Ken R Duffy

List of Publications by Year
in descending order

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111 papers	3,183 citations	304743 22 h-index	189892 50 g-index
115 all docs	115 docs citations	115 times ranked	2958 citing authors

#	Article	IF	Citations
1	Modeling the 802.11 Distributed Coordination Function in Nonsaturated Heterogeneous Conditions. IEEE/ACM Transactions on Networking, 2007, 15, 159-172.	3.8	504
2	Inhibition of Endosteal Vascular Niche Remodeling Rescues Hematopoietic Stem Cell Loss in AML. Cell Stem Cell, 2018, 22, 64-77.e6.	11.1	249
3	Activation-Induced B Cell Fates Are Selected by Intracellular Stochastic Competition. Science, 2012, 335, 338-341.	12.6	199
4	Antigen affinity, costimulation, and cytokine inputs sum linearly to amplify T cell expansion. Science, 2014, 346, 1123-1127.	12.6	185
5	Modeling the 802.11 distributed coordination function in non-saturated conditions. IEEE Communications Letters, 2005, 9, 715-717.	4.1	166
6	The Branching Point in Erythro-Myeloid Differentiation. Cell, 2015, 163, 1655-1662.	28.9	146
7	Capacity-Achieving Guessing Random Additive Noise Decoding. IEEE Transactions on Information Theory, 2019, 65, 4023-4040.	2.4	95
8	Proliferation dynamics of acute myeloid leukaemia and haematopoietic progenitors competing for bone marrow space. Nature Communications, 2018, 9, 519.	12.8	80
9	A large-scale dataset of single and mixed-source short tandem repeat profiles to inform human identification strategies: PROVEDIt. Forensic Science International: Genetics, 2018, 32, 62-70.	3.1	61
10	Guesswork, Large Deviations, and Shannon Entropy. IEEE Transactions on Information Theory, 2013, 59, 796-802.	2.4	57
11	Soft Maximum Likelihood Decoding using GRAND. , 2020, , .		50
12	Ordered Reliability Bits Guessing Random Additive Noise Decoding. , 2021, , .		47
13	Decentralised learning MACs for collision-free access in WLANs. Wireless Networks, 2013, 19, 83-98.	3.0	45
14	Intracellular competition for fates in the immune system. Trends in Cell Biology, 2012, 22, 457-464.	7.9	44
15	Modeling the Impact of Buffering on 802.11. IEEE Communications Letters, 2007, 11, 219-221.	4.1	43
16	T-cell stimuli independently sum to regulate an inherited clonal division fate. Nature Communications, 2016, 7, 13540.	12.8	43
17	Determining Lineage Pathways from Cellular Barcoding Experiments. Cell Reports, 2014, 6, 617-624.	6.4	40
18	Principal Inertia Components and Applications. IEEE Transactions on Information Theory, 2017, 63, 5011-5038.	2.4	39

