Science, 2012, 69, 1108-1118.	2.5	54
24	Bathymetric particle filter SLAM using trajectory maps. International Journal of Robotics Research, 2012, 31, 1409-1430.	8.5	49
25	Characterization of measurement errors using structureâ€‘fromâ€‘motion and photogrammetry to measure marine habitat structural complexity. Ecology and Evolution, 2017, 7, 5669-5681.	1.9	49
26	Biometric assessment of deep-sea vent megabenthic communities using multi-resolution 3D image reconstructions. Deep-Sea Research Part I: Oceanographic Research Papers, 2016, 116, 200-219.	1.4	48
27	Sound Source Localization in a Multipath Environment Using Convolutional Neural Networks. , 2018, , .		47
28	An efficient approach to bathymetric SLAM. , 2009, , .		44
29	Multidimensional (MD) Circuits and Systems for Emerging Applications Including Cognitive Radio, Radio Astronomy, Robot Vision and Imaging. IEEE Circuits and Systems Magazine, 2013, 13, 10-43.	2.3	44
30	Light field image denoising using a linear 4D frequency-hyperfan all-in-focus filter. Proceedings of SPIE, 2013, , .	0.8	41
31	A behavior-based architecture for autonomous underwater exploration. Information Sciences, 2002, 145, 69-87.	6.9	38
32	Filling the gaps: Predicting the distribution of temperate reef biota using high resolution biological and acoustic data. Estuarine, Coastal and Shelf Science, 2014, 147, 137-147.	2.1	38
33	Variable Responses of Benthic Communities to Anomalously Warm Sea Temperatures on a High-Latitude Coral Reef. PLoS ONE, 2014, 9, e113079.	2.5	37
34	Autonomous underwater navigation and control. Robotica, 2001, 19, 481-496.	1.9	36
35	Stereoâ€‘imaging AUV detects trends in sea urchin abundance on deep overgrazed reefs. Limnology and Oceanography: Methods, 2016, 14, 293-304.	2.0	35
36	Mid-water current aided localization for autonomous underwater vehicles. Autonomous Robots, 2016, 40, 1207-1227.	4.8	34

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37	Simultaneous Localisation and Mapping and Dense Stereoscopic Seafloor Reconstruction Using an AUV. Springer Tracts in Advanced Robotics, 2009, , 407-416.	0.4	31
38	Australian sea-floor survey data, with images and expert annotations. Scientific Data, 2015, 2, 150057.	5.3	31
39	Convolutional neural networks for passive monitoring of a shallow water environment using a single sensor. , 2017, , .		31
40	Towards image-based marine habitat classification. , 2008, , .		29
41	Coregistered Hyperspectral and Stereo Image Seafloor Mapping from an Autonomous Underwater Vehicle. Journal of Field Robotics, 2018, 35, 312-329.	6.0	27
42	Multimodal learning and inference from visual and remotely sensed data. International Journal of Robotics Research, 2017, 36, 24-43.	8.5	26
43	Toward adaptive benthic habitat mapping using gaussian process classification. Journal of Field Robotics, 2010, 27, 741-758.	6.0	24
44	Model predictive control of an autonomous underwater vehicle in an in situ estimated water current profile. , 2012, , .		23
45	Automated registration for multi-year robotic surveys of marine benthic habitats. , 2013, , .		23
46	Towards autonomous habitat classification using Gaussian Mixture Models. , 2010, , .		21
47	Bundle adjustment in large-scale 3D reconstructions based on underwater robotic surveys. , 2011, , .		20
48	Reconstructing pavlopetri: Mapping the world's oldest submerged town using stereo-vision. , 2011, , .		20
49	Towards a macroscope: Leveraging technology to transform the breadth, scale and resolution of macroecological data. Global Ecology and Biogeography, 2019, 28, 1937-1948.	5.8	20
50	Geomorphic changes of a coral shingle cay measured using Kite Aerial Photography. Geomorphology, 2016, 270, 1-8.	2.6	19
51	Large-scale assessment of benthic communities across multiple marine protected areas using an autonomous underwater vehicle. PLoS ONE, 2018, 13, e0193711.	2.5	19
52	Convolutional neural network for single-sensor acoustic localization of a transiting broadband source in very shallow water. Journal of the Acoustical Society of America, 2019, 146, 4687-4698.	1.1	19
53	Repeated AUV surveying of urchin barrens in North Eastern Tasmania. , 2010, , .		18
54	Hierarchical Classification in AUV Imagery. Springer Tracts in Advanced Robotics, 2015, , 3-16.	0.4	18

