Frank C Walsh

List of Publications by Citations

129 papers	8,975 citations	47 h-index	93 g-index
138 ext. papers	10,305 ext. citations	5.1 avg, IF	6.62 L-index

#	Paper	IF	Citations
129	Redox flow cells for energy conversion. *Journal of Power Sources*, **2006**, 160, 716-732	8.9	872
128	Progress in redox flow batteries, remaining challenges and their applications in energy storage. *RSC Advances*, **2012**, 2, 10125	3.7	660
127	The effect of hydrothermal conditions on the mesoporous structure of TiO2 nanotubes. *Journal of Materials Chemistry*, **2004**, 14, 3370		635
126	Electrodeposition of composite coatings containing nanoparticles in a metal deposit. *Surface and Coatings Technology*, **2006**, 201, 371-383	4.4	625
125	Development of the all-vanadium redox flow battery for energy storage: a review of technological, financial and policy aspects. *International Journal of Energy Research*, **2012**, 36, 1105-1120	4.5	441
124	Recent developments in organic redox flow batteries: A critical review. *Journal of Power Sources*, **2017**, 360, 243-283	8.9	282
123	Reticulated vitreous carbon as an electrode material. *Journal of Electroanalytical Chemistry*, **2004**, 561, 203-217	4.1	257
122	Electrochemical approaches to the production of graphene flakes and their potential applications. *Carbon*, **2013**, 54, 1-21	10.4	253
121	Electrochemical synthesis of hydrogen peroxide from water and oxygen. *Nature Reviews Chemistry*, **2019**, 3, 442-458	34.6	235
120	Recent progress and continuing challenges in bio-fuel cells. Part I: enzymatic cells. *Biosensors and Bioelectronics*, **2011**, 26, 3087-102	11.8	206
119	Elongated Titanate Nanostructures and Their Applications. *European Journal of Inorganic Chemistry*, **2009**, 2009, 977-997	2.3	189
118	Characterization of a zinc□erium flow battery. *Journal of Power Sources*, **2011**, 196, 5174-5185	8.9	169
117	Three-dimensional graphene oxide/polypyrrole composite electrodes fabricated by one-step electrodeposition for high performance supercapacitors. *Journal of Materials Chemistry A*, **2015**, 3, 14445-14457	13	168
116	Engineering aspects of the design, construction and performance of modular redox flow batteries for energy storage. *Journal of Energy Storage*, **2017**, 11, 119-153	7.8	160
115	Stability of Aqueous Suspensions of Titanate Nanotubes. *Chemistry of Materials*, **2006**, 18, 1124-1129	9.6	149
114	Synthesis and characterization of M3V2O8 (M = Ni or Co) based nanostructures: a new family of high performance pseudocapacitive materials. *Journal of Materials Chemistry A*, **2014**, 2, 4919	13	133
113	A Review of the Iron□Air Secondary Battery for Energy Storage. *ChemPlusChem*, **2015**, 80, 323-335	2.8	129

112	Deposition of Pt, Pd, Ru and Au on the surfaces of titanate nanotubes. *Topics in Catalysis*, **2006**, 39, 151-160	2.9	121
111	Graphite felt as a versatile electrode material: Properties, reaction environment, performance and applications. *Electrochimica Acta*, **2017**, 258, 1115-1139	6.7	112
110	A review of the manufacture, mechanical properties and potential applications of auxetic foams. *Physica Status Solidi (B): Basic Research*, **2013**, 250, 1963-1982	1.3	109
109	Zinc deposition and dissolution in methanesulfonic acid onto a carbon composite electrode as the negative electrode reactions in a hybrid redox flow battery. *Electrochimica Acta*, **2011**, 56, 6536-6546	6.7	103
108	Polymer nanocomposites having a high filler content: synthesis, structures, properties, and applications. *Nanoscale*, **2019**, 11, 4653-4682	7.7	95
107	The importance of key operational variables and electrolyte monitoring to the performance of an all vanadium redox flow battery. *Journal of Chemical Technology and Biotechnology*, **2013**, 88, 126-138	3.5	93
106	A review of electrodeposited Ni-Co alloy and composite coatings: Microstructure, properties and applications. *Surface and Coatings Technology*, **2019**, 372, 463-498	4.4	89
105	Electrochemical Corrosion Behaviour of 90/10 CuNi Alloy in Chloride-Based Electrolytes. *Journal of Applied Electrochemistry*, **2004**, 34, 659-669	2.6	89
104	An undivided zinc–cerium redox flow battery operating at room temperature (295 K). *Electrochemistry Communications*, **2011**, 13, 770-773	5.1	81
103	Kinetics of Alkali Metal Ion Exchange into Nanotubular and Nanofibrous Titanates. *Journal of Physical Chemistry C*, **2007**, 111, 14644-14651	3.8	78
102	Materials and fabrication of electrode scaffolds for deposition of MnO2 and their true performance in supercapacitors. *Journal of Power Sources*, **2015**, 293, 657-674	8.9	75
101	Ce(III)/Ce(IV) in methanesulfonic acid as the positive half cell of a redox flow battery. *Electrochimica Acta*, **2011**, 56, 2145-2153	6.7	74
100	The preparation of PbO2 coatings on reticulated vitreous carbon for the electro-oxidation of organic pollutants. *Electrochimica Acta*, **2011**, 56, 5158-5165	6.7	73
99	Developments in the soluble lead-acid flow battery. *Journal of Applied Electrochemistry*, **2010**, 40, 955-965	2.6	72
98	Studies of three-dimensional electrodes in the FMO1-LC laboratory electrolyser. *Journal of Applied Electrochemistry*, **1994**, 24, 95	2.6	69
97	Self-lubricating Ni-P-MoS2 composite coatings. *Surface and Coatings Technology*, **2016**, 307, 926-934	4.4	69
96	Mass transport in the rectangular channel of a filter-press electrolyzer (the FM01-LC reactor). *AICHE Journal*, **2005**, 51, 682-687	3.6	67
95	The Rotating Cylinder Electrode (RCE) and its Application to the Electrodeposition of Metals. *Australian Journal of Chemistry*, **2005**, 58, 246	1.2	65

