Elisa Franco

List of Publications by Year
in descending order

66 papers	2,568 citations	236925 25 h-index	214800 47 g-index
81 all docs	81 docs citations	81 times ranked	2382 citing authors

#	Article	IF	Citations
1	Assembly of Nanostructures from Double-Crossover Tiles. Methods in Molecular Biology, 2022, 2433, 293-302.	0.9	0
2	The living interface between synthetic biology and biomaterial design. Nature Materials, 2022, 21, 390-397.	27.5	68
3	RNA Compensation: A Positive Feedback Insulation Strategy for RNA-Based Transcription Networks. ACS Synthetic Biology, 2022, 11, 1240-1250.	3.8	5
4	Dissipative DNA nanotechnology. Nature Chemistry, 2022, 14, 600-613.	13.6	72
5	Structural Properties of Biological and Ecological Systems. , 2021, , 2217-2225.		0
6	Ultrasensitive molecular controllers for quasi-integral feedback. Cell Systems, 2021, 12, 272-288.e3.	6.2	33
7	Dynamic self-assembly of compartmentalized DNA nanotubes. Nature Communications, 2021, 12, 3557.	12.8	35
8	Spontaneous Reorganization of DNA-Based Polymers in Higher Ordered Structures Fueled by RNA. Journal of the American Chemical Society, 2021, 143, 20296-20301.	13.7	21
9	Characterizing the length-dependence of DNA nanotube end-to-end joining rates. Molecular Systems Design and Engineering, 2020, 5, 544-558.	3.4	2
10	The challenges of modeling and forecasting the spread of COVID-19. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16732-16738.	7.1	406
11	RNA nanotechnology in synthetic biology. Current Opinion in Biotechnology, 2020, 63, 135-141.	6.6	28
12	Sequestration and delays enable the synthesis of a molecular derivative operator. , 2020, , .		9
13	Structural Properties of Biological and Ecological Systems. , 2020, , 1-9.		0
14	Practical differentiation using ultrasensitive molecular circuits. , 2019, , .		13
15	A universal method for sensitive and cell-free detection of CRISPR-associated nucleases. Chemical Science, 2019, 10, 2653-2662.	7.4	14
16	Cell-Free Synthetic Biology Platform for Engineering Synthetic Biological Circuits and Systems. Methods and Protocols, 2019, 2, 39.	2.0	23
17	Design and Characterization of RNA Nanotubes. ACS Nano, 2019, 13, 5214-5221.	14.6	11
18	Autonomous dynamic control of DNA nanostructure self-assembly. Nature Chemistry, 2019, 11, 510-520.	13.6	178

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19	Enzyme-Driven Assembly and Disassembly of Hybrid DNAâ€“RNA Nanotubes. Journal of the American Chemical Society, 2019, 141, 7831-7841.	13.7	70
20	Biomolecular stabilisation near the unstable equilibrium of a biological system. , 2019, , .		4
21	Distinct timescales of RNA regulators enable the construction of a genetic pulse generator. Biotechnology and Bioengineering, 2019, 116, 1139-1151.	3.3	40
22	Homogeneous Time Constants Promote Oscillations in Negative Feedback Loops. ACS Synthetic Biology, 2018, 7, 1481-1487.	3.8	14
23	Engineering DNA nanotubes for resilience in an E. coli TXTL system. Synthetic Biology, 2018, 3, ysy001.	2.2	11
24	A coarse-grained model captures the temporal evolution of DNA nanotube length distributions. Natural Computing, 2018, 17, 183-199.	3.0	6
25	T7 RNA polymerase non-specifically transcribes and induces disassembly of DNA nanostructures. Nucleic Acids Research, 2018, 46, 5332-5343.	14.5	15
26	Mathematical Modeling of RNA-Based Architectures for Closed Loop Control of Gene Expression. ACS Synthetic Biology, 2018, 7, 1219-1228.	3.8	42
27	Dynamic Control of Aptamerâ€“Ligand Activity Using Strand Displacement Reactions. ACS Synthetic Biology, 2018, 7, 30-37.	3.8	40
28	A Robust Molecular Network Motif for Period-Doubling Devices. ACS Synthetic Biology, 2018, 7, 75-85.	3.8	19
29	Design and analysis of a biomolecular positive-feedback oscillator. , 2018, , .		5
30	RNA Fibers as Optimized Nanoscaffolds for siRNA Coordination and Reduced Immunological Recognition. Advanced Functional Materials, 2018, 28, 1805959.	14.9	57
31	Self-assembly of multi-stranded RNA motifs into lattices and tubular structures. Nucleic Acids Research, 2017, 45, 5449-5457.	14.5	28
32	Stability analysis of an artificial biomolecular oscillator with non-cooperative regulatory interactions. Journal of Biological Dynamics, 2017, 11, 102-120.	1.7	11
33	pH-Driven Reversible Self-Assembly of Micron-Scale DNA Scaffolds. Nano Letters, 2017, 17, 7283-7288.	9.1	65
34	An ultrasensitive biomolecular network for robust feedback control. IFAC-PapersOnLine, 2017, 50, 10950-10956.	0.9	24
35	An ultrasensitive motif for robust closed loop control of biomolecular systems. , 2017, , .		5
36	Design of a bistable network using the CRISPR/Cas system. , 2017, , .		5

