Bela Novak

List of Publications by Year
in descending order

122 papers	11,512 citations	38742 50 h-index	30922 102 g-index
139 all docs	139 docs citations	139 times ranked	9182 citing authors

#	Article	IF	Citations
1	Sniffers, buzzers, toggles and blinkers: dynamics of regulatory and signaling pathways in the cell. Current Opinion in Cell Biology, 2003, 15, 221-231.	5.4	1,423
2	Design principles of biochemical oscillators. Nature Reviews Molecular Cell Biology, 2008, 9, 981-991.	37.0	970
3	Integrative Analysis of Cell Cycle Control in Budding Yeast. Molecular Biology of the Cell, 2004, 15, 3841-3862.	2.1	584
4	Network dynamics and cell physiology. Nature Reviews Molecular Cell Biology, 2001, 2, 908-916.	37.0	481
5	Kinetic Analysis of a Molecular Model of the Budding Yeast Cell Cycle. Molecular Biology of the Cell, 2000, 11, 369-391.	2.1	437
6	Regulation of the Eukaryotic Cell Cycle: Molecular Antagonism, Hysteresis, and Irreversible Transitions. Journal of Theoretical Biology, 2001, 210, 249-263.	1.7	328
7	DNA damage during S-phase mediates the proliferation-quiescence decision in the subsequent G1 via p21 expression. Nature Communications, 2017, 8, 14728.	12.8	284
8	The dynamics of cell cycle regulation. BioEssays, 2002, 24, 1095-1109.	2.5	277
9	A model for restriction point control of the mammalian cell cycle. Journal of Theoretical Biology, 2004, 230, 563-579.	1.7	272
10	Functional Motifs in Biochemical Reaction Networks. Annual Review of Physical Chemistry, 2010, 61, 219-240.	10.8	257
11	Downregulation of PP2ACdc55 Phosphatase by Separase Initiates Mitotic Exit in Budding Yeast. Cell, 2006, 125, 719-732.	28.9	230
12	Analysis of a Generic Model of Eukaryotic Cell-Cycle Regulation. Biophysical Journal, 2006, 90, 4361-4379.	0.5	226
13	Steady States and Oscillations in the p53/Mdm2 Network. Cell Cycle, 2005, 4, 488-493.	2.6	221
14	Regulation of APC/C Activity in Oocytes by a Bub1-Dependent Spindle Assembly Checkpoint. Current Biology, 2009, 19, 369-380.	3.9	194
15	Irreversible cell-cycle transitions are due to systems-level feedback. Nature Cell Biology, 2007, 9, 724-728.	10.3	178
16	A Simple Model of Circadian Rhythms Based on Dimerization and Proteolysis of PER and TIM. Biophysical Journal, 1999, 77, 2411-2417.	0.5	168
17	Modeling the control of DNA replication in fission yeast. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 9147-9152.	7.1	165
18	Temporal Organization of the Cell Cycle. Current Biology, 2008, 18, R759-R768.	3.9	165

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19	A PP2A-B55 recognition signal controls substrate dephosphorylation kinetics during mitotic exit. Journal of Cell Biology, 2016, 214, 539-554.	5.2	164
20	Mathematical model of the cell division cycle of fission yeast. Chaos, 2001, 11, 277.	2.5	144
21	Modeling the Cell Division Cycle: M-phase Trigger, Oscillations, and Size Control. Journal of Theoretical Biology, 1993, 165, 101-134.	1.7	142
22	Phosphorylation network dynamics in the control of cell cycle transitions. Journal of Cell Science, 2012, 125, 4703-4711.	2.0	138
23	The BEG (PP2A-B55/ENSA/Greatwall) Pathway Ensures Cytokinesis follows Chromosome Separation. Molecular Cell, 2013, 52, 393-405.	9.7	136
24	Mathematical model of the fission yeast cell cycle with checkpoint controls at the G1/S, G2/M and metaphase/anaphase transitions. Biophysical Chemistry, 1998, 72, 185-200.	2.8	121
25	Modeling the fission yeast cell cycle: Quantized cycle times in wee1- cdc25Delta mutant cells. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 7865-7870.	7.1	117
26	A Dynamical Framework for the All-or-None G1/S Transition. Cell Systems, 2016, 2, 27-37.	6.2	115
27	Control of Cell Proliferation, Organ Growth, and DNA Damage Response Operate Independently of Dephosphorylation of the <i>Arabidopsis</i> Cdk1 Homolog CDKA;1 Â. Plant Cell, 2009, 21, 3641-3654.	6.6	106
28	A General G1/S-Phase Cell-Cycle Control Module in the Flowering Plant Arabidopsis thaliana. PLoS Genetics, 2012, 8, e1002847.	3.5	103
29	The Influence of Catalysis on Mad2 Activation Dynamics. PLoS Biology, 2009, 7, e1000010.	5.6	97
30	A model of yeast cellâ€cycle regulation based on multisite phosphorylation. Molecular Systems Biology, 2010, 6, 405.	7.2	97
31	Switches and latches: a biochemical tug-of-war between the kinases and phosphatases that control mitosis. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 3584-3594.	4.0	95
32	Quantitative analysis of a molecular model of mitotic control in fission yeast. Journal of Theoretical Biology, 1995, 173, 283-305.	1.7	93
33	Meiotic Prophase Requires Proteolysis of M Phase Regulators Mediated by the Meiosis-Specific APC/CAma1. Cell, 2012, 151, 603-618.	28.9	93
34	Chemical kinetic theory: understanding cell-cycle regulation. Trends in Biochemical Sciences, 1996, 21, 89-96.	7.5	92
35	Irreversibility of mitotic exit is the consequence of systems-level feedback. Nature, 2009, 459, 592-595.	27.8	91
36	Nutritional Control of Cell Size by the Greatwall-Endosulfine-PP2AÂ·B55 Pathway. Current Biology, 2016, 26, 319-330.	3.9	87