94	3D-printed porous electrodes for advanced electrochemical flow reactors: A Ni/stainless steel electrode and its mass transport characteristics. *Electrochemistry Communications*, **2017**, 77, 133-137	5.1	64
93	Versatile electrochemical coatings and surface layers from aqueous methanesulfonic acid. *Surface and Coatings Technology*, **2014**, 259, 676-697	4.4	62
92	Metastable Nature of Titanate Nanotubes in an Alkaline Environment. *Crystal Growth and Design*, **2010**, 10, 4421-4427	3.5	61
91	The continued development of reticulated vitreous carbon as a versatile electrode material: Structure, properties and applications. *Electrochimica Acta*, **2016**, 215, 566-591	6.7	59
90	Redox flow batteries for energy storage: their promise, achievements and challenges. *Current Opinion in Electrochemistry*, **2019**, 16, 117-126	7.2	56
89	Electrodeposition of NiP alloy coatings: A review. *Surface and Coatings Technology*, **2019**, 369, 198-220	4.4	56
88	The Development of Zn□e Hybrid Redox Flow Batteries for Energy Storage and Their Continuing Challenges. *ChemPlusChem*, **2015**, 80, 288-311	2.8	52
87	The characteristics and performance of hybrid redox flow batteries with zinc negative electrodes for energy storage. *Renewable and Sustainable Energy Reviews*, **2018**, 90, 992-1016	16.2	51
86	A review of developments in the electrodeposition of tin-copper alloys. *Surface and Coatings Technology*, **2016**, 304, 246-262	4.4	51
85	A review of developments in the electrodeposition of tin. *Surface and Coatings Technology*, **2016**, 288, 79-94	4.4	49
84	The stability of an acidic tin methanesulfonate electrolyte in the presence of a hydroquinone antioxidant. *Electrochimica Acta*, **2008**, 53, 5280-5286	6.7	48
83	The electrodeposition of composite coatings: Diversity, applications and challenges. *Current Opinion in Electrochemistry*, **2020**, 20, 8-19	7.2	47
82	An electrodeposited Ni-P-WS2 coating with combined super-hydrophobicity and self-lubricating properties. *Electrochimica Acta*, **2017**, 245, 872-882	6.7	45
81	Characterization of the reaction environment in a filter-press redox flow reactor. *Electrochimica Acta*, **2007**, 52, 5815-5823	6.7	45
80	3D Hierarchically Structured CoS Nanosheets: Li Storage Mechanism and Application of the High-Performance Lithium-Ion Capacitors. *ACS Applied Materials & Interfaces*, **2020**, 12, 3709-3718	9.5	45
79	The role of a tribofilm and wear debris in the tribological behaviour of nanocrystalline Ni□o electrodeposits. *Wear*, **2013**, 306, 296-303	3.5	41
78	Morphological control of synthetic Ni3Si2O5(OH)4 nanotubes in an alkaline hydrothermal environment. *Journal of Materials Chemistry A*, **2013**, 1, 548-556	13	40
77	Mass transport and active area of porous Pt/Ti electrodes for the Zn-Ce redox flow battery determined from limiting current measurements. *Electrochimica Acta*, **2016**, 221, 154-166	6.7	39

