Vicente M Aguilella

List of Publications by Year
in descending order

119 papers	3,515 citations	172207 29 h-index	149479 56 g-index
121 all docs	121 docs citations	121 times ranked	4186 citing authors

#	Article	IF	Citations
1	PEG Equilibrium Partitioning in the Î±-Hemolysin Channel: Neutral Polymer Interaction with Channel Charges. Biomacromolecules, 2021, 22, 410-418.	2.6	3
2	Assessing the Role of Electrostatic Interactions in the Mechanism of Beta-Barrel Channel Gating. Biophysical Journal, 2021, 120, 156a.	0.2	0
3	Î±-Synuclein emerges as a potent regulator of VDAC-facilitated calcium transport. Cell Calcium, 2021, 95, 102355.	1.1	27
4	Transport mechanisms of SARS-CoV-E viroporin in calcium solutions: Lipid-dependent Anomalous Mole Fraction Effect and regulation of pore conductance. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183590.	1.4	13
5	Access resistance in protein nanopores. A structure-based computational approach. Bioelectrochemistry, 2020, 131, 107371.	2.4	3
6	Beyond the energy balance: Exergy analysis of an industrial roller kiln firing porcelain tiles. Applied Thermal Engineering, 2019, 150, 1002-1015.	3.0	30
7	Noise Properties of Ion Channels Formed by Pestivirus Viroporin p7. Biophysical Journal, 2019, 116, 221a.	0.2	0
8	Mechanistic Insights into Voltage-Induced Closure of Bacterial Beta-Barrel Channels. Biophysical Journal, 2019, 116, 401a.	0.2	1
9	Interfacial Effects of Ion Channels in Lipid Membranes: Mean-Field Computation from 3D Atomic Structures Versus Analytical Estimates. Biophysical Journal, 2019, 116, 219a.	0.2	0
10	Mutation-induced changes of transmembrane pore size revealed by combined ion-channel conductance and single vesicle permeabilization analyses. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 1015-1021.	1.4	7
11	Effect of the Endosomal Acidification on Small Ion Transport Through the Anthrax Toxin PA63 Channel. Biophysical Journal, 2018, 114, 559a.	0.2	0
12	Interfacial Effects Dominate Ion Permeation through Membrane Channels in Low Ionic Strength Solutions. Biophysical Journal, 2018, 114, 260a.	0.2	0
13	Molecular Characterization of the Viroporin Function of Foot-and-Mouth Disease Virus Nonstructural Protein 2B. Journal of Virology, 2018, 92, .	1.5	12
14	Scaling Behavior of Ionic Transport in Membrane Nanochannels. Nano Letters, 2018, 18, 6604-6610.	4.5	20
15	Role of Severe Acute Respiratory Syndrome Coronavirus Viroporins E, 3a, and 8a in Replication and Pathogenesis. MBio, 2018, 9, .	1.8	248
16	Scaling Laws for Ionic Transport in Nanochannels: Bulk, Surface and Interfacial Effects. Biophysical Journal, 2018, 114, 609a.	0.2	0
17	Fluctuation-Driven Transport in Bacterial Channels under Acidic Stress. Biophysical Journal, 2017, 112, 545a.	0.2	0
18	Channel-Inactivating Mutations and Their Revertant Mutants in the Envelope Protein of Infectious Bronchitis Virus. Journal of Virology, 2017, 91, .	1.5	27

