Bela Novak

List of Publications by Citations

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119 papers	9,294 citations	47 h-index	95 g-index
139 ext. papers	10,772 ext. citations	8.4 avg, IF	6.32 L-index

#	Paper	IF	Citations
119	Sniffers, buzzers, toggles and blinkers: dynamics of regulatory and signaling pathways in the cell. *Current Opinion in Cell Biology*, **2003**, 15, 221-31	9	1165
118	Design principles of biochemical oscillators. *Nature Reviews Molecular Cell Biology*, **2008**, 9, 981-91	48.7	757
117	Integrative analysis of cell cycle control in budding yeast. *Molecular Biology of the Cell*, **2004**, 15, 3841-62	3.5	478
116	Network dynamics and cell physiology. *Nature Reviews Molecular Cell Biology*, **2001**, 2, 908-16	48.7	407
115	Kinetic analysis of a molecular model of the budding yeast cell cycle. *Molecular Biology of the Cell*, **2000**, 11, 369-91	3.5	369
114	Regulation of the eukaryotic cell cycle: molecular antagonism, hysteresis, and irreversible transitions. *Journal of Theoretical Biology*, **2001**, 210, 249-63	2.3	279
113	The dynamics of cell cycle regulation. *BioEssays*, **2002**, 24, 1095-109	4.1	236
112	A model for restriction point control of the mammalian cell cycle. *Journal of Theoretical Biology*, **2004**, 230, 563-79	2.3	227
111	Functional motifs in biochemical reaction networks. *Annual Review of Physical Chemistry*, **2010**, 61, 219-40	15.7	212
110	Downregulation of PP2A(Cdc55) phosphatase by separase initiates mitotic exit in budding yeast. *Cell*, **2006**, 125, 719-32	56.2	201
109	Analysis of a generic model of eukaryotic cell-cycle regulation. *Biophysical Journal*, **2006**, 90, 4361-79	2.9	189
108	Steady states and oscillations in the p53/Mdm2 network. *Cell Cycle*, **2005**, 4, 488-93	4.7	182
107	DNA damage during S-phase mediates the proliferation-quiescence decision in the subsequent G1 via p21 expression. *Nature Communications*, **2017**, 8, 14728	17.4	176
106	Regulation of APC/C activity in oocytes by a Bub1-dependent spindle assembly checkpoint. *Current Biology*, **2009**, 19, 369-80	6.3	166
105	A simple model of circadian rhythms based on dimerization and proteolysis of PER and TIM. *Biophysical Journal*, **1999**, 77, 2411-7	2.9	147
104	Irreversible cell-cycle transitions are due to systems-level feedback. *Nature Cell Biology*, **2007**, 9, 724-8	23.4	146
103	Modeling the control of DNA replication in fission yeast. *Proceedings of the National Academy of Sciences of the United States of America*, **1997**, 94, 9147-52	11.5	144

102	Temporal organization of the cell cycle. *Current Biology*, **2008**, 18, R759-R768	6.3	131
101	Mathematical model of the cell division cycle of fission yeast. *Chaos*, **2001**, 11, 277-286	3.3	124
100	Modeling the Cell Division Cycle: M-phase Trigger, Oscillations, and Size Control. *Journal of Theoretical Biology*, **1993**, 165, 101-134	2.3	116
99	Phosphorylation network dynamics in the control of cell cycle transitions. *Journal of Cell Science*, **2012**, 125, 4703-11	5.3	115
98	The BEG (PP2A-B55/ENSA/Greatwall) pathway ensures cytokinesis follows chromosome separation. *Molecular Cell*, **2013**, 52, 393-405	17.6	107
97	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	3.5	106
96	A PP2A-B55 recognition signal controls substrate dephosphorylation kinetics during mitotic exit. *Journal of Cell Biology*, **2016**, 214, 539-54	7.3	105
95	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, 7865-70	11.5	101
94	Control of cell proliferation, organ growth, and DNA damage response operate independently of dephosphorylation of the Arabidopsis Cdk1 homolog CDKA;1. *Plant Cell*, **2009**, 21, 3641-54	11.6	92
93	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, 3584-94	5.8	89
92	A model of yeast cell-cycle regulation based on multisite phosphorylation. *Molecular Systems Biology*, **2010**, 6, 405	12.2	88
91	A general G1/S-phase cell-cycle control module in the flowering plant Arabidopsis thaliana. *PLoS Genetics*, **2012**, 8, e1002847	6	86
90	The influence of catalysis on mad2 activation dynamics. *PLoS Biology*, **2009**, 7, e10	9.7	79
89	Chemical kinetic theory: understanding cell-cycle regulation. *Trends in Biochemical Sciences*, **1996**, 21, 89-96	10.3	79
88	A Dynamical Framework for the All-or-None G1/S Transition. *Cell Systems*, **2016**, 2, 27-37	10.6	77
87	Quantitative analysis of a molecular model of mitotic control in fission yeast. *Journal of Theoretical Biology*, **1995**, 173, 283-305	2.3	77
86	Irreversibility of mitotic exit is the consequence of systems-level feedback. *Nature*, **2009**, 459, 592-5	50.4	73
85	Mathematical model of the morphogenesis checkpoint in budding yeast. *Journal of Cell Biology*, **2003**, 163, 1243-54	7.3	67