76	The influence of operational parameters on the performance of an undivided zinc–cerium flow battery. *Electrochimica Acta*, **2012**, 80, 7-14	6.7	38
75	Electrochemical redox processes involving soluble cerium species. *Electrochimica Acta*, **2016**, 205, 226-247	6.7	38
74	Developments in soluble lead flow batteries and remaining challenges: An illustrated review. *Journal of Energy Storage*, **2018**, 15, 69-90	7.8	37
73	The electrodeposition and characterisation of low-friction and wear-resistant Co-Ni-P coatings. *Surface and Coatings Technology*, **2013**, 235, 495-505	4.4	34
72	The influence of a perfluorinated cationic surfactant on the electrodeposition of tin from a methanesulfonic acid bath. *Journal of Electroanalytical Chemistry*, **2008**, 615, 91-102	4.1	31
71	Mass transfer to a nanostructured nickel electrodeposit of high surface area in a rectangular flow channel. *Electrochimica Acta*, **2013**, 90, 507-513	6.7	30
70	Three-dimensional porous metal electrodes: Fabrication, characterisation and use. *Current Opinion in Electrochemistry*, **2019**, 16, 1-9	7.2	30
69	Pressure drop through platinized titanium porous electrodes for cerium-based redox flow batteries. *AICHE Journal*, **2018**, 64, 1135-1146	3.6	27
68	Developments in plane parallel flow channel cells. *Current Opinion in Electrochemistry*, **2019**, 16, 10-18	7.2	26
67	Electrodeposited Hydroxyapatite-Based Biocoatings: Recent Progress and Future Challenges. *Coatings*, **2021**, 11, 110	2.9	26
66	Developments in electrode design: structure, decoration and applications of electrodes for electrochemical technology. *Journal of Chemical Technology and Biotechnology*, **2018**, 93, 3073-3090	3.5	26
65	Effective particle dispersion via high-shear mixing of the electrolyte for electroplating a nickel-molybdenum disulphide composite. *Electrochimica Acta*, **2018**, 283, 568-577	6.7	25
64	The use of electrolyte redox potential to monitor the Ce(IV)/Ce(III) couple. *Journal of Environmental Management*, **2008**, 88, 1417-25	7.9	25
63	Editors' Choice—Electrodeposition of Platinum on Titanium Felt in a Rectangular Channel Flow Cell. *Journal of the Electrochemical Society*, **2017**, 164, D57-D66	3.9	24
62	Improvements in direct borohydride fuel cells using three-dimensional electrodes. *Catalysis Today*, **2011**, 170, 148-154	5.3	24
61	Review—The Design, Performance and Continuing Development of Electrochemical Reactors for Clean Electrosynthesis. *Journal of the Electrochemical Society*, **2020**, 167, 155525	3.9	23
60	Electrodeposition of Ni P composite coatings: A review. *Surface and Coatings Technology*, **2019**, 378, 124803	4.4	22
59	Electrically conductive coatings of nickel and polypyrrole/poly(2-methoxyaniline-5-sulfonic acid) on nylon Lycra® textiles. *Progress in Organic Coatings*, **2013**, 76, 1296-1301	4.8	22

