Lendert Gelens

List of Publications by Year
in descending order

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103 papers	2,497 citations	186265 28 h-index	214800 47 g-index
113 all docs	113 docs citations	113 times ranked	1902 citing authors

#	Article	IF	Citations
1	Bistable, Biphasic Regulation of PP2A-B55 Accounts for the Dynamics of Mitotic Substrate Phosphorylation. Current Biology, 2021, 31, 794-808.e6.	3.9	25
2	Bright and dark localized states in doubly resonant optical parametric oscillators. , 2021, , .		0
3	Analytical approximations for the speed of pacemaker-generated waves. Physical Review E, 2021, 104, 014220.	2.1	1
4	A modular approach for modeling the cell cycle based on functional response curves. PLoS Computational Biology, 2021, 17, e1009008.	3.2	11
5	Origin, bifurcation structure and stability of localized states in Kerr dispersive optical cavities. IMA Journal of Applied Mathematics, 2021, 86, 856-895.	1.6	16
6	Mitotic waves in an import-diffusion model with multiple nuclei in a shared cytoplasm. BioSystems, 2021, 208, 104478.	2.0	2
7	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. PLoS Computational Biology, 2021, 17, e1008231.	3.2	16
8	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
9	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
10	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
11	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
12	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
13	Dynamic bistable switches enhance robustness and accuracy of cell cycle transitions. , 2021, 17, e1008231.		0
14	Mutualistic cross-feeding in microbial systems generates bistability via an Allee effect. Scientific Reports, 2020, 10, 7763.	3.3	6
15	Synchronization in reactionâ€“diffusion systems with multiple pacemakers. Chaos, 2020, 30, 053139.	2.5	5
16	Co-regulation of the antagonistic RepoMan:Aurora-B pair in proliferating cells. Molecular Biology of the Cell, 2020, 31, 419-438.	2.1	9
17	Synchronizing an oscillatory medium: The speed of pacemaker-generated waves. Physical Review Research, 2020, 2, .	3.6	6
18	Nuclei determine the spatial origin of mitotic waves. ELife, 2020, 9, .	6.0	25

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19	Temporal localized structures in doubly resonant dispersive optical parametric oscillators. , 2020, , .		0
20	Localized structures formed through domain wall locking in cavity-enhanced second-harmonic generation. Optics Letters, 2020, 45, 5856.	3.3	9
21	Travelling fronts in time-delayed reactionâ€“diffusion systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180127.	3.4	6
22	Localized structures in dispersive and doubly resonant optical parametric oscillators. Physical Review E, 2019, 100, 032219.	2.1	23
23	Eternal sunshine of the spotless cycle. Molecular Systems Biology, 2019, 15, e8864.	7.2	2
24	Excitable dynamics through toxin-induced mRNA cleavage in bacteria. PLoS ONE, 2019, 14, e0212288.	2.5	2
25	Coordination of Timers and Sensors in Cell Signaling. BioEssays, 2019, 41, e1800217.	2.5	8
26	Bifurcation Structure of Localized Patterns and Spikes in Dispersive Kerr Cavities. , 2019, , .		1
27	Localized Structures in Dispersive Doubly Resonant Optical Parametric Oscillators. , 2019, , .		0
28	Frequency comb generation through the locking of domain walls in doubly resonant dispersive optical parametric oscillators. Optics Letters, 2019, 44, 2004.	3.3	28
29	Bifurcation structure of localized states in the Lugiato-Lefever equation with anomalous dispersion. Physical Review E, 2018, 97, 042204.	2.1	48
30	Autoregulation of mazEF expression underlies growth heterogeneity in bacterial populations. Nucleic Acids Research, 2018, 46, 2918-2931.	14.5	24
31	Exploring the Function of Dynamic Phosphorylation-Dephosphorylation Cycles. Developmental Cell, 2018, 44, 659-663.	7.0	46
32	The Importance of Kinaseâ€“Phosphatase Integration: Lessons from Mitosis. Trends in Cell Biology, 2018, 28, 6-21.	7.9	85
33	Bifurcation structure of periodic patterns in the Lugiato-Lefever equation with anomalous dispersion. Physical Review E, 2018, 98, .	2.1	16
34	Bistability in a system of two species interacting through mutualism as well as competition: Chemostat vs. Lotka-Volterra equations. PLoS ONE, 2018, 13, e0197462.	2.5	27
35	Quadratic soliton combs in doubly resonant second-harmonic generation. Optics Letters, 2018, 43, 6033.	3.3	45
36	Delay models for the early embryonic cell cycle oscillator. PLoS ONE, 2018, 13, e0194769.	2.5	14

