Lorna Dougan

List of Publications by Year in descending order

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51 papers	1,645 citations	331670 21 h-index	302126 39 g-index
54 all docs	54 docs citations	54 times ranked	1701 citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling the mechanical stiffness of pancreatic ductal adenocarcinoma. Matrix Biology Plus, 2022, 14, 100109.	3.5	7
2	SAWstitch: exploring self-avoiding walks through hand embroidery. Physics Education, 2022, 57, 045029.	0.5	2
3	Tuning Protein Hydrogel Mechanics through Modulation of Nanoscale Unfolding and Entanglement in Postgelation Relaxation. ACS Nano, 2022, 16, 10667-10678.	14.6	15
4	Control of Nanoscale <i>In Situ</i> Protein Unfolding Defines Network Architecture and Mechanics of Protein Hydrogels. ACS Nano, 2021, 15, 11296-11308.	14.6	24
5	Intermediate Structural Hierarchy in Biological Networks Modulates the Fractal Dimension and Force Distribution of Percolating Clusters. Biomacromolecules, 2021, 22, 4191-4198.	5.4	5
6	Bridging Structure, Dynamics, and Thermodynamics: An Example Study on Aqueous Potassium Halides. Journal of Physical Chemistry B, 2021, 125, 12774-12786.	2.6	8
7	Solute Specific Perturbations to Water Structure and Dynamics in Tertiary Aqueous Solution. Journal of Physical Chemistry B, 2020, 124, 10983-10993.	2.6	9
8	Single molecule protein stabilisation translates to macromolecular mechanics of a protein network. Soft Matter, 2020, 16, 6389-6399.	2.7	23
9	Reaction Rate Governs the Viscoelasticity and Nanostructure of Folded Protein Hydrogels. Biomacromolecules, 2020, 21, 4253-4260.	5.4	18
10	Network Growth and Structural Characteristics of Globular Protein Hydrogels. Macromolecules, 2020, 53, 7335-7345.	4.8	15
11	Hierarchical biomechanics: an introductory teaching framework. Physics Education, 2020, 55, 055002.	0.5	1
12	Trimethylamine<i>N</i>-oxide (TMAO) resists the compression of water structure by magnesium perchlorate: terrestrial kosmotrope<i>vs.</i>Martian chaotrope. Physical Chemistry Chemical Physics, 2020, 22, 4924-4937.	2.8	10
13	Hierarchical biomechanics: student engagement activities with a focus on biological physics. Physics Education, 2020, 55, 025015.	0.5	2
14	Biomolecular self-assembly under extreme Martian mimetic conditions. Molecular Physics, 2019, 117, 3398-3407.	1.7	7
15	The hierarchical emergence of worm-like chain behaviour from globular domain polymer chains. Soft Matter, 2019, 15, 8778-8789.	2.7	10
16	Determining Stable Single Alpha Helical (SAH) Domain Properties by Circular Dichroism and Atomic Force Microscopy. Methods in Molecular Biology, 2018, 1805, 185-211.	0.9	3
17	Temperature-Dependent Segregation in Alcoholâ€“Water Binary Mixtures Is Driven by Water Clustering. Journal of Physical Chemistry B, 2018, 122, 7884-7894.	2.6	41
18	Assessing the Potential of Folded Globular Polyproteins As Hydrogel Building Blocks. Biomacromolecules, 2017, 18, 636-646.	5.4	35