58	Mass transport to reticulated vitreous carbon rotating cylinder electrodes. *Journal of Applied Electrochemistry*, **1995**, 25, 450	2.6	22
57	Quaternary aryl phosphonium salts as corrosion inhibitors for iron in HCl. *Journal of Alloys and Compounds*, **2018**, 765, 812-825	5.7	20
56	The Importance of Substrate Surface Condition in Controlling the Porosity of Electroless Nickel Deposits. *Transactions of the Institute of Metal Finishing*, **1998**, 76, 149-155	1.3	19
55	Removal of methylene blue from aqueous solutions using an Fe2+ catalyst and in-situ H2O2 generated at gas diffusion cathodes. *Electrochimica Acta*, **2019**, 308, 45-53	6.7	18
54	Titanate nanotubes and nanosheets as a mechanical reinforcement of water-soluble polyamic acid: Experimental and theoretical studies. *Composites Part B: Engineering*, **2017**, 124, 54-63	10	18
53	Towards improved electroplating of metal-particle composite coatings. *Transactions of the Institute of Metal Finishing*, **2020**, 98, 288-299	1.3	14
52	X-ray computed micro-tomography of reticulated vitreous carbon. *Carbon*, **2018**, 135, 85-94	10.4	14
51	The Preparation of Auxetic Foams by Three-Dimensional Printing and Their Characteristics. *Advanced Engineering Materials*, **2013**, 15, n/a-n/a	3.5	14
50	Characterisation of platinum electrodeposits on a titanium micromesh stack in a rectangular channel flow cell. *Electrochimica Acta*, **2017**, 247, 994-1005	6.7	13
49	Electrolytic removal of cupric ions from dilute liquors using reticulated vitreous carbon cathodes. *Journal of Chemical Technology and Biotechnology*, **2007**, 55, 147-155	3.5	13
48	Removal of cupric ions from acidic sulfate solution using reticulated vitreous carbon rotating cylinder electrodes. *Journal of Chemical Technology and Biotechnology*, **2004**, 79, 935-945	3.5	13
47	The application of reticulated vitreous carbon rotating cylinder electrodes to the removal of cadmium and copper ions from solution. *Journal of Chemical Technology and Biotechnology*, **2004**, 79, 946-953	3.5	13
46	Electrochemical Measurements of Electroless Nickel Coatings on Zincated Aluminium Substrates. *Transactions of the Institute of Metal Finishing*, **2000**, 78, 157-162	1.3	13
45	Mathematical modelling of an enzymatic fuel cell with an air-breathing cathode. *Electrochimica Acta* , **2013**, 112, 386-393	6.7	12
44	Electrospinning of in situ and ex situ synthesized polyimide composites reinforced by titanate nanotubes. *Journal of Applied Polymer Science*, **2017**, 134,	2.9	12
43	Impedance spectroscopy studies of the dissolution of ferrous- and zinc-based materials in aqueous timber preservatives. *Journal of Applied Electrochemistry*, **2008**, 38, 1599-1607	2.6	12
42	Cyclic Voltammetry at Metal Electrodes. *Transactions of the Institute of Metal Finishing*, **1995**, 73, 72-78	1.3	12
41	Mass-Transfer Measurements at Porous 3D Pt-Ir/Ti Electrodes in a Direct Borohydride Fuel Cell. *Journal of the Electrochemical Society*, **2018**, 165, F198-F206	3.9	11

40	Single-Walled Carbon Nanotube/Trititanate Nanotube Composite Fibers. *Advanced Engineering Materials*, **2009**, 11, B55-B60	3.5	11
39	The electrochemical reduction of Cr(VI) ions in acid solution at titanium and graphite electrodes. *Journal of Environmental Chemical Engineering*, **2016**, 4, 3610-3617	6.8	11
38	Insertion of nanostructured titanates into the pores of an anodised TiO2 nanotube array by mechanically stimulated electrophoretic deposition. *Journal of Materials Chemistry C*, **2017**, 5, 3955-3961	7.1	10
37	Processes associated with ionic current rectification at a 2D-titanate nanosheet deposit on a microhole poly(ethylene terephthalate) substrate. *Journal of Solid State Electrochemistry*, **2019**, 23, 1237-1248	2.6	10
36	Enhanced mass transport to a reticulated vitreous carbon rotating cylinder electrode using jet flow. *Electrochimica Acta*, **2006**, 51, 2728-2736	6.7	10
35	Inhibition of Polyimide Photodegradation by Incorporation of Titanate Nanotubes into a Composite. *Journal of Polymers and the Environment*, **2019**, 27, 1505-1515	4.5	9
34	Electroanalysis in 2D-TiO2 Nanosheet Hosts: Electrolyte and Selectivity Effects in Ferroceneboronic Acid Saccharide Binding. *Electroanalysis*, **2018**, 30, 1303-1310	3	9
33	Electrodeposited Co-P alloy and composite coatings: A review of progress towards replacement of conventional hard chromium deposits. *Surface and Coatings Technology*, **2021**, 422, 127564	4.4	9
32	Silver Removal from an X-Ray Fixer Solution by means of a Potentiostatically-Controlled Rotating Cylinder Electrode. *Journal of Photographic Science*, **1994**, 42, 182-192		8
31	Photocatalytic degradation of methylene blue dye on reticulated vitreous carbon decorated with electrophoretically deposited TiO2 nanotubes. *Diamond and Related Materials*, **2020**, 109, 108001	3.5	8
30	A nonaqueous organic redox flow battery using multi-electron quinone molecules. *Journal of Power Sources*, **2021**, 500, 229942	8.9	8
29	Current distribution in a rectangular flow channel manufactured by 3-D printing. *AICHE Journal*, **2017**, 63, 1144-1151	3.6	7
28	Research and Development Techniques 1: Potentiodynamic Studies of Copper Metal Deposition. *Transactions of the Institute of Metal Finishing*, **2003**, 81, B95-B100	1.3	7
27	Development of electrodeposited multilayer coatings: A review of fabrication, microstructure, properties and applications. *Applied Surface Science Advances*, **2021**, 6, 100141	2.6	7
26	Synthesis and Properties of Electrodeposited NiCo/WS2 Nanocomposite Coatings. *Coatings*, **2019**, 9, 148	2.9	6
25	Enhancement of antibacterial efficiency at silver electrodeposited on coconut shell activated carbon by modulating pulse frequency. *Journal of Solid State Electrochemistry*, **2018**, 22, 749-759	2.6	6
24	Composite, multilayer and three-dimensional substrate supported tin-based electrodeposits from methanesulphonic acid. *Transactions of the Institute of Metal Finishing*, **2016**, 94, 152-158	1.3	6
23	Mass transport control of oxygen reduction at graphite felt with subsequent decolourisation of RB-5 dye in a parallel plate flow reactor. *Journal of the Taiwan Institute of Chemical Engineers*, **2019**, 104, 123-129	5.3	5

