

# Joseph J Falke

## List of Publications by Year in descending order

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108  
papers

9,215  
citations

36271

51  
h-index

40954

93  
g-index

111  
all docs

111  
docs citations

111  
times ranked

7330  
citing authors

#	ARTICLE	IF	CITATIONS
1	The C2 domain calcium-binding motif: Structural and functional diversity. <i>Protein Science</i> , 1996, 5, 2375-2390.	3.1	770
2	Bacterial chemoreceptors: high-performance signaling in networked arrays. <i>Trends in Biochemical Sciences</i> , 2008, 33, 9-19.	3.7	571
3	THE TWO-COMPONENT SIGNALING PATHWAY OF BACTERIAL CHEMOTAXIS: A Molecular View of Signal Transduction by Receptors, Kinases, and Adaptation Enzymes. <i>Annual Review of Cell and Developmental Biology</i> , 1997, 13, 457-512.	4.0	492
4	Evidence that opioids may have toll-like receptor 4 and MD-2 effects. <i>Brain, Behavior, and Immunity</i> , 2010, 24, 83-95.	2.0	447
5	Transmembrane signaling in bacterial chemoreceptors. <i>Trends in Biochemical Sciences</i> , 2001, 26, 257-265.	3.7	406
6	[16] Purification of proteins using polyhistidine affinity tags. <i>Methods in Enzymology</i> , 2000, 326, 245-254.	0.4	383
7	Molecular Tuning of Ion Binding to Calcium Signaling Proteins. <i>Quarterly Reviews of Biophysics</i> , 1994, 27, 219-290.	2.4	362
8	Signaling and sensory adaptation in <i>Escherichia coli</i> chemoreceptors: 2015 update. <i>Trends in Microbiology</i> , 2015, 23, 257-266.	3.5	317
9	Thermal motions of surface $\alpha$ -helices in the d-galactose chemosensory receptor. <i>Journal of Molecular Biology</i> , 1992, 226, 1219-1235.	2.0	235
10	Single Molecule Diffusion of Membrane-Bound Proteins: Window into Lipid Contacts and Bilayer Dynamics. <i>Biophysical Journal</i> , 2010, 99, 2879-2887.	0.2	161
11	Intermolecular tuning of calmodulin by target peptides and proteins: Differential effects on $Ca^{2+}$ binding and implications for kinase activation. <i>Protein Science</i> , 1997, 6, 794-807.	3.1	148
12	$Ca^{2+}$ -Signaling Cycle of a Membrane-Docking C2 Domain. <i>Biochemistry</i> , 1997, 36, 12011-12018.	1.2	133
13	$Ca^{2+}$ influx is an essential component of the positive-feedback loop that maintains leading-edge structure and activity in macrophages. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 16176-16181.	3.3	131
14	Lock On/Off Disulfides Identify the Transmembrane Signaling Helix of the Aspartate Receptor. <i>Journal of Biological Chemistry</i> , 1995, 270, 24043-24053.	1.6	129
15	Independent Folding and Ligand Specificity of the C2 Calcium-dependent Lipid Binding Domain of Cytosolic Phospholipase A2. <i>Journal of Biological Chemistry</i> , 1998, 273, 1365-1372.	1.6	121
16	C2 Domains from Different $Ca^{2+}$ Signaling Pathways Display Functional and Mechanistic Diversity. <i>Biochemistry</i> , 2001, 40, 3089-3100.	1.2	119
17	Cysteine and Disulfide Scanning Reveals Two Amphiphilic Helices in the Linker Region of the Aspartate Chemoreceptor. <i>Biochemistry</i> , 1998, 37, 10746-10756.	1.2	112
18	Membrane Orientation and Position of the C2 Domain from cPLA2 by Site-Directed Spin Labeling. <i>Biochemistry</i> , 2002, 41, 6282-6292.	1.2	112