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37	Integrated culturing, modeling and transcriptomics uncovers complex interactions and emergent behavior in a three-species synthetic gut community. ELife, 2018, 7, .	6.0	62
38	Front interaction induces excitable behavior. Physical Review E, 2017, 95, 020201.	2.1	2
39	Desynchronizing Embryonic Cell Division Waves Reveals the Robustness of Xenopus laevis Development. Cell Reports, 2017, 21, 37-46.	6.4	38
40	Interaction of solitons and the formation of bound states in the generalized Lugiato-Lefever equation. European Physical Journal D, 2017, 71, 1.	1.3	27
41	An Attachment-Independent Biochemical Timer of the Spindle Assembly Checkpoint. Molecular Cell, 2017, 68, 715-730.e5.	9.7	62
42	Coexistence of stable dark- and bright-soliton Kerr combs in normal-dispersion resonators. Physical Review A, 2017, 95, .	2.5	58
43	Positive Feedback Keeps Duration of Mitosis Temporally Insulated from Upstream Cell-Cycle Events. Molecular Cell, 2016, 64, 362-375.	9.7	81
44	Origin and stability of dark pulse Kerr combs in normal dispersion resonators. Optics Letters, 2016, 41, 2402.	3.3	89
45	Dark solitons in the Lugiato-Lefever equation with normal dispersion. Physical Review A, 2016, 93, .	2.5	105
46	Competition between drift and spatial defects leads to oscillatory and excitable dynamics of dissipative solitons. Physical Review E, 2016, 93, 012211.	2.1	5
47	Characterizing the dynamics of cavity solitons and frequency combs in the Lugiato-Lefever equation. , 2016, , .		0
48	Computational Methods to Model Persistence. Methods in Molecular Biology, 2016, 1333, 207-240.	0.9	4
49	Stability Analysis of Dark Pulse Kerr Frequency Combs in Normal Dispersion Optical Microresonators. , 2016, , .		0
50	Origin and stability of dark pulse Kerr frequency combs in normal dispersion microresonators. , 2016, , .		0
51	How Does the Xenopus laevis Embryonic Cell Cycle Avoid Spatial Chaos?. Cell Reports, 2015, 12, 892-900.	6.4	18
52	Spatio-temporal stability of 1D Kerr cavity solitons. , 2014, , .		0
53	Effects of inhomogeneities and drift on the dynamics of temporal solitons in fiber cavities and microresonators. Optics Express, 2014, 22, 30943.	3.4	21
54	Dynamics of localized and patterned structures in the Lugiato-Lefever equation determine the stability and shape of optical frequency combs. Physical Review A, 2014, 89, .	2.5	103

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55	Third-order chromatic dispersion stabilizes Kerr frequency combs. Optics Letters, 2014, 39, 2971.	3.3	78
56	Modeling Kerr frequency combs using the Lugiato-Lefever equation: a characterization of the multistable landscape. , 2014, , .		1
57	Formation of localized structures in bistable systems through nonlocal spatial coupling. I. General framework. Physical Review E, 2014, 89, 012914.	2.1	26
58	Formation of localized structures in bistable systems through nonlocal spatial coupling. II. The nonlocal Ginzburg-Landau equation. Physical Review E, 2014, 89, 012915.	2.1	23
59	Spatial trigger waves: positive feedback gets you a long way. Molecular Biology of the Cell, 2014, 25, 3486-3493.	2.1	99
60	Two semiconductor ring lasers coupled by a single-waveguide for optical memory operation. Proceedings of SPIE, 2014, , .	0.8	0
61	Stabilization of frequency combs using third order dispersion. , 2014, , .		0
62	Oscillations and multistability in two semiconductor ring lasers coupled by a single waveguide. Physical Review A, 2013, 88, .	2.5	10
63	A General Model for Toxin-Antitoxin Module Dynamics Can Explain Persister Cell Formation in E. coli. PLoS Computational Biology, 2013, 9, e1003190.	3.2	54
64	Dynamics of one-dimensional Kerr cavity solitons. Optics Express, 2013, 21, 9180.	3.4	189
65	Direct modulation of semiconductor ring lasers: numerical and asymptotic analysis. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 1983.	2.1	18
66	Square-wave oscillations in semiconductor ring lasers with delayed optical feedback. Optics Express, 2012, 20, 22503.	3.4	43
67	Semiconductor ring lasers as optical neurons. , 2012, , .		0
68	Cavity soliton oscillations in a one-dimensional fiber resonator. , 2012, , .		1
69	Experimental and numerical study of square wave oscillations due to asymmetric optical feedback in semiconductor ring lasers. , 2012, , .		2
70	Nonlinear dynamics in directly modulated semiconductor ring lasers. , 2012, , .		0
71	Coupled semiconductor ring lasers. , 2012, , .		0
72	Coupled semiconductor ring lasers. , 2012, , .		0