84	Nutritional Control of Cell Size by the Greatwall-Endosulfine-PP2A□B55 Pathway. *Current Biology*, **2016**, 26, 319-30	6.3	63
83	Meiotic prophase requires proteolysis of M phase regulators mediated by the meiosis-specific APC/CAma1. *Cell*, **2012**, 151, 603-18	56.2	62
82	Bistability by multiple phosphorylation of regulatory proteins. *Progress in Biophysics and Molecular Biology*, **2009**, 100, 47-56	4.7	62
81	Antagonism and bistability in protein interaction networks. *Journal of Theoretical Biology*, **2008**, 250, 209-18	2.3	56
80	Modelling the controls of the eukaryotic cell cycle. *Biochemical Society Transactions*, **2003**, 31, 1526-9	5.1	54
79	Dependency of the spindle assembly checkpoint on Cdk1 renders the anaphase transition irreversible. *Current Biology*, **2014**, 24, 630-7	6.3	53
78	Modeling M-phase control in Xenopus oocyte extracts: the surveillance mechanism for unreplicated DNA. *Biophysical Chemistry*, **1998**, 72, 169-84	3.5	51
77	PP2A/B55 and Fcp1 regulate Greatwall and Ensa dephosphorylation during mitotic exit. *PLoS Genetics*, **2014**, 10, e1004004	6	49
76	Two Bistable Switches Govern M Phase Entry. *Current Biology*, **2016**, 26, 3361-3367	6.3	48
75	Molecular mechanisms creating bistable switches at cell cycle transitions. *Open Biology*, **2013**, 3, 120179	7	48
74	Kinetochore-microtubule error correction is driven by differentially regulated interaction modes. *Nature Cell Biology*, **2015**, 17, 421-33	23.4	47
73	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	3.5	47
72	Finishing the cell cycle. *Journal of Theoretical Biology*, **1999**, 199, 223-33	2.3	47
71	A comprehensive model for the proliferation-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	11.5	44
70	Absolute quantification of cohesin, CTCF and their regulators in human cells. *ELife*, **2019**, 8,	8.9	44
69	Models in biology: lessons from modeling regulation of the eukaryotic cell cycle. *BMC Biology*, **2015** , 13, 46	7.3	43
68	System-level feedbacks make the anaphase switch irreversible. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 10016-21	11.5	43
67	Cell cycle control by a minimal Cdk network. *PLoS Computational Biology*, **2015**, 11, e1004056	5	41