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19	Determining the expected variability of immune responses using the cyton model. Journal of Mathematical Biology, 2008, 56, 861-892.	1.9	38
20	Guessing random additive noise decoding with soft detection symbol reliability information - SGRAND. , 2019, , .		33
21	Guessing noise, not code-words. , 2018, , .		30
22	Replicative history marks transcriptional and functional disparity in the CD8+ T cell memory pool. Nature Immunology, 2022, 23, 791-801.	14.5	30
23	Decentralized Constraint Satisfaction. IEEE/ACM Transactions on Networking, 2013, 21, 1298-1308.	3.8	29
24	A minimum of two distinct heritable factors are required to explain correlation structures in proliferating lymphocytes. Journal of the Royal Society Interface, 2010, 7, 1049-1059.	3.4	27
25	Complexity analysis of a decentralised graph colouring algorithm. Information Processing Letters, 2008, 107, 60-63.	0.6	26
26	Manipulating niche composition limits damage to haematopoietic stem cells during Plasmodium infection. Nature Cell Biology, 2020, 22, 1399-1410.	10.3	26
27	Multi-Code Multi-Rate Universal Maximum Likelihood Decoder using GRAND. , 2021, , .		26
28	Bounds on inference. , 2013, , .		24
29	Logarithmic asymptotics for the supremum of a stochastic process. Annals of Applied Probability, 2003, 13, .	1.3	24
30	On Improving Voice Capacity in 802.11 Infrastructure Networks. , 0, , .		23
31	H-RCA: 802.11 Collision-Aware Rate Control. IEEE/ACM Transactions on Networking, 2013, 21, 1021-1034.	3.8	22
32	Probabilistic characterisation of baseline noise in STR profiles. Forensic Science International: Genetics, 2015, 19, 107-122.	3.1	22
33	Multi-User Guesswork and Brute Force Security. IEEE Transactions on Information Theory, 2015, 61, 6876-6886.	2.4	22
34	Privacy With Estimation Guarantees. IEEE Transactions on Information Theory, 2019, 65, 8025-8042.	2.4	22
35	Modeling 802.11e for data traffic parameter design. , 0, , .		21
36	On the Validity of IEEE 802.11 MAC Modeling Hypotheses. IEEE/ACM Transactions on Networking, 2010, 18, 1935-1948.	3.8	21

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37	5G NR CA-Polar Maximum Likelihood Decoding by GRAND. , 2020, , .		21
38	Guessing Random Additive Noise Decoding With Symbol Reliability Information (SRGRAND). IEEE Transactions on Communications, 2022, 70, 3-18.	7.8	21
39	Keep the bursts and ditch the interleavers. , 2020, , .		21
40	Stochastically Timed Competition Between Division and Differentiation Fates Regulates the Transition From B Lymphoblast to Plasma Cell. Frontiers in Immunology, 2018, 9, 2053.	4.8	20
41	Log-convexity of rate region in 802.11e WLANs. IEEE Communications Letters, 2010, 14, 57-59.	4.1	19
42	CRC Codes as Error Correction Codes. , 2021, , .		18
43	On the impact of correlation between collaterally consanguineous cells on lymphocyte population dynamics. Journal of Mathematical Biology, 2009, 59, 255-285.	1.9	17
44	Quantifying computational security subject to source constraints, guesswork and inscrutability. , 2015, , .		17
45	Why the immune system takes its chances with randomness. Nature Reviews Immunology, 2014, 14, 711-711.	22.7	16
46	Exploring STR signal in the singleâ€•and multicopy number regimes: Deductions from an in silico model of the entire DNA laboratory process. Electrophoresis, 2017, 38, 855-868.	2.4	16
47	Keep the Bursts and Ditch the Interleavers. IEEE Transactions on Communications, 2022, 70, 3655-3667.	7.8	16
48	Modeling 802.11 mesh networks. IEEE Communications Letters, 2006, 10, 635-637.	4.1	15
49	Guessing a password over a wireless channel (on the effect of noise non-uniformity). , 2013, , .		15
50	Site-specific recombinatorics: in situ cellular barcoding with the Cre Lox system. BMC Systems Biology, 2016, 10, 43.	3.0	15
51	The Large Deviations of Estimating Rate Functions. Journal of Applied Probability, 2005, 42, 267-274.	0.7	15
52	The Large Deviation Principle for the On-Off Weibull Sojourn Process. Journal of Applied Probability, 2008, 45, 107-117.	0.7	15
53	Retracing the in vivo haematopoietic tree using singleâ€cell methods. FEBS Letters, 2016, 590, 4068-4083.	2.8	14
54	On a buffering hypothesis in 802.11 analytic models. IEEE Communications Letters, 2009, 13, 312-314.	4.1	13

