Dennis R Dean

List of Publications by Year in Descending Order

113 papers	9,898 citations	59 h-index	99 g-index
115 ext. papers	11,240 ext. citations	10.2 avg, IF	6.11 L-index

#	Paper	IF	Citations
113	A conformational role for NifW in the maturation of molybdenum nitrogenase P-cluster.. *Chemical Science*, **2022**, 13, 3489-3500	9.4	1
112	Exploring the Role of the Central Carbide of the Nitrogenase Active-Site FeMo-cofactor through Targeted C Labeling and ENDOR Spectroscopy. *Journal of the American Chemical Society*, **2021**, 143, 9183-9190	16.4	1
111	The electronic structure of FeV-cofactor in vanadium-dependent nitrogenase. *Chemical Science*, **2021**, 12, 6913-6922	9.4	6
110	Comment on "Structural evidence for a dynamic metallocofactor during N reduction by Mo-nitrogenase". *Science*, **2021**, 371,	33.3	10
109	Specificity of NifEN and VnfEN for the Assembly of Nitrogenase Active Site Cofactors in Azotobacter vinelandii. *MBio*, **2021**, 12, e0156821	7.8	2
108	Electron Redistribution within the Nitrogenase Active Site FeMo-Cofactor During Reductive Elimination of H to Achieve N?N Triple-Bond Activation. *Journal of the American Chemical Society*, **2020**, 142, 21679-21690	16.4	11
107	Reduction of Substrates by Nitrogenases. *Chemical Reviews*, **2020**, 120, 5082-5106	68.1	90
106	CO as a substrate and inhibitor of H reduction for the Mo-, V-, and Fe-nitrogenase isozymes. *Journal of Inorganic Biochemistry*, **2020**, 213, 111278	4.2	8
105	Time-Resolved EPR Study of H Reductive Elimination from the Photoexcited Nitrogenase Janus E(4H) Intermediate. *Journal of Physical Chemistry B*, **2019**, 123, 8823-8828	3.4	7
104	The NifZ accessory protein has an equivalent function in maturation of both nitrogenase MoFe protein P-clusters. *Journal of Biological Chemistry*, **2019**, 294, 6204-6213	5.4	10
103	Mo-, V-, and Fe-Nitrogenases Use a Universal Eight-Electron Reductive-Elimination Mechanism To Achieve N Reduction. *Biochemistry*, **2019**, 58, 3293-3301	3.2	59
102	Biosynthesis of the nitrogenase active-site cofactor precursor NifB-co in. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 25078-25086	11.5	16
101	Mechanism of N Reduction Catalyzed by Fe-Nitrogenase Involves Reductive Elimination of H. *Biochemistry*, **2018**, 57, 701-710	3.2	47
100	Hydride Conformers of the Nitrogenase FeMo-cofactor Two-Electron Reduced State E(2H), Assigned Using Cryogenic Intra Electron Paramagnetic Resonance Cavity Photolysis. *Inorganic Chemistry*, **2018**, 57, 6847-6852	5.1	17
99	Sequential and differential interaction of assembly factors during nitrogenase MoFe protein maturation. *Journal of Biological Chemistry*, **2018**, 293, 9812-9823	5.4	27
98	Energy Transduction in Nitrogenase. *Accounts of Chemical Research*, **2018**, 51, 2179-2186	24.3	62
97	Electrocatalytic CO reduction catalyzed by nitrogenase MoFe and FeFe proteins. *Bioelectrochemistry*, **2018**, 120, 104-109	5.6	29

