Vladimir Yarov-Yarovoy

List of Publications by Year in Descending Order

92 papers	6,527 citations	40 h-index	80 g-index
158 ext. papers	7,354 ext. citations	5.7 avg, IF	5.54 L-index

#	Paper	IF	Citations
92	Towards Structure-Guided Development of Pain Therapeutics Targeting Voltage-Gated Sodium Channels.. *Frontiers in Pharmacology*, **2022**, 13, 842032	5.6	0
91	Structural insights into TRPV2 activation by small molecules.. *Nature Communications*, **2022**, 13, 2334	17.4	1
90	Ensuring scientific reproducibility in bio-macromolecular modeling via extensive, automated benchmarks. *Nature Communications*, **2021**, 12, 6947	17.4	0
89	Toggle switch residues control allosteric transitions in bacterial adhesins by participating in a concerted repacking of the protein core. *PLoS Pathogens*, **2021**, 17, e1009440	7.6	0
88	De Novo Design of Peptidic Positive Allosteric Modulators Targeting TRPV1 with Analgesic Effects. *Advanced Science*, **2021**, 8, e2101716	13.6	3
87	Molecular determinants of pro-arrhythmia proclivity of d- and l-sotalol via a multi-scale modeling pipeline. *Journal of Molecular and Cellular Cardiology*, **2021**, 158, 163-177	5.8	0
86	Directed Evolution of a Selective and Sensitive Serotonin Sensor via Machine Learning. *Cell*, **2020**, 183, 1986-2002.e26	56.2	34
85	Actinin-1 promotes activity of the L-type Ca channel Ca 1.2. *EMBO Journal*, **2020**, 39, e102622	13	10
84	Distinguishing Potassium Channel Resting State Conformations in Live Cells with Environment-Sensitive Fluorescence. *ACS Chemical Neuroscience*, **2020**, 11, 2316-2326	5.7	3
83	A Computational Pipeline to Predict Cardiotoxicity: From the Atom to the Rhythm. *Circulation Research*, **2020**, 126, 947-964	15.7	27
82	Veratridine: A Janus-Faced Modulator of Voltage-Gated Sodium Ion Channels. *ACS Chemical Neuroscience*, **2020**, 11, 418-426	5.7	5
81	New capsaicin analogs as molecular rulers to define the permissive conformation of the mouse TRPV1 ligand-binding pocket. *ELife*, **2020**, 9,	8.9	5
80	Different arrhythmia-associated calmodulin mutations have distinct effects on cardiac SK channel regulation. *Journal of General Physiology*, **2020**, 152,	3.4	4
79	Gating Properties of Mutant Sodium Channels and Responses to Sodium Current Inhibitors Predict Mexiletine-Sensitive Mutations of Long QT Syndrome 3. *Frontiers in Pharmacology*, **2020**, 11, 1182	5.6	4
78	An Unorthodox Mechanism Underlying Voltage Sensitivity of TRPV1 Ion Channel. *Advanced Science*, **2020**, 7, 2000575	13.6	11
77	Cooperativity of K7.4 channels confers ultrafast electromechanical sensitivity and emergent properties in cochlear outer hair cells. *Science Advances*, **2020**, 6, eaba1104	14.3	11
76	The MX-Helix of Muscle nAChR Subunits Regulates Receptor Assembly and Surface Trafficking. *Frontiers in Molecular Neuroscience*, **2020**, 13, 48	6.1	1