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19	Effect of endosomal acidification on small ion transport through the anthrax toxin <scp>PA</scp>₆₃ channel. FEBS Letters, 2017, 591, 3481-3492.	1.3	5
20	Ion Transport in Confined Geometries below the Nanoscale: Access Resistance Dominates Protein Channel Conductance in Diluted Solutions. ACS Nano, 2017, 11, 10392-10400.	7.3	30
21	Buried Charges and their Effect on Ion Channel Selectivity. Analytical Solutions, Numerical Calculations and MD Simulations. Biophysical Journal, 2016, 110, 245a.	0.2	0
22	CSFV p7 Viroporin ION Channel Activity in Lipid Bilayers Mimicking theÂER Membrane. Biophysical Journal, 2016, 110, 115a.	0.2	1
23	Ion channel activity of the CSFV p7 viroporin in surrogates of the ER lipid bilayer. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 30-37.	1.4	14
24	Relevance of SARS-CoV E Protein Ion Channel Activity in Virus Pathogenesis. Biophysical Journal, 2015, 108, 582a.	0.2	0
25	Relevance of Viroporin Ion Channel Activity on Viral Replication and Pathogenesis. Viruses, 2015, 7, 3552-3573.	1.5	76
26	Selectivity of Protein Ion Channels and the Role of Buried Charges. Analytical Solutions, Numerical Calculations, and MD Simulations. Journal of Physical Chemistry B, 2015, 119, 8475-8479.	1.2	8
27	MERS coronavirus envelope protein has a single transmembrane domain that forms pentameric ion channels. Virus Research, 2015, 201, 61-66.	1.1	84
28	Current Fluctuation Analysis in a Protein Nanopore. Biophysical Journal, 2015, 108, 634a.	0.2	0
29	Severe acute respiratory syndrome coronavirus E protein transports calcium ions and activates the NLRP3 inflammasome. Virology, 2015, 485, 330-339.	1.1	427
30	Bacterial Porins. Springer Series in Biophysics, 2015, , 101-121.	0.4	0
31	Severe Acute Respiratory Syndrome Coronavirus Envelope Protein Ion Channel Activity Promotes Virus Fitness and Pathogenesis. PLoS Pathogens, 2014, 10, e1004077.	2.1	440
32	Lipid charge regulation of non-specific biological ion channels. Physical Chemistry Chemical Physics, 2014, 16, 3881-3893.	1.3	21
33	Entropyâ€"enthalpy compensation at the single protein level: pH sensing in the bacterial channel OmpF. Nanoscale, 2014, 6, 15210-15215.	2.8	7
34	Amphiphilic COSAN and I2-COSAN crossing synthetic lipid membranes: planar bilayers and liposomes. Chemical Communications, 2014, 50, 6700.	2.2	68
35	Acidification Asymmetrically Affects Voltage-dependent Anion Channel Implicating the Involvement of Salt Bridges. Journal of Biological Chemistry, 2014, 289, 23670-23682.	1.6	44
36	Inhibition of the Human Respiratory Syncytial Virus Small Hydrophobic Protein and Structural Variations in a Bicelle Environment. Journal of Virology, 2014, 88, 11899-11914.	1.5	40

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37	Experimental Observation of Surface Charge Inversion in a Biological Nanopore in Presence of Monovalent and Multivalent Cations. Biophysical Journal, 2014, 106, 210a.	0.2	0
38	Electrical Pumping of Potassium Ions Against an External Concentration Gradient in a Biological Ion Channel. Biophysical Journal, 2014, 106, 416a.	0.2	0
39	Cobaltabisdicarbollide Macroanion is able to Diffuse across the Lipid Membrane; Study of Kinetics and Transport. Biophysical Journal, 2014, 106, 210a.	0.2	0
40	Current Fluctuation Analysis to Study Mg2+-Binding in the Bacterial Porin OmpF. Biophysical Journal, 2013, 104, 630a.	0.2	0
41	Current Insights into the Molecular Mechanisms of VDAC-Tubulin Interaction. Biophysical Journal, 2013, 104, 215a.	0.2	0
42	Analysis of SARS-CoV E protein ion channel activity by tuning the protein and lipid charge. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 2026-2031.	1.4	82
43	Electrical pumping of potassium ions against an external concentration gradient in a biological ion channel. Applied Physics Letters, 2013, 103, .	1.5	36
44	Ion Channels Formed by SARS Coronavirus Envelope Protein: Lipid Regulation of Conductance and Selectivity. Biophysical Journal, 2013, 104, 632a.	0.2	1
45	Electrostatic Interactions Drive the Nonsteric Directional Block of OmpF Channel by La³⁺. Langmuir, 2013, 29, 15320-15327.	1.6	10
46	A Step Forward in Understanding the Mechanism of VDAC Voltage-Gating. Biophysical Journal, 2013, 104, 655a.	0.2	0
47	La3+-Induced Asymmetric Current Inhibition in OmpF Channel. Biophysical Journal, 2013, 104, 630a.	0.2	0
48	Hydrophobic Pulmonary Surfactant Proteins SP-B and SP-C Induce Pore Formation in Planar Lipid Membranes: Evidence for Proteolipid Pores. Biophysical Journal, 2013, 104, 146-155.	0.2	45
49	Divalent Metal Ion Transport across Large Biological Ion Channels and Their Effect on Conductance and Selectivity. Biochemistry Research International, 2012, 2012, 1-12.	1.5	6
50	Modulation of Conductance and Ion Selectivity of OmpF Porin by La3+ÂIons. Biophysical Journal, 2012, 102, 335a.	0.2	0
51	On Channel Activity of Synthetic Peptides Derived from Severe and Acute Respiratory Syndrome Coronavirus (SARS-CoV) E Protein. Biophysical Journal, 2012, 102, 656a-657a.	0.2	2
52	Protein Ion Channels as Molecular Ratchets. Switchable Current Modulation in Outer Membrane Protein F Porin Induced by Millimolar La³⁺ Ions. Journal of Physical Chemistry C, 2012, 116, 6537-6542.	1.5	28
53	Coronavirus E protein forms ion channels with functionally and structurally-involved membrane lipids. Virology, 2012, 432, 485-494.	1.1	189
54	Increased salt concentration promotes competitive block of OmpF channel by protons. Biochimica Et Biophysica Acta - Biomembranes, 2012, 1818, 2777-2782.	1.4	16