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55	Multiple field-based methods to assess the potential impacts of seismic surveys on scallops. Marine Pollution Bulletin, 2018, 129, 750-761.	5.0	17
56	Reflections on a decade of autonomous underwater vehicles operations for marine survey at the Australian Centre for Field Robotics. Annual Reviews in Control, 2016, 42, 158-165.	7.9	16
57	Adaptive path planning for depth-constrained bathymetric mapping with an autonomous surface vessel. Journal of Field Robotics, 2018, 35, 345-358.	6.0	16
58	Surveying nocturnal cuttlefish camouflage behaviour using an AUV. , 2009, , .		15
59	Out-of-Core Efficient Blending for Underwater Georeferenced Textured 3D Maps. , 2013, , .		15
60	Autonomous exploration of large-scale benthic environments. , 2013, , .		15
61	Spectral characterization of COTS RGB cameras using a linear variable edge filter. Proceedings of SPIE, 2013, , .	0.8	14
62	Outcropping reef ledges drive patterns of epibenthic assemblage diversity on cross-shelf habitats. Biodiversity and Conservation, 2016, 25, 485-502.	2.6	14
63	AUV-assisted surveying of relic reef sites. , 2008, , .		13
64	Topic-based habitat classification using visual data. , 2009, , .		13
65	Dynamic spectral-based underwater colour correction. , 2013, , .		13
66	Return to Antikythera: Multi-session SLAM Based AUV Mapping of a First Century B.C. Wreck Site. Springer Tracts in Advanced Robotics, 2016, , 45-59.	0.4	13
67	Operators as information sources in sensor networks. , 2005, , .		12
68	Hierarchical Bayesian models for unsupervised scene understanding. Computer Vision and Image Understanding, 2015, 131, 128-144.	4.7	12
69	A Terrain-Aided Tracking Algorithm for Marine Systems. , 0, , 93-102.		12
70	Water column current profile aided localisation combined with view-based SLAM for Autonomous Underwater Vehicle navigation. , 2011, , .		11
71	Simple change detection from mobile light field cameras. Computer Vision and Image Understanding, 2016, 145, 160-171.	4.7	11
72	Adaptive human sensor model in sensor networks. , 2005, , .		9

#	ARTICLE	IF	CITATIONS
73	Seabed modeling and distractor extraction for mobile AUVs using light field filtering. , 2011, , .		9
74	Leveraging Metadata in Representation Learning With Georeferenced Seafloor Imagery. IEEE Robotics and Automation Letters, 2021, 6, 7815-7822.	5.1	9
75	Structured Output Prediction with Hierarchical Loss Functions for Seafloor Imagery Taxonomic Categorization. Lecture Notes in Computer Science, 2015, , 173-183.	1.3	9
76	A Monte Carlo Update for Parametric POMDPs. Springer Tracts in Advanced Robotics, 2010, , 213-223.	0.4	8
77	Multimodal learning for autonomous underwater vehicles from visual and bathymetric data. , 2014, , .		7
78	Effective Benthic Surveying with Autonomous Underwater Vehicles. , 2007, , .		6
79	Analysis of Propulsion Methods for Long-Range AUVs. Marine Technology Society Journal, 2010, 44, 46-55.	0.4	6
80	Saliency ranking for benthic survey using underwater images. , 2010, , .		6
81	A benchmarking study on single image dehazing techniques for underwater autonomous vehicles. , 2017, , .		6
82	Predictive habitat models from AUV-based multibeam and optical imagery. , 2010, , .		5
83	Classification with probabilistic targets. , 2012, , .		5
84	Multi-vehicle localisation with additive compressed factor graphs. , 2014, , .		5
85	Improved Multipath Time Delay Estimation Using Cepstrum Subtraction. , 2019, , .		5
86	Fish-Bird: Cross-Disciplinary Collaboration. IEEE MultiMedia, 2008, 15, 10-12.	1.7	4
87	Synergistic Clustering of Image and Segment Descriptors for Unsupervised Scene Understanding. , 2013, , .		4
88	Automatic spectrometer/RGB camera spatial calibration. , 2013, , .		4
89	Multimodal information-theoretic measures for autonomous exploration. , 2016, , .		4
90	Adaptive exploration of benthic habitats using Gaussian processes. , 2010, , .		3

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91	Habitats and Benthos at Hydrographers Passage, Great Barrier Reef, Australia. , 2012, , 425-434.		3
92	An Analysis of Monochrome Conversions and Normalizations on the Local Binary Patterns Texture Descriptors. , 2013, , .		3
93	Discovering salient regions on 3D photo-textured maps: Crowdsourcing interaction data from multitouch smartphones and tablets. Computer Vision and Image Understanding, 2015, 131, 28-41.	4.7	3
94	Frequency-based underwater terrain segmentation. Autonomous Robots, 2013, 35, 255-269.	4.8	2
95	Light Field Image Restoration for Vision in Scattering Media. , 2018, , .		2
96	Editorial: Visual navigation and mapping outdoors. Journal of Field Robotics, 2010, 27, 509-510.	6.0	1
97	Robust broad-scale benthic habitat mapping when training data is scarce. , 2012, , .		1
98	Estimation of Clustering Parameters Using Gaussian Process Regression. PLoS ONE, 2014, 9, e111522.	2.5	1
99	Crowdsourced saliency for mining robotically gathered 3D maps using multitouch interaction on smartphones and tablets. , 2014, , .		1
100	Special Issue on Robotics: Science and Systems 2013. International Journal of Robotics Research, 2014, 33, 1165-1166.	8.5	0
101	Spatially informed spectral unmixing. , 2015, , .		0