75	The Sodium Channel Voltage Sensor Slides to Rest. *Trends in Pharmacological Sciences*, **2019**, 40, 718-720	13.2	1
74	A distinct structural mechanism underlies TRPV1 activation by piperine. *Biochemical and Biophysical Research Communications*, **2019**, 516, 365-372	3.4	13
73	Structural mechanisms underlying activation of TRPV1 channels by pungent compounds in gingers. *British Journal of Pharmacology*, **2019**, 176, 3364-3377	8.6	14
72	Pathogenic effects of agrin V1727F mutation are isoform specific and decrease its expression and affinity for HSPGs and LRP4. *Human Molecular Genetics*, **2019**, 28, 2648-2658	5.6	4
71	Sensitivity to the two peptide bacteriocin plantaricin EF is dependent on CorC, a membrane-bound, magnesium/cobalt efflux protein. *MicrobiologyOpen*, **2019**, 8, e827	3.4	12
70	Antibodies and venom peptides: new modalities for ion channels. *Nature Reviews Drug Discovery*, **2019**, 18, 339-357	64.1	68
69	Structural basis for antiarrhythmic drug interactions with the human cardiac sodium channel. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 2945-2954	11.5	41
68	The Trials and Tribulations of Structure Assisted Design of K Channel Activators. *Frontiers in Pharmacology*, **2019**, 10, 972	5.6	5
67	Opening TRPP2 () requires the transfer of gating charges. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 15540-15549	11.5	10
66	The conformational wave in capsaicin activation of transient receptor potential vanilloid 1 ion channel. *Nature Communications*, **2018**, 9, 2879	17.4	33
65	Structural Insights into the Atomistic Mechanisms of Action of Small Molecule Inhibitors Targeting the KCa3.1 Channel Pore. *Molecular Pharmacology*, **2017**, 91, 392-402	4.3	26
64	A novel tarantula toxin stabilizes the deactivated voltage sensor of bacterial sodium channel. *FASEB Journal*, **2017**, 31, 3167-3178	0.9	5
63	In vivo optophysiology reveals that G-protein activation triggers osmotic swelling and increased light scattering of rod photoreceptors. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E2937-E2946	11.5	77
62	Gain-of-function mutation of a voltage-gated sodium channel Na1.7 associated with peripheral pain and impaired limb development. *Journal of Biological Chemistry*, **2017**, 292, 9262-9272	5.4	15
61	Structural Determinants for the Selectivity of the Positive KCa3.1 Gating Modulator 5-Methylnaphtho[2,1-]oxazol-2-amine (SKA-121). *Molecular Pharmacology*, **2017**, 92, 469-480	4.3	9
60	Potassium channels in the heart: structure, function and regulation. *Journal of Physiology*, **2017**, 595, 2209-2228	3.9	49
59	Activity-Dependent Palmitoylation Controls SynDIG1 Stability, Localization, and Function. *Journal of Neuroscience*, **2016**, 36, 7562-8	6.6	21
58	Rational design and validation of a vanilloid-sensitive TRPV2 ion channel. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E3657-66	11.5	33

57	Mechanisms of Calmodulin Regulation of Different Isoforms of Kv7.4 K+ Channels. *Journal of Biological Chemistry*, **2016**, 291, 2499-509	5.4	11
56	Molecular Interactions in the Voltage Sensor Controlling Gating Properties of CaV Calcium Channels. *Structure*, **2016**, 24, 261-71	5.2	29
55	A Large and Phylogenetically Diverse Class of Type 1 Opsins Lacking a Canonical Retinal Binding Site. *PLoS ONE*, **2016**, 11, e0156543	3.7	7
54	Identification of amino acid determinants in CYP4B1 for optimal catalytic processing of 4-ipomeanol. *Biochemical Journal*, **2015**, 465, 103-14	3.8	37
53	Na+ channel function, regulation, structure, trafficking and sequestration. *Journal of Physiology*, **2015**, 593, 1347-60	3.9	42
52	A pain-inducing centipede toxin targets the heat activation machinery of nociceptor TRPV1. *Nature Communications*, **2015**, 6, 8297	17.4	68
51	Characterization of an Additional Splice Acceptor Site Introduced into CYP4B1 in Hominoidae during Evolution. *PLoS ONE*, **2015**, 10, e0137110	3.7	13
50	Structural mechanism underlying capsaicin binding and activation of the TRPV1 ion channel. *Nature Chemical Biology*, **2015**, 11, 518-524	11.7	181
49	A Polybasic Plasma Membrane Binding Motif in the I-II Linker Stabilizes Voltage-gated CaV1.2 Calcium Channel Function. *Journal of Biological Chemistry*, **2015**, 290, 21086-21100	5.4	21
48	Tarantula toxins use common surfaces for interacting with Kv and ASIC ion channels. *ELife*, **2015**, 4, e06774	8.9	27
47	Functional interaction with filamin A and intracellular Ca2+ enhance the surface membrane expression of a small-conductance Ca2+-activated K+ (SK2) channel. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 9989-94	11.5	35
46	Chemoselective tarantula toxins report voltage activation of wild-type ion channels in live cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E4789-96	11.5	27
45	Local anesthetic and antiepileptic drug access and binding to a bacterial voltage-gated sodium channel. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13057-62	11.5	67
44	Computational Models for Predictive Cardiac Ion Channel Pharmacology. *Drug Discovery Today: Disease Models*, **2014**, 14, 3-10	1.3	11
43	The bipolar assembly domain of the mitotic motor kinesin-5. *Nature Communications*, **2013**, 4, 1343	17.4	46
42	Adenylyl cyclase subtype-specific compartmentalization: differential regulation of L-type Ca2+ current in ventricular myocytes. *Circulation Research*, **2013**, 112, 1567-76	15.7	62
41	First insights into structure-function relationships of alkylglycerol monooxygenase. *Pteridines*, **2013**, 24, 99-103	0.6	1
40	Rosetta modeling of the inner KCa3.1 pore, a hotspot for small molecule modulation. *FASEB Journal*, **2013**, 27, 913.23	0.9	