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55	Tubulin-Blocked State of VDAC Probed by Polymer Partitioning and Bilayer Surface Charge. Biophysical Journal, 2012, 102, 161a.	0.2	1
56	Probing Tubulin-Blocked State of VDAC by Varying Membrane Surface Charge. Biophysical Journal, 2012, 102, 2070-2076.	0.2	20
57	Entropic Modulation of Ion Transport through OmpF Channel. Molecular Basis of pH Sensing Derived from Cooperative Interactions. Biophysical Journal, 2012, 102, 269a-270a.	0.2	1
58	Insights on the permeability of wide protein channels: measurement and interpretation of ion selectivity. Integrative Biology (United Kingdom), 2011, 3, 159-172.	0.6	49
59	Measurement and Interpretation of Ion Selectivity in Wide Channels: Merging Information from Different Approaches. Biophysical Journal, 2011, 100, 577a.	0.2	0
60	Effect of Hydrophobic Surfactant Proteins SP-B and SP-C on the Permeability of Phospholipid Membranes. Biophysical Journal, 2011, 100, 337a.	0.2	0
61	Effects of Divalent Cations on the Single-Channel Conductance of the OmpF Channel: Linearity, Saturation and Blocking. Biophysical Journal, 2011, 100, 577a.	0.2	0
62	Linearity, saturation and blocking in a large multiionic channel: Divalent cation modulation of the OmpF porin conductance. Biochemical and Biophysical Research Communications, 2011, 404, 330-334.	1.0	15
63	Continuum electrostatic calculations of the pKa of ionizable residues in an ion channel: Dynamic vs. static input structure. European Physical Journal E, 2010, 31, 429-439.	0.7	5
64	Overcharging below the nanoscale: Multivalent cations reverse the ion selectivity of a biological channel. Physical Review E, 2010, 81, 021912.	0.8	40
65	Critical assessment of OmpF channel selectivity: merging information from different experimental protocols. Journal of Physics Condensed Matter, 2010, 22, 454106.	0.7	9
66	Electrostatic Properties of VDAC Channel: Structure Vs. Selectivity. Biophysical Journal, 2010, 98, 208a.	0.2	0
67	Overcharging Below the Nanoscale: Multivalent Cations Reverse the Ion Selectivity of a Biological Channel. Biophysical Journal, 2010, 98, 17a.	0.2	0
68	Increased Salt Concentration Promotes Negative Cooperativity in OmpF Channel. Biophysical Journal, 2010, 98, 333a.	0.2	0
69	A fluid approach to simple circuits. Nature Nanotechnology, 2009, 4, 403-404.	15.6	16
70	Directional ion selectivity in a biological nanopore with bipolar structure. Journal of Membrane Science, 2009, 331, 137-142.	4.1	38
71	Diffusion, Exclusion, and Specific Binding in a Large Channel: A Study of OmpF Selectivity Inversion. Biophysical Journal, 2009, 96, 56-66.	0.2	77
72	Dielectric saturation of water in a membrane protein channel. Physical Chemistry Chemical Physics, 2009, 11, 358-365.	1.3	58