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19	Transmembrane signaling by the aspartate receptor: Engineered disulfides reveal static regions of the subunit interface. <i>Biochemistry</i> , 1995, 34, 9722-9733.	1.2	108
20	Specific Translocation of Protein Kinase C $\delta$ to the Plasma Membrane Requires Both Ca <sup>2+</sup> and PIP <sub>2</sub> Recognition by Its C2 Domain. <i>Molecular Biology of the Cell</i> , 2006, 17, 56-66.	0.9	105
21	Fluorine-19 NMR studies of the D-galactose chemosensory receptor. 1. Sugar binding yields a global structural change. <i>Biochemistry</i> , 1991, 30, 4248-4256.	1.2	102
22	C2 Domains of Protein Kinase C Isoforms $\delta$ , $\epsilon$ , and $\zeta$ : Activation Parameters and Calcium Stoichiometries of the Membrane-Bound State. <i>Biochemistry</i> , 2002, 41, 11411-11424.	1.2	102
23	Single-Molecule Fluorescence Studies of a PH Domain: New Insights into the Membrane Docking Reaction. <i>Biophysical Journal</i> , 2009, 96, 566-582.	0.2	99
24	Location of the Membrane-Docking Face on the Ca <sup>2+</sup> -Activated C2 Domain of Cytosolic Phospholipase A <sub>2</sub> . <i>Biochemistry</i> , 1998, 37, 17642-17650.	1.2	93
25	Mechanism of Specific Membrane Targeting by C2 Domains: Localized Pools of Target Lipids Enhance Ca <sup>2+</sup> Affinity. <i>Biochemistry</i> , 2007, 46, 4322-4336.	1.2	92
26	C2 Domain of Protein Kinase C $\delta$ : Elucidation of the Membrane Docking Surface by Site-Directed Fluorescence and Spin Labeling. <i>Biochemistry</i> , 2003, 42, 1254-1265.	1.2	91
27	Engineered Socket Study of Signaling through a Four-Helix Bundle: Evidence for a Yin-Yang Mechanism in the Kinase Control Module of the Aspartate Receptor. <i>Biochemistry</i> , 2009, 48, 9266-9277.	1.2	91
28	New Insights into Bacterial Chemoreceptor Array Structure and Assembly from Electron Cryotomography. <i>Biochemistry</i> , 2014, 53, 1575-1585.	1.2	91
29	Cysteine and Disulfide Scanning Reveals a Regulatory $\delta$ -Helix in the Cytoplasmic Domain of the Aspartate Receptor. <i>Journal of Biological Chemistry</i> , 1997, 272, 32878-32888.	1.6	88
30	Attractant Regulation of the Aspartate Receptor Kinase Complex: Limited Cooperative Interactions between Receptors and Effects of the Receptor Modification State. <i>Biochemistry</i> , 2000, 39, 9486-9493.	1.2	85
31	Structure of the Conserved HAMP Domain in an Intact, Membrane-Bound Chemoreceptor: A Disulfide Mapping Study. <i>Biochemistry</i> , 2007, 46, 13684-13695.	1.2	85
32	Molecular Mechanism of an Oncogenic Mutation That Alters Membrane Targeting: Glu17Lys Modifies the PIP Lipid Specificity of the AKT1 PH Domain. <i>Biochemistry</i> , 2008, 47, 12260-12269.	1.2	83
33	The 3.2 Å Resolution Structure of a Receptor:CheA:CheW Signaling Complex Defines Overlapping Binding Sites and Key Residue Interactions within Bacterial Chemosensory Arrays. <i>Biochemistry</i> , 2013, 52, 3852-3865.	1.2	80
34	Side Chains at the Membrane-Water Interface Modulate the Signaling State of a Transmembrane Receptor. <i>Biochemistry</i> , 2004, 43, 1763-1770.	1.2	79
35	Use of Site-Directed Cysteine and Disulfide Chemistry to Probe Protein Structure and Dynamics: Applications to Soluble and Transmembrane Receptors of Bacterial Chemotaxis. <i>Methods in Enzymology</i> , 2007, 423, 25-51.	0.4	79
36	GRP1 Pleckstrin Homology Domain: Activation Parameters and Novel Search Mechanism for Rare Target Lipid. <i>Biochemistry</i> , 2004, 43, 16161-16173.	1.2	75