66	Regulated protein kinases and phosphatases in cell cycle decisions. *Current Opinion in Cell Biology*, **2010**, 22, 801-8	9	41
65	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, 15275-80	11.5	38
64	Human chromosome segregation involves multi-layered regulation of separase by the peptidyl-prolyl-isomerase Pin1. *Molecular Cell*, **2015**, 58, 495-506	17.6	37
63	Restriction point control of the mammalian cell cycle via the cyclin E/Cdk2:p27 complex. *FEBS Journal*, **2010**, 277, 357-67	5.7	37
62	Dynamical modeling of syncytial mitotic cycles in Drosophila embryos. *Molecular Systems Biology*, **2007**, 3, 131	12.2	37
61	Cell cycle regulation by feed-forward loops coupling transcription and phosphorylation. *Molecular Systems Biology*, **2009**, 5, 236	12.2	35
60	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	3.5	35
59	Modelling the fission yeast cell cycle. *Briefings in Functional Genomics & Proteomics*, **2004**, 2, 298-307		34
58	The cell cycle. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2011**, 366, 3494-7	5.8	33
57	Two Interlinked Bistable Switches Govern Mitotic Control in Mammalian Cells. *Current Biology*, **2018** , 28, 3824-3832.e6	6.3	32
56	Protein phosphatase 2A controls the order and dynamics of cell-cycle transitions. *Molecular Cell*, **2011**, 44, 437-50	17.6	31
55	System-level feedbacks control cell cycle progression. *FEBS Letters*, **2009**, 583, 3992-8	3.8	30
54	Spatial controls for growth zone formation during the fission yeast cell cycle. *Yeast*, **2008**, 25, 59-69	3.4	29
53	Spatiotemporal dynamics of Spc105 regulates the assembly of the Drosophila kinetochore. *Open Biology*, **2012**, 2, 110032	7	28
52	Dilution and titration of cell-cycle regulators may control cell size in budding yeast. *PLoS Computational Biology*, **2018**, 14, e1006548	5	28
51	CDK1-CCNB1 creates a spindle checkpoint-permissive state by enabling MPS1 kinetochore localization. *Journal of Cell Biology*, **2019**, 218, 1182-1199	7.3	27
50	A Dynamical Paradigm for Molecular Cell Biology. *Trends in Cell Biology*, **2020**, 30, 504-515	18.3	27
49	Time scale and dimension analysis of a budding yeast cell cycle model. *BMC Bioinformatics*, **2006**, 7, 494	3.6	26

48	Microtubules offset growth site from the cell centre in fission yeast. *Journal of Cell Science*, **2007**, 120, 2205-13	5.3	26
47	Cyclin A triggers Mitosis either via the Greatwall kinase pathway or Cyclin B. *EMBO Journal*, **2020**, 39, e104419	13	25
46	Control of cell growth, division and death: information processing in living cells. *Interface Focus*, **2014**, 4, 20130070	3.9	24
45	Modeling the septation initiation network (SIN) in fission yeast cells. *Current Genetics*, **2007**, 51, 245-55	2.9	23
44	The regulatory network of cell-cycle progression is fundamentally different in plants versus yeast or metazoans. *Plant Signaling and Behavior*, **2010**, 5, 1613-8	2.5	21
43	Computational modelling of mitotic exit in budding yeast: the role of separase and Cdc14 endocycles. *Journal of the Royal Society Interface*, **2011**, 8, 1128-41	4.1	21
42	Checkpoints in the cell cycle from a modelerʼs perspective. *Progress in Cell Cycle Research*, **1995**, 1, 1-8		20
41	Mitotic exit in two dimensions. *Journal of Theoretical Biology*, **2007**, 248, 560-73	2.3	19
40	A structural systems biology approach for quantifying the systemic consequences of missense mutations in proteins. *PLoS Computational Biology*, **2012**, 8, e1002738	5	17
39	Model scenarios for switch-like mitotic transitions. *FEBS Letters*, **2015**, 589, 667-71	3.8	15
38	The role of APC/C inhibitor Emi2/XErp1 in oscillatory dynamics of early embryonic cell cycles. *Biophysical Chemistry*, **2013**, 177-178, 1-6	3.5	15
37	Different effects of redundant feedback loops on a bistable switch. *Chaos*, **2010**, 20, 045120	3.3	15
36	Rewiring the Exit from Mitosis. *Cell Cycle*, **2005**, 4, 4107-4112	4.7	15
35	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	10.6	13
34	Minimal models for cell-cycle control based on competitive inhibition and multisite phosphorylations of Cdk substrates. *Biophysical Journal*, **2013**, 104, 1367-79	2.9	13
33	A model for the epigenetic switch linking inflammation to cell transformation: deterministic and stochastic approaches. *PLoS Computational Biology*, **2014**, 10, e1003455	5	13
32	Cell cycle commitment in budding yeast emerges from the cooperation of multiple bistable switches. *Open Biology*, **2011**, 1, 110009	7	13
31	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, 9899-904	11.5	13