22	Electrochemical removal of metal ions from aqueous solution: a student workshop. *Journal of Environmental Monitoring*, **2005**, 7, 943-9		5
21	The effect of operational parameters on the performance of a bipolar trickle tower reactor. *Journal of Chemical Technology and Biotechnology*, **2004**, 79, 954-960	3.5	5
20	Electrochemical Engineering and Cell Design **2014**, 95-111		4
19	Carbon Materials as Positive Electrodes in Bromine-Based Flow Batteries.. *ChemPlusChem*, **2022**, 87, e202100441	2.8	4
18	Experimental and computation assessment of thermomechanical effects during auxetic foam fabrication. *Scientific Reports*, **2020**, 10, 18301	4.9	4
17	Photoelectroanalytical Oxygen Detection with Titanate Nanosheet Platinum Hybrids Immobilised into a Polymer of Intrinsic Microporosity (PIM-1). *Electroanalysis*, **2020**, 32, 2756-2763	3	4
16	Extraction of hydrophobic analytes from organic solution into a titanate 2D-nanosheet host: Electroanalytical perspectives. *Analytica Chimica Acta: X*, **2019**, 1, 100001	2.2	3
15	Consultancy in the Classroom: Using Industrial Chemistry in a Teaching Exercise. *Journal of Chemical Education*, **1997**, 74, 1426	2.4	3
14	Synchrotron X-Ray Studies of Potentiostatically Formed Phosphate Layers on Steel. *Transactions of the Institute of Metal Finishing*, **1994**, 72, 63-65	1.3	3
13	Editors Choice Critical Review The Bipolar Trickle Tower Reactor: Concept, Development and Applications. *Journal of the Electrochemical Society*, **2021**, 168, 023503	3.9	3
12	The Comparative Performance of Batteries: The Lead-Acid and the Aluminum-Air Cells. *Journal of Chemical Education*, **1996**, 73, 811	2.4	2
11	pH Measurements. *Transactions of the Institute of Metal Finishing*, **1992**, 70, 148-151	1.3	2
10	Electrolytic Conductivity and its Measurement. *Transactions of the Institute of Metal Finishing*, **1992**, 70, 45-49	1.3	2
9	Voltammetric characterisation of diferrocenylborinic acid in organic solution and in aqueous media when immobilised into a titanate nanosheet film. *Dalton Transactions*, **2019**, 48, 11200-11207	4.3	1
8	Frontispiece: The Development of Zn e Hybrid Redox Flow Batteries for Energy Storage and Their Continuing Challenges. *ChemPlusChem*, **2015**, 80, n/a-n/a	2.8	1
7	Design, imaging and performance of 3D printed open-cell architectures for porous electrodes: quantification of surface area and permeability. *Journal of Chemical Technology and Biotechnology*, **2021**, 96, 1818-1831	3.5	1
6	Patterning of worm-like soft polydimethylsiloxane structures using a TiO2 nanotubular array. *Journal of Applied Polymer Science*, **2020**, 137, 49795	2.9	0
5	Selection of oxygen reduction catalysts for secondary tri-electrode zinc-air batteries.. *Scientific Reports*, **2022**, 12, 6696	4.9	0

4	Supercapacitors for Short-term, High Power Energy Storage **2022**, 71-98	0
3	The Analysis of Metal Ions in Solution. *Transactions of the Institute of Metal Finishing*, **1993**, 71, 166-170	1.3
2	Zen and electrochemical surface finishing of materials. *Transactions of the Institute of Metal Finishing*, **2021**, 99, 55-60	1.3
1	An Introduction to Electrochemistry in Modern Power Sources **2022**, 15-29	