96	Application of affinity purification methods for analysis of the nitrogenase system from Azotobacter vinelandii. *Methods in Enzymology*, **2018**, 613, 231-255	1.7	6
95	Kinetic Understanding of N Reduction versus H Evolution at the E(4H) Janus State in the Three Nitrogenases. *Biochemistry*, **2018**, 57, 5706-5714	3.2	25
94	Keeping the nitrogen-fixation dream alive. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 3009-3011	11.5	53
93	Photoinduced Reductive Elimination of H from the Nitrogenase Dihydride (Janus) State Involves a FeMo-cofactor-H Intermediate. *Inorganic Chemistry*, **2017**, 56, 2233-2240	5.1	33
92	Mechanism of Nitrogenase H Formation by Metal-Hydride Protonation Probed by Mediated Electrocatalysis and H/D Isotope Effects. *Journal of the American Chemical Society*, **2017**, 139, 13518-13524	16.4	38
91	Nitrogen Fixation **2017**, 1-21		12
90	Light-driven carbon dioxide reduction to methane by nitrogenase in a photosynthetic bacterium. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10163-7	11.5	43
89	Reductive Elimination of H2 Activates Nitrogenase to Reduce the N?N Triple Bond: Characterization of the E4(4H) Janus Intermediate in Wild-Type Enzyme. *Journal of the American Chemical Society*, **2016**, 138, 10674-83	16.4	100
88	Nitrogenase bioelectrocatalysis: heterogeneous ammonia and hydrogen production by MoFe protein. *Energy and Environmental Science*, **2016**, 9, 2550-2554	35.4	139
87	Evidence That the Pi Release Event Is the Rate-Limiting Step in the Nitrogenase Catalytic Cycle. *Biochemistry*, **2016**, 55, 3625-35	3.2	70
86	Reversible Photoinduced Reductive Elimination of H2 from the Nitrogenase Dihydride State, the E(4)(4H) Janus Intermediate. *Journal of the American Chemical Society*, **2016**, 138, 1320-7	16.4	48
85	Negative cooperativity in the nitrogenase Fe protein electron delivery cycle. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E5783-E5791	11.5	25
84	Exploring Electron/Proton Transfer and Conformational Changes in the Nitrogenase MoFe Protein and FeMo-cofactor Through Cryoreduction/EPR Measurements. *Israel Journal of Chemistry*, **2016**, 56, 841-851	3.4	10
83	CO2 Reduction Catalyzed by Nitrogenase: Pathways to Formate, Carbon Monoxide, and Methane. *Inorganic Chemistry*, **2016**, 55, 8321-30	5.1	34
82	Trading Places-Switching Frataxin Function by a Single Amino Acid Substitution within the [Fe-S] Cluster Assembly Scaffold. *PLoS Genetics*, **2015**, 11, e1005192	6	2
81	Identification of a key catalytic intermediate demonstrates that nitrogenase is activated by the reversible exchange of N for H *Journal of the American Chemical Society*, **2015**, 137, 3610-5	16.4	83
80	Fe protein-independent substrate reduction by nitrogenase MoFe protein variants. *Biochemistry*, **2015**, 54, 2456-62	3.2	29
79	Mechanism of nitrogen fixation by nitrogenase: the next stage. *Chemical Reviews*, **2014**, 114, 4041-62	68.1	1073

78	Nitrite and hydroxylamine as nitrogenase substrates: mechanistic implications for the pathway of N[illegible]reduction. *Journal of the American Chemical Society*, **2014**, 136, 12776-83	16.4	28
77	A confirmation of the quench-cryoannealing relaxation protocol for identifying reduction states of freeze-trapped nitrogenase intermediates. *Inorganic Chemistry*, **2014**, 53, 3688-93	5.1	31
76	Nitrogenase: a draft mechanism. *Accounts of Chemical Research*, **2013**, 46, 587-95	24.3	282
75	Nitrogenase reduction of carbon-containing compounds. *Biochimica Et Biophysica Acta - Bioenergetics*, **2013**, 1827, 1102-11	4.6	68
74	On reversible H2 loss upon N2 binding to FeMo-cofactor of nitrogenase. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 16327-32	11.5	78
73	EXAFS and NRVS reveal a conformational distortion of the FeMo-cofactor in the MoFe nitrogenase propargyl alcohol complex. *Journal of Inorganic Biochemistry*, **2012**, 112, 85-92	4.2	47
72	Temperature invariance of the nitrogenase electron transfer mechanism. *Biochemistry*, **2012**, 51, 8391-8	3.2	11
71	Electron transfer in nitrogenase catalysis. *Current Opinion in Chemical Biology*, **2012**, 16, 19-25	9.7	86
70	Carbon dioxide reduction to methane and coupling with acetylene to form propylene catalyzed by remodeled nitrogenase. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 19644-8	11.5	90
69	Unification of reaction pathway and kinetic scheme for N2 reduction catalyzed by nitrogenase. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 5583-7	11.5	52
68	57Fe ENDOR spectroscopy and @lectron inventoryQanalysis of the nitrogenase E4 intermediate suggest the metal-ion core of FeMo-cofactor cycles through only one redox couple. *Journal of the American Chemical Society*, **2011**, 133, 17329-40	16.4	66
67	Transcriptional profiling of nitrogen fixation in Azotobacter vinelandii. *Journal of Bacteriology*, **2011** , 193, 4477-86	3.5	74
66	Co-ordination and fine-tuning of nitrogen fixation in Azotobacter vinelandii. *Molecular Microbiology* , **2011**, 79, 1132-5	4.1	18
65	ENDOR/HYSCORE studies of the common intermediate trapped during nitrogenase reduction of N2H2, CH3N2H, and N2H4 support an alternating reaction pathway for N2 reduction. *Journal of the American Chemical Society*, **2011**, 133, 11655-64	16.4	75
64	Steric Control of the Hi-CO MoFe Nitrogenase Complex Revealed by Stopped-Flow Infrared Spectroscopy. *Angewandte Chemie*, **2011**, 123, 286-289	3.6	8
63	Steric control of the Hi-CO MoFe nitrogenase complex revealed by stopped-flow infrared spectroscopy. *Angewandte Chemie - International Edition*, **2011**, 50, 272-5	16.4	23
62	Electron transfer within nitrogenase: evidence for a deficit-spending mechanism. *Biochemistry*, **2011**, 50, 9255-63	3.2	97
61	Molybdenum nitrogenase catalyzes the reduction and coupling of CO to form hydrocarbons. *Journal of Biological Chemistry*, **2011**, 286, 19417-21	5.4	82