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73	Dielectric Saturation of Water in a Protein Channel. Biophysical Journal, 2009, 96, 603a.	0.2	0
74	Ion Selectivity of a Biological Channel at High Concentration Ratio: Insights on Small Ion Diffusion and Binding. Journal of Physical Chemistry B, 2009, 113, 8745-8751.	1.2	27
75	Negative Cooperativity in a Protein Ion Channel Revealed by Current Noise, Conductance and Selectivity Experiments. Biophysical Journal, 2009, 96, 603a.	0.2	0
76	Directional Ion Selectivity In An Ion Channel With Bipolar Charge Distribution. Biophysical Journal, 2009, 96, 662a.	0.2	0
77	Rectification Properties and pH-Dependent Selectivity of Meningococcal Class 1 Porin. Biophysical Journal, 2008, 94, 1194-1202.	0.2	12
78	Electrostatic properties and macroscopic electrodiffusion in OmpF porin and mutants. Bioelectrochemistry, 2007, 70, 320-327.	2.4	40
79	A pH-Tunable Nanofluidic Diode:Â Electrochemical Rectification in a Reconstituted Single Ion Channel. Journal of Physical Chemistry B, 2006, 110, 21205-21209.	1.2	117
80	Theoretical Description of the Ion Transport Across Nanopores With Titratable Fixed Charges: Analogies Between Ion Channels and Synthetic Pores. Cell Biochemistry and Biophysics, 2006, 44, 287-312.	0.9	25
81	Computing numerically the access resistance of a pore. European Biophysics Journal, 2005, 34, 314-322.	1.2	45
82	Interaction of a polar molecule with an ion channel. Physical Review E, 2004, 70, 041912.	0.8	7
83	Salting Out the Ionic Selectivity of a Wide Channel: The Asymmetry of OmpF. Biophysical Journal, 2004, 87, 943-957.	0.2	155
84	Heat loss and hypothermia in free diving: Estimation of survival time under water. American Journal of Physics, 2003, 71, 333-337.	0.3	7
85	Synthetic nanopores with fixed charges: An electrodiffusion model for ionic transport. Physical Review E, 2003, 68, 011910.	0.8	49
86	Inward â€œCentrifugalâ€• Force on a Heliumâ€Filled Balloon: An Illustrative Experiment. Physics Teacher, 2002, 40, 214-216.	0.2	2
87	Electrostatics Explains the Shift in VDAC Gating with Salt Activity Gradient. Biophysical Journal, 2002, 82, 1773-1783.	0.2	13
88	A model of pressure-induced interdigitation of phospholipid membranes. Chemical Physics Letters, 2002, 360, 515-520.	1.2	5
89	Reversal Potential of a Wide Ion Channel. Nonuniform Charge Distribution Effects. Journal of Physical Chemistry B, 2001, 105, 9902-9908.	1.2	9
90	Alamethicin channel conductance modified by lipid charge. European Biophysics Journal, 2001, 30, 233-241.	1.2	41