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55	Four model variants within a continuous forensic DNA mixture interpretation framework: Effects on evidential inference and reporting. PLoS ONE, 2018, 13, e0207599.	2.5	13
56	Multiplexed Division Tracking Dyes for Proliferation-Based Clonal Lineage Tracing. Journal of Immunology, 2018, 201, 1097-1103.	0.8	13
57	Network Infusion to Infer Information Sources in Networks. IEEE Transactions on Network Science and Engineering, 2019, 6, 402-417.	6.4	13
58	Some Useful Functions for Functional Large Deviations. Stochastic and Stochastics Reports, 2004, 76, 267-279.	0.6	12
59	The 802.11g 11 Mb/s Rate is More Robust than 6 Mb/s. IEEE Transactions on Wireless Communications, 2011, 10, 1015-1020.	9.2	12
60	Towards developing forensically relevant single-cell pipelines by incorporating direct-to-PCR extraction: compatibility, signal quality, and allele detection. International Journal of Legal Medicine, 2021, 135, 727-738.	2.2	12
61	Most likely paths to error when estimating the mean of a reflected random walk. Performance Evaluation, 2010, 67, 1290-1303.	1.2	11
62	Brute force searching, the typical set and Guesswork. , 2013, , .		11
63	A geometric perspective on guesswork. , 2015, , .		11
64	The Large Deviations of Estimating Rate Functions. Journal of Applied Probability, 2005, 42, 267-274.	0.7	10
65	A Characterization of Guesswork on Swiftly Tilting Curves. IEEE Transactions on Information Theory, 2019, 65, 2850-2871.	2.4	10
66	A large-scale validation of NOCItâ€™s a posteriori probability of the number of contributors and its integration into forensic interpretation pipelines. Forensic Science International: Genetics, 2020, 47, 102296.	3.1	10
67	Improving Fairness in Multi-Hop Mesh Networks Using 802.11e. , 0, , .		9
68	Investigating the validity of IEEE 802.11 MAC modeling hypotheses. , 2008, , .		9
69	Existence and uniqueness of fair rate allocations in lossy wireless networks. IEEE Transactions on Wireless Communications, 2009, 8, 3401-3406.	9.2	9
70	Network Maximal Correlation. IEEE Transactions on Network Science and Engineering, 2017, 4, 229-247.	6.4	9
71	Lists that are smaller than their parts: A coding approach to tunable secrecy. , 2012, , .		8
72	Production of high-fidelity electropherograms results in improved and consistent DNA interpretation: Standardizing the forensic validation process. Forensic Science International: Genetics, 2017, 31, 160-170.	3.1	8

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73	Large Deviation Asymptotics for Busy Periods. Stochastic Systems, 2014, 4, 300-319.	1.1	7
74	Inferring average generation via division-linked labeling. Journal of Mathematical Biology, 2016, 73, 491-523.	1.9	7
75	HSPCs display within-family homogeneity in differentiation and proliferation despite population heterogeneity. ELife, 2021, 10, .	6.0	7
76	Cyton2: A Model of Immune Cell Population Dynamics That Includes Familial Instructional Inheritance. Frontiers in Bioinformatics, 2021, 1, .	2.1	7
77	A Linear Network Code Construction for General Integer Connections Based on the Constraint Satisfaction Problem. , 2015, , .		6
78	Estimating Loynesâ€™ exponent. Queueing Systems, 2011, 68, 285-293.	0.9	5
79	Optimization-based linear network coding for general connections of continuous flows. , 2015, , .		5
80	Optimization-Based Linear Network Coding for General Connections of Continuous Flows. IEEE/ACM Transactions on Networking, 2018, 26, 2033-2047.	3.8	5
81	Highâ€quality data from a forensically relevant singleâ€cell pipeline enabled by low PBS and proteinase K concentrations. Journal of Forensic Sciences, 2022, 67, 697-706.	1.6	5
82	Distribution-free confidence intervals for measurement of effective bandwidth. Journal of Applied Probability, 2000, 37, 224-235.	0.7	4
83	The Large Deviation Principle for the On-Off Weibull Sojourn Process. Journal of Applied Probability, 2008, 45, 107-117.	0.7	4
84	Sample Path Large Deviations for Order Statistics. Journal of Applied Probability, 2011, 48, 238-257.	0.7	4
85	Sample Path Large Deviations of Poisson Shot Noise with Heavy-Tailed Semiexponential Distributions. Journal of Applied Probability, 2011, 48, 688-698.	0.7	4
86	On the large deviations of a class of modulated additive processes. ESAIM - Probability and Statistics, 2011, 15, 83-109.	0.5	4
87	A Linear Network Code Construction for General Integer Connections Based on the Constraint Satisfaction Problem. IEEE/ACM Transactions on Networking, 2017, 25, 3441-3454.	3.8	4
88	Guesswork subject to a total entropy budget. , 2017, , .		4
89	Managing Noise and Interference Separately - Multiple Access Channel Decoding using Soft GRAND. , 2021, , .		4
90	The a posteriori probability of the number of contributors when conditioned on an assumed contributor. Forensic Science International: Genetics, 2021, 54, 102563.	3.1	4