60	Is Mo involved in hydride binding by the four-electron reduced (E4) intermediate of the nitrogenase MoFe protein?. *Journal of the American Chemical Society*, **2010**, 132, 2526-7	16.4	72
59	Genome sequence of Azotobacter vinelandii, an obligate aerobe specialized to support diverse anaerobic metabolic processes. *Journal of Bacteriology*, **2009**, 191, 4534-45	3.5	202
58	A substrate channel in the nitrogenase MoFe protein. *Journal of Biological Inorganic Chemistry*, **2009**, 14, 1015-22	3.7	30
57	Trapping an intermediate of dinitrogen (N2) reduction on nitrogenase. *Biochemistry*, **2009**, 48, 9094-102	3.2	53
56	Mechanism of Mo-dependent nitrogenase. *Annual Review of Biochemistry*, **2009**, 78, 701-22	29.1	457
55	Climbing nitrogenase: toward a mechanism of enzymatic nitrogen fixation. *Accounts of Chemical Research*, **2009**, 42, 609-19	24.3	287
54	Diazene (HN=NH) is a substrate for nitrogenase: insights into the pathway of N2 reduction. *Biochemistry*, **2007**, 46, 6784-94	3.2	84
53	In vitro activation of apo-aconitase using a [4Fe-4S] cluster-loaded form of the IscU [Fe-S] cluster scaffolding protein. *Biochemistry*, **2007**, 46, 6812-21	3.2	98
52	Testing if the interstitial atom, X, of the nitrogenase molybdenum-iron cofactor is N or C: ENDOR, ESEEM, and DFT studies of the S = 3/2 resting state in multiple environments. *Inorganic Chemistry*, **2007**, 46, 11437-49	5.1	77
51	NifX and NifEN exchange NifB cofactor and the VK-cluster, a newly isolated intermediate of the iron-molybdenum cofactor biosynthetic pathway. *Molecular Microbiology*, **2007**, 63, 177-92	4.1	52
50	Alkyne substrate interaction within the nitrogenase MoFe protein. *Journal of Inorganic Biochemistry* , **2007**, 101, 1642-8	4.2	42
49	Controlled expression of nif and isc iron-sulfur protein maturation components reveals target specificity and limited functional replacement between the two systems. *Journal of Bacteriology*, **2007**, 189, 2854-62	3.5	64
48	Connecting nitrogenase intermediates with the kinetic scheme for N2 reduction by a relaxation protocol and identification of the N2 binding state. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 1451-5	11.5	91
47	A methyldiazene (HN=N-CH3)-derived species bound to the nitrogenase active-site FeMo cofactor: Implications for mechanism. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 17113-8	11.5	74
46	Breaking the N2 triple bond: insights into the nitrogenase mechanism. *Dalton Transactions*, **2006**, 2277-84	4.3	119
45	Trapping H- bound to the nitrogenase FeMo-cofactor active site during H2 evolution: characterization by ENDOR spectroscopy. *Journal of the American Chemical Society*, **2005**, 127, 6231-41	16.4	170
44	NifS-mediated assembly of [4Fe-4S] clusters in the N- and C-terminal domains of the NifU scaffold protein. *Biochemistry*, **2005**, 44, 12955-69	3.2	111
43	Substrate interactions with the nitrogenase active site. *Accounts of Chemical Research*, **2005**, 38, 208-14	24.3	177