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73	Semiconductor ring lasers coupled by a single waveguide. Applied Physics Letters, 2012, 100, 251114.	3.3	15
74	Semiconductor ring lasers as optical neurons. Proceedings of SPIE, 2012, , .	0.8	2
75	Dark localized structures in a cavity filled with a left-handed material. Physical Review A, 2011, 84, .	2.5	23
76	Dynamical behavior of semiconductor ring lasers. , 2011, , .		0
77	Cavity solitons and localized patterns in a finite-size optical cavity. Physical Review A, 2011, 84, .	2.5	10
78	Solitary and coupled semiconductor ring lasers as optical spiking neurons. Physical Review E, 2011, 84, 036209.	2.1	106
79	Traveling waves and defects in the complex Swift-Hohenberg equation. Physical Review E, 2011, 84, 056203.	2.1	8
80	Dynamical regimes in an optically injected semiconductor ring laser. , 2010, , .		0
81	Multistable and excitable behavior in semiconductor ring lasers with broken Z2-symmetry. European Physical Journal D, 2010, 58, 197-207.	1.3	28
82	Coarsening and frozen faceted structures in the supercritical complex Swift-Hohenberg equation. European Physical Journal D, 2010, 59, 23-36.	1.3	7
83	Excitability in optical systems close to -symmetry. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 739-743.	2.1	49
84	Nonlocality-Induced Front-Interaction Enhancement. Physical Review Letters, 2010, 104, 154101.	7.8	21
85	Excitability in semiconductor microring lasers: Experimental and theoretical pulse characterization. Physical Review A, 2010, 82, .	2.5	41
86	Analysis of multistability in semiconductor ring lasers. Proceedings of SPIE, 2010, , .	0.8	1
87	Optical injection in semiconductor ring lasers. Physical Review A, 2010, 81, .	2.5	37
88	High-order dispersion stabilizes dark dissipative solitons in all-fiber cavities. Optics Letters, 2010, 35, 306.	3.3	85
89	Theoretical and experimental investigation of mode-hopping in semiconductor ring lasers. , 2010, , .		0
90	Study of excitability in semiconductor ring lasers: theory and experiment. Proceedings of SPIE, 2010, , .	0.8	0

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91	Faceting and coarsening dynamics in the complex Swift-Hohenberg equation. Physical Review E, 2009, 80, 046221.	2.1	5
92	Asymptotic approach to the analysis of mode-hopping in semiconductor ring lasers. Physical Review A, 2009, 80, .	2.5	2
93	Directional mode hopping in semiconductor ring lasers. , 2009, , .		0
94	Phase-space approach to directional switching in semiconductor ring lasers. Physical Review E, 2009, 79, 016213.	2.1	32
95	Exploring Multistability in Semiconductor Ring Lasers: Theory and Experiment. Physical Review Letters, 2009, 102, 193904.	7.8	70
96	Topological Insight into the Non-Arrhenius Mode Hopping of Semiconductor Ring Lasers. Physical Review Letters, 2008, 101, 093903.	7.8	42
97	Optical injection in semiconductor ring lasers: backfire dynamics. Optics Express, 2008, 16, 10968.	3.4	17
98	Sub-diffraction-limited localized structures: influence of linear non-local interactions. , 2008, , .		0
99	Two-dimensional phase-space analysis and bifurcation study of the dynamical behaviour of a semiconductor ring laser. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 095402.	1.5	45
100	Dynamical instabilities of dissipative solitons in nonlinear optical cavities with nonlocal materials. Physical Review A, 2008, 77, .	2.5	31
101	The dynamic behavior of a semiconductor ring laser. , 2008, , .		0
102	Impact of nonlocal interactions in dissipative systems: Towards minimal-sized localized structures. Physical Review A, 2007, 75, .	2.5	48
103	Dissipative structures in left-handed material cavity optics. Chaos, 2007, 17, 037116.	2.5	35