39	An emerging consensus on voltage-dependent gating from computational modeling and molecular dynamics simulations. *Journal of General Physiology*, **2012**, 140, 587-94	3.4	141
38	Mapping the interaction site for a β-scorpion toxin in the pore module of domain III of voltage-gated Na(+) channels. *Journal of Biological Chemistry*, **2012**, 287, 30719-28	5.4	55
37	LG2 agrin mutation causing severe congenital myasthenic syndrome mimics functional characteristics of non-neural (z-) agrin. *Human Genetics*, **2012**, 131, 1123-35	6.3	75
36	Catalytic residues and a predicted structure of tetrahydrobiopterin-dependent alkylglycerol mono-oxygenase. *Biochemical Journal*, **2012**, 443, 279-86	3.8	16
35	Selective disruption of high sensitivity heat activation but not capsaicin activation of TRPV1 channels by pore turret mutations. *Journal of General Physiology*, **2012**, 139, 273-83	3.4	82
34	Structural basis for gating charge movement in the voltage sensor of a sodium channel. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, E93-102	11.5	176
33	Na+/K+-ATPase E960 and phospholemman F28 are critical for their functional interaction. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 20756-61	11.5	12
32	Finding homes for orphan cytochrome P450s: CYP4V2 and CYP4F22 in disease states. *Molecular Interventions: Pharmacological Perspectives From Biology, Chemistry and Genomics*, **2011**, 11, 124-32		39
31	Structure-function map of the receptor site for β-scorpion toxins in domain II of voltage-gated sodium channels. *Journal of Biological Chemistry*, **2011**, 286, 33641-51	5.4	66
30	Mapping the receptor site for alpha-scorpion toxins on a Na+ channel voltage sensor. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 15426-31	11.5	110
29	Constitutive coupling of a naturally occurring human alpha1a-adrenergic receptor genetic variant to EGFR transactivation pathway. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 19796-801	11.5	23
28	Gating charge interactions with the S1 segment during activation of a Na+ channel voltage sensor. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 18825-30	11.5	63
27	Allosteric catch bond properties of the FimH adhesin from Salmonella enterica serovar Typhimurium. *Journal of Biological Chemistry*, **2011**, 286, 38136-38147	5.4	18
26	Helical motion of an S4 voltage sensor revealed by gating pore currents. *Channels*, **2010**, 4, 75-7	3	5
25	Calculation of the gating charge for the Kv1.2 voltage-activated potassium channel. *Biophysical Journal*, **2010**, 98, 2189-98	2.9	121
24	Structural refinement of the hERG1 pore and voltage-sensing domains with ROSETTA-membrane and molecular dynamics simulations. *Proteins: Structure, Function and Bioinformatics*, **2010**, 78, 2922-34	4.2	44
23	Sequential formation of ion pairs during activation of a sodium channel voltage sensor. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 22498-503	11.5	117
22	Interactions of H562 in the S5 helix with T618 and S621 in the pore helix are important determinants of hERG1 potassium channel structure and function. *Biophysical Journal*, **2009**, 96, 3600-10	2.9	35