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37	Large Amplitude Twisting Motions of an Interdomain Hinge: A Disulfide Trapping Study of the Galactose-Glucose Binding Protein. <i>Biochemistry</i> , 1995, 34, 3048-3055.	1.2	74
38	Effects of Protein Stabilizing Agents on Thermal Backbone Motions: A Disulfide Trapping Study. <i>Biochemistry</i> , 1996, 35, 10595-10600.	1.2	70
39	Attractant- and Disulfide-Induced Conformational Changes in the Ligand Binding Domain of the Chemotaxis Aspartate Receptor: A 19F NMR Study. <i>Biochemistry</i> , 1994, 33, 6100-6109.	1.2	69
40	Regulation of PI3K by PKC and MARCKS: Single-Molecule Analysis of a Reconstituted Signaling Pathway. <i>Biophysical Journal</i> , 2016, 110, 1811-1825.	0.2	68
41	The Core Signaling Proteins of Bacterial Chemotaxis Assemble To Form an Ultrastable Complex. <i>Biochemistry</i> , 2009, 48, 6975-6987.	1.2	67
42	Open conformation of a substrate-binding cleft: fluorine-19 NMR studies of cleft angle in the D-galactose chemosensory receptor. <i>Biochemistry</i> , 1991, 30, 6484-6490.	1.2	66
43	The aspartate receptor cytoplasmic domain: in situ chemical analysis of structure, mechanism and dynamics. <i>Structure</i> , 1999, 7, 829-840.	1.6	66
44	Membrane-Docking Loops of the cPLA2 C2 Domain: A Detailed Structural Analysis of the Protein-Membrane Interface via Site-Directed Spin-Labeling. <i>Biochemistry</i> , 2003, 42, 13227-13240.	1.2	66
45	Lateral diffusion of peripheral membrane proteins on supported lipid bilayers is controlled by the additive frictional drags of (1) bound lipids and (2) protein domains penetrating into the bilayer hydrocarbon core. <i>Chemistry and Physics of Lipids</i> , 2013, 172-173, 67-77.	1.5	65
46	Tuning the Equilibrium Ion Affinity and Selectivity of the EF-Hand Calcium Binding Motif: Substitutions at the Gateway Position. <i>Biochemistry</i> , 1996, 35, 6697-6705.	1.2	64
47	ENZYMOLOGY: A Moving Story. <i>Science</i> , 2002, 295, 1480-1481.	6.0	61
48	Use of EPR Power Saturation to Analyze the Membrane-Docking Geometries of Peripheral Proteins: Applications to C2 Domains. <i>Annual Review of Biophysics and Biomolecular Structure</i> , 2005, 34, 71-90.	18.3	61
49	Conserved Glycine Residues in the Cytoplasmic Domain of the Aspartate Receptor Play Essential Roles in Kinase Coupling and On/Off Switching. <i>Biochemistry</i> , 2005, 44, 7687-7695.	1.2	60
50	Evidence That Both Ligand Binding and Covalent Adaptation Drive a Two-State Equilibrium in the Aspartate Receptor Signaling Complex. <i>Journal of General Physiology</i> , 2001, 118, 693-710.	0.9	57
51	Molecular Mechanism of Membrane Binding of the GRP1 PH Domain. <i>Journal of Molecular Biology</i> , 2013, 425, 3073-3090.	2.0	56
52	Adaptation Mechanism of the Aspartate Receptor: Electrostatics of the Adaptation Subdomain Play a Key Role in Modulating Kinase Activity. <i>Biochemistry</i> , 2005, 44, 1550-1560.	1.2	55
53	Single-Molecule Study Reveals How Receptor and Ras Synergistically Activate PI3K and PIP3 Signaling. <i>Biophysical Journal</i> , 2017, 113, 2396-2405.	0.2	55
54	Self-Induced Docking Site of a Deeply Embedded Peripheral Membrane Protein. <i>Biophysical Journal</i> , 2007, 92, 517-524.	0.2	53