42	Intermediates trapped during nitrogenase reduction of N triple bond N, CH3-N=NH, and H2N-NH2. *Journal of the American Chemical Society*, **2005**, 127, 14960-1	16.4	112
41	Trapping a hydrazine reduction intermediate on the nitrogenase active site. *Biochemistry*, **2005**, 44, 8030-7	3.2	89
40	Electron inventory, kinetic assignment (E(n)), structure, and bonding of nitrogenase turnover intermediates with C2H2 and CO. *Journal of the American Chemical Society*, **2005**, 127, 15880-90	16.4	58
39	Substrate interaction at an iron-sulfur face of the FeMo-cofactor during nitrogenase catalysis. *Journal of Biological Chemistry*, **2004**, 279, 53621-4	5.4	119
38	Localization of a catalytic intermediate bound to the FeMo-cofactor of nitrogenase. *Journal of Biological Chemistry*, **2004**, 279, 34770-5	5.4	61
37	Iron-sulfur cluster assembly: NifU-directed activation of the nitrogenase Fe protein. *Journal of Biological Chemistry*, **2004**, 279, 19705-11	5.4	97
36	Substrate interactions with nitrogenase: Fe versus Mo. *Biochemistry*, **2004**, 43, 1401-9	3.2	175
35	An organometallic intermediate during alkyne reduction by nitrogenase. *Journal of the American Chemical Society*, **2004**, 126, 9563-9	16.4	105
34	Q-Band ENDOR Studies of the Nitrogenase MoFe Protein under Turnover Conditions. *ACS Symposium Series*, **2003**, 150-178	0.4	6
33	Formation of iron-sulfur clusters in bacteria: an emerging field in bioinorganic chemistry. *Current Opinion in Chemical Biology*, **2003**, 7, 166-73	9.7	185
32	Localization of a substrate binding site on the FeMo-cofactor in nitrogenase: trapping propargyl alcohol with an alpha-70-substituted MoFe protein. *Biochemistry*, **2003**, 42, 9102-9	3.2	82
31	VnfY is required for full activity of the vanadium-containing dinitrogenase in Azotobacter vinelandii. *Journal of Bacteriology*, **2003**, 185, 2383-6	3.5	22
30	Reduction of short chain alkynes by a nitrogenase □70Ala-substituted MoFe protein. *Dalton Transactions RSC*, **2002**, 802-807		39
29	IscA, an alternate scaffold for Fe-S cluster biosynthesis. *Biochemistry*, **2001**, 40, 14069-80	3.2	216
28	Stereospecificity of acetylene reduction catalyzed by nitrogenase. *Journal of the American Chemical Society*, **2001**, 123, 1822-7	16.4	29
27	Interaction of acetylene and cyanide with the resting state of nitrogenase alpha-96-substituted MoFe proteins. *Biochemistry*, **2001**, 40, 13816-25	3.2	37
26	Sulfur transfer from IscS to IscU: the first step in iron-sulfur cluster biosynthesis. *Journal of the American Chemical Society*, **2001**, 123, 11103-4	16.4	164
25	Mechanistic features and structure of the nitrogenase alpha-Gln195 MoFe protein. *Biochemistry*, **2001**, 40, 1540-9	3.2	65