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37	Negative feedback enables structurally signed steady-state influences in artificial biomolecular networks. , 2016, , .		2
38	Self-assembly of large RNA structures: learning from DNA nanotechnology. DNA and RNA Nanotechnology, 2016, 2, .	0.7	3
39	A Coarse-Grained Model of DNA Nanotube Population Growth. Lecture Notes in Computer Science, 2016, , 135-147.	1.3	4
40	pH-Controlled Assembly of DNA Tiles. Journal of the American Chemical Society, 2016, 138, 12735-12738.	13.7	68
41	Programmable RNA microstructures for coordinated delivery of siRNAs. Nanoscale, 2016, 8, 17542-17550.	5.6	45
42	The Smallest Eigenvalue of the Generalized Laplacian Matrix, with Application to Network-Decentralized Estimation for Homogeneous Systems. IEEE Transactions on Network Science and Engineering, 2016, 3, 312-324.	6.4	15
43	Molecular Titration Promotes Oscillations and Bistability in Minimal Network Models with Monomeric Regulators. ACS Synthetic Biology, 2016, 5, 321-333.	3.8	40
44	Compartmental flow control: Decentralization, robustness and optimality. Automatica, 2016, 64, 18-28.	5.0	20
45	Computing the structural influence matrix for biological systems. Journal of Mathematical Biology, 2016, 72, 1927-1958.	1.9	38
46	Building a Synthetic Transcriptional Oscillator. Methods in Molecular Biology, 2016, 1342, 185-199.	0.9	8
47	Structural conditions for oscillations and multistationarity in aggregate monotone systems. , 2015, , .		14
48	Designing a self-regulating biomolecular comparator. , 2015, , .		0
49	A minimal biomolecular frequency divider. , 2015, , .		1
50	An analytical approach to bistable biological circuit discrimination using real algebraic geometry. Journal of the Royal Society Interface, 2015, 12, 20150288.	3.4	16
51	A self-regulating biomolecular comparator for processing oscillatory signals. Journal of the Royal Society Interface, 2015, 12, 20150586.	3.4	9
52	Network-Decentralized Control Strategies for Stabilization. IEEE Transactions on Automatic Control, 2015, 60, 491-496.	5.7	31
53	Feedback Loops in Biological Networks. Methods in Molecular Biology, 2015, 1244, 193-214.	0.9	5
54	A Structural Classification of Candidate Oscillatory and Multistationary Biochemical Systems. Bulletin of Mathematical Biology, 2014, 76, 2542-2569.	1.9	46

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55	Design of a molecular clock with RNA-mediated regulation. , 2014, , .		10
56	Diversity in the dynamical behaviour of a compartmentalized programmable biochemical oscillator. Nature Chemistry, 2014, 6, 295-302.	13.6	201
57	Negative Autoregulation Matches Production and Demand in Synthetic Transcriptional Networks. ACS Synthetic Biology, 2014, 3, 589-599.	3.8	54
58	Design of a molecular bistable system with RNA-mediated regulation. , 2014, , .		17
59	Receding Horizon Control of a two-agent system with competitive objectives. , 2013, , .		3
60	Structural properties of the MAPK pathway topologies in PC12 cells. Journal of Mathematical Biology, 2013, 67, 1633-1668.	1.9	7
61	Dynamically Reshaping Signaling Networks to Program Cell Fate via Genetic Controllers. Science, 2013, 341, 1235005.	12.6	63
62	Analysis of a negative feedback biochemical oscillator. , 2012, , .		1
63	Structurally robust biological networks. BMC Systems Biology, 2011, 5, 74.	3.0	67
64	Timing molecular motion and production with a synthetic transcriptional clock. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E784-93.	7.1	208
65	Cooperative Constrained Control of Distributed Agents With Nonlinear Dynamics and Delayed Information Exchange: A Stabilizing Receding-Horizon Approach. IEEE Transactions on Automatic Control, 2008, 53, 324-338.	5.7	139
66	Geometry of unsteady fluid transport during fluidâ€“structure interactions. Journal of Fluid Mechanics, 2007, 589, 125-145.	3.4	39