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55	Membrane Docking Geometry and Target Lipid Stoichiometry of Membrane-Bound PKC $\zeta$ C2 Domain: A Combined Molecular Dynamics and Experimental Study. <i>Journal of Molecular Biology</i> , 2010, 402, 301-310.	2.0	53
56	Signaling Domain of the Aspartate Receptor Is a Helical Hairpin with a Localized Kinase Docking Surface: A Cysteine and Disulfide Scanning Studies. <i>Biochemistry</i> , 1999, 38, 9317-9327.	1.2	50
57	CheA Kinase of Bacterial Chemotaxis: A Chemical Mapping of Four Essential Docking Sites. <i>Biochemistry</i> , 2006, 45, 8699-8711.	1.2	50
58	Kinetic Tuning of the EF-Hand Calcium Binding Motif: The Gateway Residue Independently Adjusts (i) Barrier Height and (ii) Equilibrium. <i>Biochemistry</i> , 1996, 35, 1753-1760.	1.2	49
59	Structure of a conserved receptor domain that regulates kinase activity: the cytoplasmic domain of bacterial taxis receptors. <i>Current Opinion in Structural Biology</i> , 2000, 10, 462-469.	2.6	49
60	Fluorine-19 NMR studies of the D-galactose chemosensory receptor. 2. Calcium binding yields a local structural change. <i>Biochemistry</i> , 1991, 30, 4257-4261.	1.2	47
61	The Piston Rises Again. <i>Structure</i> , 2009, 17, 1149-1151.	1.6	44
62	Architecture and signal transduction mechanism of the bacterial chemosensory array: Progress, controversies, and challenges. <i>Current Opinion in Structural Biology</i> , 2014, 29, 85-94.	2.6	44
63	Detection of a Conserved $\zeta$ -Helix in the Kinase-docking Region of the Aspartate Receptor by Cysteine and Disulfide Scanning. <i>Journal of Biological Chemistry</i> , 1998, 273, 25006-25014.	1.6	40
64	Effect of PIP <sub>2</sub> Binding on the Membrane Docking Geometry of PKC $\zeta$ C2 Domain: An EPR Site-Directed Spin-Labeling and Relaxation Study. <i>Biochemistry</i> , 2008, 47, 8301-8316.	1.2	40
65	Single-Molecule Studies Reveal a Hidden Key Step in the Activation Mechanism of Membrane-Bound Protein Kinase C- $\zeta$ . <i>Biochemistry</i> , 2014, 53, 1697-1713.	1.2	40
66	The kinetic cycle of cardiac troponin C: Calcium binding and dissociation at site II trigger slow conformational rearrangements. <i>Protein Science</i> , 1998, 7, 2451-2459.	3.1	38
67	Quantitative Analysis of Aspartate Receptor Signaling Complex Reveals that the Homogeneous Two-state Model is Inadequate: Development of a Heterogeneous Two-state Model. <i>Journal of Molecular Biology</i> , 2003, 326, 1597-1614.	2.0	38
68	Structure, Function, and On/Off Switching of a Core Unit Contact between CheA Kinase and CheW Adaptor Protein in the Bacterial Chemosensory Array: A Disulfide Mapping and Mutagenesis Study. <i>Biochemistry</i> , 2013, 52, 7753-7765.	1.2	36
69	Optimizing the Metal Binding Parameters of an EF-Hand-Like Calcium Chelation Loop: Coordinating Side Chains Play a More Important Tuning Role than Chelation Loop Flexibility. <i>Biochemistry</i> , 1997, 36, 9917-9926.	1.2	35
70	Defining a Key Receptor-CheA Kinase Contact and Elucidating Its Function in the Membrane-Bound Bacterial Chemosensory Array: A Disulfide Mapping and TAM-IDS Study. <i>Biochemistry</i> , 2013, 52, 3866-3880.	1.2	35
71	Evidence that the Adaptation Region of the Aspartate Receptor Is a Dynamic Four-Helix Bundle: Cysteine and Disulfide Scanning Studies. <i>Biochemistry</i> , 2005, 44, 12655-12666.	1.2	32
72	Hydrophobic Contributions to the Membrane Docking of Synaptotagmin 7 C2A Domain: Mechanistic Contrast between Isoforms 1 and 7. <i>Biochemistry</i> , 2012, 51, 7654-7664.	1.2	32