24	Competitive substrate and inhibitor interactions at the physiologically relevant active site of nitrogenase. *Journal of Biological Chemistry*, **2000**, 275, 36104-7	5.4	48
23	Isolation and characterization of an acetylene-resistant nitrogenase. *Journal of Biological Chemistry*, **2000**, 275, 11459-64	5.4	55
22	Characterization of an Intermediate in the Reduction of Acetylene by the Nitrogenase Gln195 MoFe Protein by Q-band EPR and 13C,1H ENDOR. *Journal of the American Chemical Society*, **2000**, 122, 5582-5587	16.4	42
21	Construction and characterization of a heterodimeric iron protein: defining roles for adenosine triphosphate in nitrogenase catalysis. *Biochemistry*, **2000**, 39, 7221-8	3.2	10
20	IscU as a scaffold for iron-sulfur cluster biosynthesis: sequential assembly of [2Fe-2S] and [4Fe-4S] clusters in IscU. *Biochemistry*, **2000**, 39, 7856-62	3.2	386
19	Role of the IscU Protein in Iron-Sulfur Cluster Biosynthesis: IscS-mediated Assembly of a [Fe2S2] Cluster in IscU. *Journal of the American Chemical Society*, **2000**, 122, 2136-2137	16.4	113
18	Detection of a New Radical and FeMo-Cofactor EPR Signal during Acetylene Reduction by the H195Q Mutant of Nitrogenase. *Journal of the American Chemical Society*, **1999**, 121, 9457-9458	16.4	25
17	The Azotobacter vinelandii NifEN complex contains two identical [4Fe-4S] clusters. *Biochemistry*, **1998**, 37, 10420-8	3.2	70
16	Evidence for coupled electron and proton transfer in the [8Fe-7S] cluster of nitrogenase. *Biochemistry*, **1998**, 37, 11376-84	3.2	63
15	Catalytic and biophysical properties of a nitrogenase Apo-MoFe protein produced by a nifB-deletion mutant of Azotobacter vinelandii. *Biochemistry*, **1998**, 37, 12611-23	3.2	161
14	Role of Nucleotides in Nitrogenase Catalysis. *Accounts of Chemical Research*, **1997**, 30, 260-266	24.3	107
13	Evidence for multiple substrate-reduction sites and distinct inhibitor-binding sites from an altered Azotobacter vinelandii nitrogenase MoFe protein. *Biochemistry*, **1997**, 36, 4884-94	3.2	55
12	Nitrogenase iron-molybdenum cofactor binding site: Protein conformational changes associated with cofactor binding. *Tetrahedron*, **1997**, 53, 11971-11984	2.4	11
11	Involvement of the P cluster in intramolecular electron transfer within the nitrogenase MoFe protein. *Journal of Biological Chemistry*, **1995**, 270, 27007-13	5.4	61
10	Characterization of the gamma protein and its involvement in the metallocluster assembly and maturation of dinitrogenase from Azotobacter vinelandii. *Journal of Biological Chemistry*, **1995**, 270, 24745-52	5.4	64
9	Role of the MoFe protein alpha-subunit histidine-195 residue in FeMo-cofactor binding and nitrogenase catalysis. *Biochemistry*, **1995**, 34, 2798-808	3.2	132
8	Mechanism for the desulfurization of L-cysteine catalyzed by the nifS gene product. *Biochemistry*, **1994**, 33, 4714-20	3.2	351
7	nifU gene product from Azotobacter vinelandii is a homodimer that contains two identical [2Fe-2S] clusters. *Biochemistry*, **1994**, 33, 13455-63	3.2	136

6	Role of the Iron Molybdenum Cofactor Polypeptide Environment in Azotobacter vinelandii Molybdenum Nitrogenase Catalysis. *ACS Symposium Series*, **1993**, 216-230	0.4	5
5	The nifU, nifS and nifV gene products are required for activity of all three nitrogenases of Azotobacter vinelandii. *Molecular Genetics and Genomics*, **1992**, 231, 494-8		103
4	Role for the nitrogenase MoFe protein alpha-subunit in FeMo-cofactor binding and catalysis. *Nature* , **1990**, 343, 188-90	50.4	117
3	Biogenesis of molybdenum cofactors. *Critical Reviews in Microbiology*, **1990**, 17, 169-88	7.8	46
2	Biochemical and genetic analysis of the nifUSVWZM cluster from Azotobacter vinelandii. *Molecular Genetics and Genomics*, **1989**, 219, 49-57		244
1	Nitrogen Fixation by Azotobacter vinelandii Strains Having Deletions in Structural Genes for Nitrogenase. *Science*, **1986**, 232, 92-4	33.3	128