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37	Absolute quantification of cohesin, CTCF and their regulators in human cells. ELife, 2019, 8, .	6.0	79
38	Mathematical model of the morphogenesis checkpoint in budding yeast. Journal of Cell Biology, 2003, 163, 1243-1254.	5.2	78
39	Bistability by multiple phosphorylation of regulatory proteins. Progress in Biophysics and Molecular Biology, 2009, 100, 47-56.	2.9	74
40	Two Bistable Switches Govern M Phase Entry. Current Biology, 2016, 26, 3361-3367.	3.9	72
41	A comprehensive model for the proliferationâ€“quiescence decision in response to endogenous DNA damage in human cells. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2532-2537.	7.1	70
42	Antagonism and bistability in protein interaction networks. Journal of Theoretical Biology, 2008, 250, 209-218.	1.7	66
43	Modelling the controls of the eukaryotic cell cycle. Biochemical Society Transactions, 2003, 31, 1526-1529.	3.4	65
44	Dependency of the Spindle Assembly Checkpoint on Cdk1 Renders the Anaphase Transition Irreversible. Current Biology, 2014, 24, 630-637.	3.9	63
45	Kinetochoreâ€“microtubule error correction is driven by differentially regulated interaction modes. Nature Cell Biology, 2015, 17, 421-433.	10.3	63
46	Molecular mechanisms creating bistable switches at cell cycle transitions. Open Biology, 2013, 3, 120179.	3.6	62
47	Two Interlinked Bistable Switches Govern Mitotic Control in Mammalian Cells. Current Biology, 2018, 28, 3824-3832.e6.	3.9	62
48	Models in biology: lessons from modeling regulation of the eukaryotic cell cycle. BMC Biology, 2015, 13, 46.	3.8	61
49	Modeling M-phase control in Xenopus oocyte extracts: the surveillance mechanism for unreplicated DNA. Biophysical Chemistry, 1998, 72, 169-184.	2.8	57
50	A stochastic, molecular model of the fission yeast cell cycle: role of the nucleocytoplasmic ratio in cycle time regulation. Biophysical Chemistry, 2001, 92, 1-15.	2.8	56
51	System-level feedbacks make the anaphase switch irreversible. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10016-10021.	7.1	55
52	PP2A/B55 and Fcp1 Regulate Greatwall and Ensa Dephosphorylation during Mitotic Exit. PLoS Genetics, 2014, 10, e1004004.	3.5	55
53	Regulated protein kinases and phosphatases in cell cycle decisions. Current Opinion in Cell Biology, 2010, 22, 801-808.	5.4	54
54	A Dynamical Paradigm for Molecular Cell Biology. Trends in Cell Biology, 2020, 30, 504-515.	7.9	53