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73	Assembly of Membrane-Bound Protein Complexes: Detection and Analysis by Single Molecule Diffusion. <i>Biochemistry</i> , 2012, 51, 1638-1647.	1.2	32
74	Molecular Tuning of an EF-Hand-like Calcium Binding Loop. <i>Journal of General Physiology</i> , 1997, 110, 173-184.	0.9	31
75	The PH Domain of Phosphoinositide-Dependent Kinase-1 Exhibits a Novel, Phospho-Regulated Monomer-Dimer Equilibrium with Important Implications for Kinase Domain Activation: Single-Molecule and Ensemble Studies. <i>Biochemistry</i> , 2013, 52, 4820-4829.	1.2	31
76	Interactions of Protein Kinase C's C1A and C1B Domains with Membranes: A Combined Computational and Experimental Study. <i>Journal of the American Chemical Society</i> , 2014, 136, 11757-11766.	6.6	31
77	Cooperativity between bacterial chemotaxis receptors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 6530-6532.	3.3	29
78	Chemotaxis Receptors and Signaling. <i>Advances in Protein Chemistry</i> , 2004, 68, 393-444.	4.4	27
79	A PKC-MARCKS-PI3K regulatory module links Ca <sup>2+</sup> and PIP3 signals at the leading edge of polarized macrophages. <i>PLoS ONE</i> , 2018, 13, e0196678.	1.1	27
80	Identification of a Site Critical for Kinase Regulation on the Central Processing Unit (CPU) Helix of the Aspartate Receptor. <i>Biochemistry</i> , 1999, 38, 329-336.	1.2	25
81	Mapping Out Regions on the Surface of the Aspartate Receptor That Are Essential for Kinase Activation. <i>Biochemistry</i> , 2003, 42, 2952-2959.	1.2	25
82	The GRP1 PH Domain, Like the AKT1 PH Domain, Possesses a Sentry Glutamate Residue Essential for Specific Targeting to Plasma Membrane PI(3,4,5)P <sub>3</sub> . <i>Biochemistry</i> , 2011, 50, 9845-9856.	1.2	25
83	Thermal Domain Motions of CheA Kinase in Solution: Disulfide Trapping Reveals the Motional Constraints Leading to Trans-autophosphorylation. <i>Biochemistry</i> , 2009, 48, 3631-3644.	1.2	22
84	Interplay between phosphoinositide lipids and calcium signals at the leading edge of chemotaxing amoeboid cells. <i>Chemistry and Physics of Lipids</i> , 2014, 182, 73-79.	1.5	21
85	Use of Fluorescence Resonance Energy Transfer to Monitor Ca <sup>2+</sup> -Triggered Membrane Docking of C2 Domains. , 2002, 172, 295-303.		19
86	Ca <sup>2+</sup> -Activation of the cPLA2C2 Domain: Ordered Binding of Two Ca <sup>2+</sup> Ions with Positive Cooperativity. <i>Biochemistry</i> , 2004, 43, 16320-16328.	1.2	19
87	Ion Channels within Ion Transport Proteins. <i>Biophysical Journal</i> , 1984, 45, 91-92.	0.2	18
88	Chemotaxis Receptor Complexes: From Signaling to Assembly. <i>PLoS Computational Biology</i> , 2007, 3, e150.	1.5	18
89	Membrane Docking Geometry of GRP1 PH Domain Bound to a Target Lipid Bilayer: An EPR Site-Directed Spin-Labeling and Relaxation Study. <i>PLoS ONE</i> , 2012, 7, e33640.	1.1	18
90	Regulation of a Coupled MARCKS-PI3K Lipid Kinase Circuit by Calmodulin: Single-Molecule Analysis of a Membrane-Bound Signaling Module. <i>Biochemistry</i> , 2016, 55, 6395-6405.	1.2	15