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91	A Universal Maximum Likelihood GRAND Decoder in 40nm CMOS. , 2022, , .		4
92	How to estimate the rate function of a cumulative process. Journal of Applied Probability, 2005, 42, 1044-1052.	0.7	3
93	Modelling 802.11 Wireless Links. , 0, , .		3
94	Some remarks on ld plots for heavy-tailed traffic. Computer Communication Review, 2007, 37, 41-42.	1.8	3
95	Loss aversion, large deviation preferences and optimal portfolio weights for some classes of return processes. Physica A: Statistical Mechanics and Its Applications, 2007, 378, 408-422.	2.6	3
96	Logarithmic asymptotics for a single-server processing distinguishable sources. Mathematical Methods of Operations Research, 2008, 68, 509-537.	1.0	3
97	A signal model for forensic DNA mixtures. , 2014, , .		3
98	Sample path properties of the average generation of a Bellmanâ€“Harris process. Journal of Mathematical Biology, 2019, 79, 673-704.	1.9	3
99	How to estimate the rate function of a cumulative process. Journal of Applied Probability, 2005, 42, 1044-1052.	0.7	2
100	The variance of the average depth of a pure birth process converges to 7. Statistics and Probability Letters, 2019, 150, 88-93.	0.7	2
101	Noise Recycling. , 2020, , .		2
102	Distribution-free confidence intervals for measurement of effective bandwidth. Journal of Applied Probability, 2000, 37, 224-235.	0.7	2
103	Sample Path Large Deviations for Order Statistics. Journal of Applied Probability, 2011, 48, 238-257.	0.7	1
104	MDS coding is better than replication for job completion times. Operations Research Letters, 2021, 49, 91-95.	0.7	1
105	Inferring Differentiation Order in Adaptive Immune Responses from Population-Level Data. , 2021, , 133-149.		1
106	Ambiguities in estimates of critical exponents for long-range dependent processes. Physica A: Statistical Mechanics and Its Applications, 2007, 377, 43-52.	2.6	0
107	Sample Path Large Deviations of Poisson Shot Noise with Heavy-Tailed Semiexponential Distributions. Journal of Applied Probability, 2011, 48, 688-698.	0.7	0
108	Combining cellular barcoding and mathematical modeling to infer the structure of the hematopoietic pathway. Experimental Hematology, 2014, 42, S56.	0.4	0

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109	A Linear Network Code Construction for General Integer Connections Based on the Constraint Satisfaction Problem. , 2014, , .		0
110	Common myeloid progenitors are made up of distinct subpopulations that either yield erythrocytes or myeloid cells. Experimental Hematology, 2015, 43, S88.	0.4	0
111	Discrete convolution statistic for hypothesis testing. Communications in Statistics - Theory and Methods, 2020, , 1-22.	1.0	0