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19	Highly compressed water structure observed in a perchlorate aqueous solution. Nature Communications, 2017, 8, 919.	12.8	39
20	Characterization of long and stable de novo single alpha-helix domains provides novel insight into their stability. Scientific Reports, 2017, 7, 44341.	3.3	40
21	Structural evidence for solvent-stabilisation by aspartic acid as a mechanism for halophilic protein stability in high salt concentrations. Physical Chemistry Chemical Physics, 2016, 18, 18054-18062.	2.8	18
22	Differential Effects of Hydrophobic Core Packing Residues for Thermodynamic and Mechanical Stability of a Hyperthermophilic Protein. Langmuir, 2016, 32, 7392-7402.	3.5	24
23	The physics of pulling polyproteins: a review of single molecule force spectroscopy using the AFM to study protein unfolding. Reports on Progress in Physics, 2016, 79, 076601.	20.1	99
24	Tuning protein mechanics through an ionic cluster graft from an extremophilic protein. Soft Matter, 2016, 12, 2688-2699.	2.7	10
25	Hydrophilic Association in a Dilute Glutamine Solution Persists Independent of Increasing Temperature. Journal of Physical Chemistry B, 2015, 119, 15644-15651.	2.6	11
26	Life in extreme environments: single molecule force spectroscopy as a tool to explore proteins from extremophilic organisms. Biochemical Society Transactions, 2015, 43, 179-185.	3.4	7
27	Myosin tails and single Î±-helical domains. Biochemical Society Transactions, 2015, 43, 58-63.	3.4	9
28	Optimizing the calculation of energy landscape parameters from single-molecule protein unfolding experiments. Physical Review E, 2015, 91, 012710.	2.1	13
29	Rapid and Robust Polyprotein Production Facilitates Single-Molecule Mechanical Characterization of Î²-Barrel Assembly Machinery Polypeptide Transport Associated Domains. ACS Nano, 2015, 9, 8811-8821.	14.6	26
30	Stable Single Î±-Helices Are Constant Force Springs in Proteins. Journal of Biological Chemistry, 2014, 289, 27825-27835.	3.4	54
31	Unravelling the Properties of Single Î±-Helical Domains in Myosin and other Proteins. Biophysical Journal, 2014, 106, 626a.	0.5	0
32	What happens to the structure of water in cryoprotectant solutions?. Faraday Discussions, 2013, 167, 159.	3.2	51
33	Single molecule force spectroscopy reveals the temperature-dependent robustness and malleability of a hyperthermophilic protein. Soft Matter, 2013, 9, 9016.	2.7	18
34	Towards design principles for determining the mechanical stability of proteins. Physical Chemistry Chemical Physics, 2013, 15, 15767.	2.8	57
35	The emerging role of hydrogen bond interactions in polyglutamine structure, stability and association. Soft Matter, 2013, 9, 2359-2364.	2.7	10
36	Single-Molecule Force Spectroscopy Identifies a Small Cold Shock Protein as Being Mechanically Robust. Journal of Physical Chemistry B, 2013, 117, 1819-1826.	2.6	23

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37	Single molecule force spectroscopy using polyproteins. Chemical Society Reviews, 2012, 41, 4781.	38.1	153
38	Probing osmolyte participation in the unfolding transition state of a protein. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9759-9764.	7.1	13
39	Molecular self-assembly in a model amphiphile system. Physical Chemistry Chemical Physics, 2010, 12, 10221.	2.8	17
40	Force-Clamp Spectroscopy of Single Proteins. Springer Series in Chemical Physics, 2010, , 317-335.	0.2	6
41	Osmolyte-induced separation of the mechanical folding phases of ubiquitin. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10540-10545.	7.1	46
42	Direct observation of an ensemble of stable collapsed states in the mechanical folding of ubiquitin. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10534-10539.	7.1	116
43	Single homopolypeptide chains collapse into mechanically rigid conformations. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12605-12610.	7.1	84
44	Solvent Bridging Determines The Molecular Architecture Of The Unfolding Transition State Of A Protein. Biophysical Journal, 2009, 96, 72a-73a.	0.5	0
45	A Singleâ€Molecule Perspective on the Role of Solvent Hydrogen Bonds in Protein Folding and Chemical Reactions. ChemPhysChem, 2008, 9, 2836-2847.	2.1	39
46	Single-Molecule Force Spectroscopy Measurements of Bond Elongation during a Bimolecular Reaction. Journal of the American Chemical Society, 2008, 130, 6479-6487.	13.7	135
47	Solvent molecules bridge the mechanical unfolding transition state of a protein. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 3185-3190.	7.1	73
48	Signatures of hydrophobic collapse in extended proteins captured with force spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7916-7921.	7.1	99
49	Tandem Repeating Modular Proteins Avoid Aggregation in Single Molecule Force Spectroscopy Experiments. Journal of Physical Chemistry A, 2007, 111, 12402-12408.	2.5	8
50	Excess Entropy in Alcoholâˆ'Water Solutions:Â A Simple Clustering Explanationâ€. Journal of Physical Chemistry B, 2006, 110, 3472-3476.	2.6	101
51	Probing the Liquid-State Structure and Dynamics of Aqueous Solutions by Fluorescence Spectroscopy. Journal of Fluorescence, 2004, 14, 91-97.	2.5	8