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91	Isolated Bacterial Chemosensory Array Possesses Quasi- and Ultrastable Components: Functional Links between Array Stability, Cooperativity, and Order. <i>Biochemistry</i> , 2012, 51, 10218-10228.	1.2	14
92	Increasing and Decreasing the Ultrastability of Bacterial Chemotaxis Core Signaling Complexes by Modifying Protein-Protein Contacts. <i>Biochemistry</i> , 2014, 53, 5592-5600.	1.2	14
93	Piston versus Scissors: Chemotaxis Receptors versus Sensor His-Kinase Receptors in Two-Component Signaling Pathways. <i>Structure</i> , 2014, 22, 1219-1220.	1.6	14
94	The G-Protein Rab5A Activates VPS34 Complex II, a Class III PI3K, by a Dual Regulatory Mechanism. <i>Biophysical Journal</i> , 2020, 119, 2205-2218.	0.2	13
95	OS-FRET: A New One-Sample Method for Improved FRET Measurements. <i>Biochemistry</i> , 2011, 50, 451-457.	1.2	12
96	The PICM Chemical Scanning Method for Identifying Domain-Domain and Protein-Protein Interfaces: Applications to the Core Signaling Complex of <i>E. coli</i> Chemotaxis. <i>Methods in Enzymology</i> , 2007, 423, 3-24.	0.4	11
97	Membrane Recruitment as a Cancer Mechanism: A Case Study of Akt PH Domain. <i>Cellscience</i> , 2007, 4, 25-30.	0.3	7
98	Cation Charge and Size Selectivity of the C2 Domain of Cytosolic Phospholipase A2. <i>Biochemistry</i> , 2002, 41, 1109-1122.	1.2	6
99	Single-molecule studies reveal regulatory interactions between master kinases PDK1, AKT1, and PKC. <i>Biophysical Journal</i> , 2021, 120, 5657-5673.	0.2	6
100	Lipid targeting domain with dual-membrane specificity that expands the diversity of intracellular targeting reactions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 1816-1817.	3.3	4
101	Ras-guanine nucleotide complexes: A UV spectral deconvolution method to analyze protein concentration, nucleotide stoichiometry, and purity. <i>Analytical Biochemistry</i> , 2021, 618, 114066.	1.1	3
102	HPLC method to resolve, identify and quantify guanine nucleotides bound to recombinant ras GTPase. <i>Analytical Biochemistry</i> , 2021, 631, 114338.	1.1	3
103	Staining of Viable and Nonviable Myotubes and of Myofibrils by the Fluorescent Dye Merocyanine 540. <i>Differentiation</i> , 1980, 17, 199-204.	1.0	2
104	Synaptotagmin C2 Domain Membrane Targeting: Kinetic and Mechanistic Diversity Among Isoforms from Different Cell Types. <i>Biophysical Journal</i> , 2012, 102, 433a.	0.2	0
105	Single Molecule Studies of PKC Activation Mechanism on Membrane Surfaces. <i>Biophysical Journal</i> , 2014, 106, 513a.	0.2	0
106	Rapid exposure of macrophages to drugs resolves four classes of effects on the leading edge sensory pseudopod: Non-perturbing, adaptive, disruptive, and activating. <i>PLoS ONE</i> , 2020, 15, e0233012.	1.1	0
107	Calmodulin Binds to and Inhibits Ras Activation of PI3K: A Single Molecule Study. <i>FASEB Journal</i> , 2018, 32, lb127.	0.2	0
108	Ras and RTK: PI3K Activation, PIP3 Formation, Signal Transduction, Cancer Creation. <i>FASEB Journal</i> , 2019, 33, lb350.	0.2	0