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55	Cyclin A triggers Mitosis either via the Greatwall kinase pathway or Cyclin B. EMBO Journal, 2020, 39, e104419.	7.8	52
56	Finishing the Cell Cycle. Journal of Theoretical Biology, 1999, 199, 223-233.	1.7	50
57	Cell Cycle Control by a Minimal Cdk Network. PLoS Computational Biology, 2015, 11, e1004056.	3.2	49
58	Human Chromosome Segregation Involves Multi-Layered Regulation of Separase by the Peptidyl-Prolyl-Isomerase Pin1. Molecular Cell, 2015, 58, 495-506.	9.7	49
59	Protein Phosphatase 2A Controls the Order and Dynamics of Cell-Cycle Transitions. Molecular Cell, 2011, 44, 437-450.	9.7	47
60	The cell cycle. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 3494-3497.	4.0	47
61	Spatiotemporal dynamics of Spc105 regulates the assembly of the Drosophila kinetochore. Open Biology, 2012, 2, 110032.	3.6	47
62	Dilution and titration of cell-cycle regulators may control cell size in budding yeast. PLoS Computational Biology, 2018, 14, e1006548.	3.2	45
63	CDK1-CCNB1 creates a spindle checkpointâ€“permissive state by enabling MPS1 kinetochore localization. Journal of Cell Biology, 2019, 218, 1182-1199.	5.2	45
64	Cell cycle regulation by feedâ€‘forward loops coupling transcription and phosphorylation. Molecular Systems Biology, 2009, 5, 236.	7.2	44
65	Hypoxia-dependent sequestration of an oxygen sensor by a widespread structural motif can shape the hypoxic response - a predictive kinetic model. BMC Systems Biology, 2010, 4, 139.	3.0	44
66	Restriction point control of the mammalian cell cycle via the cyclin E/Cdk2:p27 complex. FEBS Journal, 2010, 277, 357-367.	4.7	44
67	CULLIN 4-RING FINGER-LIGASE plays a key role in the control of endoreplication cycles in Arabidopsis trichomes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15275-15280.	7.1	44
68	Dynamical modeling of syncytial mitotic cycles in <i>Drosophila</i> embryos. Molecular Systems Biology, 2007, 3, 131.	7.2	41
69	Systemâ€‘level feedbacks control cell cycle progression. FEBS Letters, 2009, 583, 3992-3998.	2.8	38
70	Modelling the fission yeast cell cycle. Briefings in Functional Genomics & Proteomics, 2004, 2, 298-307.	3.8	36
71	Time scale and dimension analysis of a budding yeast cell cycle model. BMC Bioinformatics, 2006, 7, 494.	2.6	34
72	Spatial controls for growth zone formation during the fission yeast cell cycle. Yeast, 2008, 25, 59-69.	1.7	31

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73	Control of cell growth, division and death: information processing in living cells. Interface Focus, 2014, 4, 20130070.	3.0	31
74	Checkpoints in the cell cycle from a modelerâ€™s perspective. , 1995, 1, 1-8.		29
75	Microtubules offset growth site from the cell centre in fission yeast. Journal of Cell Science, 2007, 120, 2205-2213.	2.0	27
76	Modeling the septation initiation network (SIN) in fission yeast cells. Current Genetics, 2007, 51, 245-255.	1.7	27
77	The regulatory network of cell-cycle progression is fundamentally different in plants versus yeast or metazoans. Plant Signaling and Behavior, 2010, 5, 1613-1618.	2.4	24
78	Computational modelling of mitotic exit in budding yeast: the role of separase and Cdc14 endocycles. Journal of the Royal Society Interface, 2011, 8, 1128-1141.	3.4	24
79	Interlinked bistable mechanisms generate robust mitotic transitions. Cell Cycle, 2017, 16, 1885-1892.	2.6	23
80	Mitotic exit in two dimensions. Journal of Theoretical Biology, 2007, 248, 560-573.	1.7	21
81	Model scenarios for switchâ€like mitotic transitions. FEBS Letters, 2015, 589, 667-671.	2.8	21
82	Premature Sister Chromatid Separation Is Poorly Detected by the Spindle Assembly Checkpoint as a Result of System-Level Feedback. Cell Reports, 2015, 13, 469-478.	6.4	21
83	Mechanisms of signalling-memory governing progression through the eukaryotic cell cycle. Current Opinion in Cell Biology, 2021, 69, 7-16.	5.4	21
84	A Structural Systems Biology Approach for Quantifying the Systemic Consequences of Missense Mutations in Proteins. PLoS Computational Biology, 2012, 8, e1002738.	3.2	19
85	Multisite phosphoregulation of Cdc25 activity refines the mitotic entrance and exit switches. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9899-9904.	7.1	19
86	Rewiring the Exit from Mitosis. Cell Cycle, 2005, 4, 4107-4112.	2.6	17
87	Analysis of a budding yeast cell cycle model using the shapes of local sensitivity functions. International Journal of Chemical Kinetics, 2008, 40, 710-720.	1.6	17
88	Different effects of redundant feedback loops on a bistable switch. Chaos, 2010, 20, 045120.	2.5	17
89	Robust mitotic entry is ensured by a latching switch. Biology Open, 2013, 2, 924-931.	1.2	17
90	A Model for the Epigenetic Switch Linking Inflammation to Cell Transformation: Deterministic and Stochastic Approaches. PLoS Computational Biology, 2014, 10, e1003455.	3.2	17