21	Disulfide locking a sodium channel voltage sensor reveals ion pair formation during activation. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 15142-7	11.5	103
20	Interdomain interaction in the FimH adhesin of Escherichia coli regulates the affinity to mannose. *Journal of Biological Chemistry*, **2007**, 282, 23437-46	5.4	103
19	Voltage-gated ion channels and gating modifier toxins. *Toxicon*, **2007**, 49, 124-41	2.8	489
18	Closing in on the resting state of the Shaker K(+) channel. *Neuron*, **2007**, 56, 124-40	13.9	243
17	Structure and function of the voltage sensor of sodium channels probed by a beta-scorpion toxin. *Journal of Biological Chemistry*, **2006**, 281, 21332-21344	5.4	115
16	Voltage sensor conformations in the open and closed states in ROSETTA structural models of K(+) channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 7292-7	11.5	196
15	Autoinhibitory control of the CaV1.2 channel by its proteolytically processed distal C-terminal domain. *Journal of Physiology*, **2006**, 576, 87-102	3.9	137
14	Multipass membrane protein structure prediction using Rosetta. *Proteins: Structure, Function and Bioinformatics*, **2006**, 62, 1010-25	4.2	260
13	Overview of molecular relationships in the voltage-gated ion channel superfamily. *Pharmacological Reviews*, **2005**, 57, 387-95	22.5	345
12	A gating hinge in Na+ channels; a molecular switch for electrical signaling. *Neuron*, **2004**, 41, 859-65	13.9	127
11	Differential interactions of lamotrigine and related drugs with transmembrane segment IVS6 of voltage-gated sodium channels. *Neuropharmacology*, **2003**, 44, 413-22	5.5	89
10	Role of amino acid residues in transmembrane segments IS6 and IIS6 of the Na+ channel alpha subunit in voltage-dependent gating and drug block. *Journal of Biological Chemistry*, **2002**, 277, 35393-401	5.4	185
9	Molecular determinants of voltage-dependent gating and binding of pore-blocking drugs in transmembrane segment IIIS6 of the Na(+) channel alpha subunit. *Journal of Biological Chemistry*, **2001**, 276, 20-7	5.4	193
8	State-dependent Inhibition of the Mitochondrial KATP Channel by Glyburide and 5-Hydroxydecanoate. *Journal of Biological Chemistry*, **1998**, 273, 13578-13582	5.4	177
7	State-dependent inhibition of the mitochondrial KATP channel by glyburide and 5-hydroxydecanoate. *Journal of Biological Chemistry*, **1998**, 273, 13578-82	5.4	148
6	The nucleotide regulatory sites on the mitochondrial KATP channel face the cytosol. *Biochimica Et Biophysica Acta - Bioenergetics*, **1997**, 1321, 128-36	4.6	43
5	Cardioprotective effect of diazoxide and its interaction with mitochondrial ATP-sensitive K+ channels. Possible mechanism of cardioprotection. *Circulation Research*, **1997**, 81, 1072-82	15.7	707
4	Inhibition of the mitochondrial KATP channel by long-chain acyl-CoA esters and activation by guanine nucleotides. *Journal of Biological Chemistry*, **1996**, 271, 32084-8	5.4	72

3	The mitochondrial KATP channel as a receptor for potassium channel openers. *Journal of Biological Chemistry*, **1996**, 271, 8796-9	5.4	340
2	Actinin-1 promotes activity of the L-type Ca2+ Channel CaV1.2		1
1	Atomistic modeling towards predictive cardiotoxicity		2