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91	A model of VDAC structural rearrangement in the presence of a salt activity gradient. Chemical Physics Letters, 2001, 348, 102-106.	1.2	0
92	Double layer potential and degree of dissociation in charged lipid monolayers. Chemistry and Physics of Lipids, 2000, 105, 225-229.	1.5	9
93	Gibbs' Dividing Surface between a Fixed-Charge Membrane and an Electrolyte Solution. Application to Electrokinetic Phenomena in Charged Pores. Langmuir, 1999, 15, 6156-6162.	1.6	9
94	Access resistance of a single conducting membrane channel. Biochimica Et Biophysica Acta - Biomembranes, 1998, 1368, 338-342.	1.4	14
95	Ion Permeability of a Membrane with Soft Polar Interfaces. 2. The Polar Zones as the Rate-Determining Step. Langmuir, 1998, 14, 4630-4637.	1.6	3
96	Membrane Surface-Charge Titration Probed by Gramicidin A Channel Conductance. Biophysical Journal, 1998, 75, 1783-1792.	0.2	98
97	Passive transport of small ions through human stratum corneum. Journal of Controlled Release, 1997, 44, 11-18.	4.8	11
98	A Perturbed Electric Double Layer Near a Soft Polar Interface. Journal of Colloid and Interface Science, 1997, 186, 212-214.	5.0	4
99	Ion Permeability of a Membrane with Soft Polar Interfaces. 1. The Hydrophobic Layer as the Rate-Determining Step. Langmuir, 1996, 12, 4817-4827.	1.6	7
100	Ion transport through membranes with soft interfaces. The influence of the polar zone thickness. Thin Solid Films, 1996, 272, 10-14.	0.8	2
101	Electrokinetic phenomena in microporous membranes with a fixed transverse charge distribution. Journal of Membrane Science, 1996, 113, 191-204.	4.1	15
102	The physics of breath-hold diving. Physics Education, 1996, 31, 34-39.	0.3	0
103	Estimation of the pore size and charge density in human cadaver skin. Journal of Controlled Release, 1994, 32, 249-257.	4.8	64
104	Ion adsorption in weakly charged membranes. Effects on salt flux and membrane potential. Langmuir, 1993, 9, 550-554.	1.6	7
105	Effects of temperature and ion transport on water splitting in bipolar membranes. Journal of Membrane Science, 1992, 73, 191-201.	4.1	45
106	Current-voltage curves for ion-exchange membranes. Contributions to the total potential drop. Journal of Membrane Science, 1991, 61, 177-190.	4.1	36
107	Polarization Effects at the Cation-Exchange Membrane--Solution Interface.. Acta Chemica Scandinavica, 1991, 45, 115-121.	0.7	29
108	Thermodynamics of electrokinetic processesâ€"I. Formulations. Electrochimica Acta, 1990, 35, 705-709.	2.6	6

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109	Transport processes through membranes with gaseous electrodes. Electrochimica Acta, 1989, 34, 1385-1386.	2.6	2
110	Ionic transport through a homogeneous membrane in the presence of simultaneous diffusion, conduction and convection. Journal of the Chemical Society Faraday Transactions I, 1989, 85, 223.	1.0	2
111	Observable variables of the transport processes in discountinuous systems. Electrochimica Acta, 1988, 33, 1151-1155.	2.6	15
112	A numerical approach to ionic transport through charged membranes. Journal of Computational Physics, 1988, 75, 1-14.	1.9	16
113	Film control and membrane control in charged membranes. Journal of Membrane Science, 1988, 36, 497-509.	4.1	15
114	A Study of the Failure of the Electroneutrality Assumption in the Vicinity of the Inner Membrane Boundaries. Journal of Non-Equilibrium Thermodynamics, 1987, 12, .	2.4	3
115	On the nature of the diffusion potential derived from Nernst-Planck flux equations by using the electroneutrality assumption. Electrochimica Acta, 1987, 32, 483-488.	2.6	31
116	Validity of the electroneutrality and goldman constant-field assumptions in describing the diffusion potential for ternary electrolyte systems in simple, porous membranes. Journal of Membrane Science, 1986, 29, 117-126.	4.1	10
117	Ionic transport and space charge density in electrolytic solutions as described by Nernst-Planck and Poisson equations. The Journal of Physical Chemistry, 1986, 90, 6045-6050.	2.9	63
118	A finite-difference method for numerical solution of the steady-state nernstâ€”planck equations with non-zero convection and electric current density. Journal of Membrane Science, 1986, 28, 139-149.	4.1	19
119	Ionic Transport Across Porous Charged Membranes and the Goldman Constant Field Assumption. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1986, 90, 867-872.	0.9	26