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91	The role of APC/C inhibitor Emi2/XErp1 in oscillatory dynamics of early embryonic cell cycles. Biophysical Chemistry, 2013, 177-178, 1-6.	2.8	16
92	Cell-cycle transitions: a common role for stoichiometric inhibitors. Molecular Biology of the Cell, 2017, 28, 3437-3446.	2.1	16
93	A Single Light-Responsive Sizer Can Control Multiple-Fission Cycles in Chlamydomonas. Current Biology, 2020, 30, 634-644.e7.	3.9	16
94	Mitotic exit in mammalian cells. Molecular Systems Biology, 2009, 5, 324.	7.2	15
95	Dynamical Scenarios for Chromosome Bi-orientation. Biophysical Journal, 2013, 104, 2595-2606.	0.5	15
96	microRNA as a Potential Vector for the Propagation of Robustness in Protein Expression and Oscillatory Dynamics within a ceRNA Network. PLoS ONE, 2013, 8, e83372.	2.5	15
97	Reverse Engineering Models of Cell Cycle Regulation. Advances in Experimental Medicine and Biology, 2008, 641, 88-97.	1.6	15
98	Overexpression limits of fission yeast cellâ€cycle regulators <i>in vivo</i> and <i>in silico</i>. Molecular Systems Biology, 2011, 7, 556.	7.2	14
99	Cell cycle commitment in budding yeast emerges from the cooperation of multiple bistable switches. Open Biology, 2011, 1, 110009.	3.6	14
100	Minimal Models for Cell-Cycle Control Based on Competitive Inhibition andÂMultisite Phosphorylations of Cdk Substrates. Biophysical Journal, 2013, 104, 1367-1379.	0.5	13
101	Irreversible Transitions, Bistability and Checkpoint Controls in the Eukaryotic Cell Cycle. , 2013, , 265-285.		13
102	Genome stability during cell proliferation: A systems analysis of the molecular mechanisms controlling progression through the eukaryotic cell cycle. Current Opinion in Systems Biology, 2018, 9, 22-31.	2.6	13
103	Systems-level feedback in cell-cycle control. Biochemical Society Transactions, 2010, 38, 1242-1246.	3.4	12
104	Time-keeping and decision-making inÂtheÂcell cycle. Interface Focus, 2022, 12, .	3.0	10
105	Cell Cycle: Who Turns the Crank?. Current Biology, 2011, 21, R185-R187.	3.9	9
106	CDK-Dependent Nuclear Localization of B-Cyclin Clb1 Promotes FEAR Activation during Meiosis I in Budding Yeast. PLoS ONE, 2013, 8, e79001.	2.5	9
107	APC/CCdh1 Enables Removal of Shugoshin-2 from the Arms of Bivalent Chromosomes by Moderating Cyclin-Dependent Kinase Activity. Current Biology, 2017, 27, 1462-1476.e5.	3.9	8
108	Rewiring the exit from mitosis. Cell Cycle, 2005, 4, 1107-12.	2.6	8

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109	Role for regulated phosphatase activity in generating mitotic oscillations in <i>Xenopus</i> cell-free extracts. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20539-20544.	7.1	7
110	Bistability, Oscillations, and Traveling Waves in Frog Egg Extracts. Bulletin of Mathematical Biology, 2015, 77, 796-816.	1.9	7
111	Mathematical Model for Growth Regulation of Fission Yeast Schizosaccharomyces pombe. PLoS ONE, 2012, 7, e49675.	2.5	6
112	Interplay of transcriptional and proteolytic regulation in driving robust cell cycle progression. Molecular BioSystems, 2012, 8, 863.	2.9	5
113	Mitotic kinase oscillation governs the latching of cell cycle switches. Current Biology, 2022, 32, 2780-2785.e2.	3.9	5
114	Systems biology of the yeast cell cycle engine. , 0, , 305-324.		4
115	Systems-level feedback regulation of cell cycle transitions in Ostreococcus tauri. Plant Physiology and Biochemistry, 2018, 126, 39-46.	5.8	2
116	Morphogenetic checkpoint in fission yeast? Yes!. Microbiology (United Kingdom), 2002, 148, 2270-2271.	1.8	2
117	Cell Cycle, Budding Yeast. , 2013, , 337-341.		2
118	Pom1 is not the size ruler. Cell Cycle, 2013, 12, 3463-3464.	2.6	1
119	Cell Cycle Dynamics, Bistability and Oscillations. , 2013, , 263-270.		1
120	Computational modeling of chromosome re-replication in mutant strains of fission yeast. Molecular Biology of the Cell, 2021, 32, 830-841.	2.1	0
121	Cell Cycle Transitions, Mitotic Exit. , 2013, , 333-336.		0
122	Cell Cycle Dynamics, Irreversibility. , 2013, , 270-273.		0