30	Analysis of a budding yeast cell cycle model using the shapes of local sensitivity functions. *International Journal of Chemical Kinetics*, **2008**, 40, 710-720	1.4	13
29	Cell-cycle transitions: a common role for stoichiometric inhibitors. *Molecular Biology of the Cell*, **2017**, 28, 3437-3446	3.5	12
28	Interlinked bistable mechanisms generate robust mitotic transitions. *Cell Cycle*, **2017**, 16, 1885-1892	4.7	12
27	Robust mitotic entry is ensured by a latching switch. *Biology Open*, **2013**, 2, 924-31	2.2	12
26	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	3.7	12
25	Overexpression limits of fission yeast cell-cycle regulators in vivo and in silico. *Molecular Systems Biology*, **2011**, 7, 556	12.2	12
24	Mitotic exit in mammalian cells. *Molecular Systems Biology*, **2009**, 5, 324	12.2	12
23	Dynamical scenarios for chromosome bi-orientation. *Biophysical Journal*, **2013**, 104, 2595-606	2.9	11
22	Reverse engineering models of cell cycle regulation. *Advances in Experimental Medicine and Biology*, **2008**, 641, 88-97	3.6	11
21	Systems-level feedback in cell-cycle control. *Biochemical Society Transactions*, **2010**, 38, 1242-6	5.1	10
20	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	3.2	9
19	Irreversible Transitions, Bistability and Checkpoint Controls in the Eukaryotic Cell Cycle: A Systems-Level Understanding **2013**, 265-285		9
18	Cell cycle: who turns the crank?. *Current Biology*, **2011**, 21, R185-7	6.3	8
17	Rewiring the exit from mitosis. *Cell Cycle*, **2005**, 4, 1107-12	4.7	8
16	Mechanisms of signalling-memory governing progression through the eukaryotic cell cycle. *Current Opinion in Cell Biology*, **2021**, 69, 7-16	9	7
15	Bistability, oscillations, and traveling waves in frog egg extracts. *Bulletin of Mathematical Biology*, **2015**, 77, 796-816	2.1	6
14	Mathematical model for growth regulation of fission yeast Schizosaccharomyces pombe. *PLoS ONE*, **2012**, 7, e49675	3.7	6
13	CDK-dependent nuclear localization of B-cyclin Clb1 promotes FEAR activation during meiosis I in budding yeast. *PLoS ONE*, **2013**, 8, e79001	3.7	6

12	A Single Light-Responsive Sizer Can Control Multiple-Fission Cycles in Chlamydomonas. *Current Biology*, **2020**, 30, 634-644.e7	6.3	6
11	APC/C Enables Removal of Shugoshin-2 from the Arms of Bivalent Chromosomes by Moderating Cyclin-Dependent Kinase Activity. *Current Biology*, **2017**, 27, 1462-1476.e5	6.3	5
10	Checkpoints in the Cell Cycle **2003**,		5
9	Interplay of transcriptional and proteolytic regulation in driving robust cell cycle progression. *Molecular BioSystems*, **2012**, 8, 863-70		4
8	Role for regulated phosphatase activity in generating mitotic oscillations in Xenopus cell-free extracts. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 20539-44	11.5	3
7	Systems biology of the yeast cell cycle engine305-324		3
6	Pom1 is not the size ruler. *Cell Cycle*, **2013**, 12, 3463-4	4.7	1
5	Computational modelling of chromosome re-replication in mutant strains of fission yeast		1
4	Mechanisms of signalling-memory governing progression through the eukaryotic cell cycle		1
3	Morphogenetic checkpoint in fission yeast? Yes!. *Microbiology (United Kingdom)*, **2002**, 148, 2270-2271	2.9	1
2	Systems-level feedback regulation of cell cycle transitions in Ostreococcus tauri. *Plant Physiology and Biochemistry*, **2018**, 126, 39-46	5.4	0
1	Computational modeling of chromosome re-replication in mutant strains of fission yeast. *Molecular Biology of the Cell*, **2021**, 32, 830-841	3.5	