

Edward P L Roberts

List of Publications by Year in descending order

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115
papers

3,941
citations

109321

35
h-index

144013

57
g-index

115
all docs

115
docs citations

115
times ranked

4231
citing authors

#	ARTICLE	IF	CITATIONS
1	Segregated Hybrid Poly(methyl methacrylate)/Graphene/Magnetite Nanocomposites for Electromagnetic Interference Shielding. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 14171-14179.	8.0	291
2	Evaluation of electrolytes for redox flow battery applications. <i>Electrochimica Acta</i> , 2007, 52, 2189-2195.	5.2	216
3	Electrode passivation, faradaic efficiency, and performance enhancement strategies in electrocoagulation—a review. <i>Water Research</i> , 2020, 187, 116433.	11.3	140
4	A review of metal separator plate materials suitable for automotive PEMfuel cells. <i>Energy and Environmental Science</i> , 2009, 2, 206-214.	30.8	112
5	Chromium redox couples for application to redox flow batteries. <i>Electrochimica Acta</i> , 2002, 48, 279-287.	5.2	104
6	Atrazine removal using adsorption and electrochemical regeneration. <i>Water Research</i> , 2004, 38, 3067-3074.	11.3	97
7	Functionalized zeolite A—nafion composite membranes for direct methanol fuel cells. <i>Solid State Ionics</i> , 2007, 178, 1248-1255.	2.7	90
8	The simulation of chaotic mixing and dispersion for periodic flows in baffled channels. <i>Chemical Engineering Science</i> , 1991, 46, 1669-1677.	3.8	88
9	Numerical simulation of the current, potential and concentration distributions along the cathode of a rotating cylinder Hull cell. <i>Electrochimica Acta</i> , 2007, 52, 3831-3840.	5.2	87
10	Electrochemical regeneration of a carbon-based adsorbent loaded with crystal violet dye. <i>Electrochimica Acta</i> , 2004, 49, 3269-3281.	5.2	81
11	Electrochemical regeneration of a reduced graphene oxide/magnetite composite adsorbent loaded with methylene blue. <i>Water Research</i> , 2017, 114, 237-245.	11.3	81
12	An improved model of potential and current distribution within a flow-through porous electrode. <i>Electrochimica Acta</i> , 1996, 41, 519-526.	5.2	79
13	Ruthenium based redox flow battery for solar energy storage. <i>Energy Conversion and Management</i> , 2011, 52, 2501-2508.	9.2	78
14	Numerical modelling of a bromide—polysulphide redox flow battery. <i>Journal of Power Sources</i> , 2009, 189, 1220-1230.	7.8	74
15	Structural and electrochemical characterisation of Pt and Pd nanoparticles electrodeposited at the liquid/liquid interface. <i>Electrochimica Acta</i> , 2004, 49, 3937-3945.	5.2	68
16	Nitrogen/sulfur co-doped helical graphene nanoribbons for efficient oxygen reduction in alkaline and acidic electrolytes. <i>Carbon</i> , 2016, 100, 99-108.	10.3	64
17	Continuous water treatment by adsorption and electrochemical regeneration. <i>Water Research</i> , 2011, 45, 3065-3074.	11.3	63
18	Oxidation of phenol and the adsorption of breakdown products using a graphite adsorbent with electrochemical regeneration. <i>Electrochimica Acta</i> , 2013, 92, 20-30.	5.2	61

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19	Electrodeposition of palladium nanoparticles at the liquid-liquid interface using porous alumina templates. <i>Electrochimica Acta</i> , 2003, 48, 3037-3046.	5.2	60
20	In-Operando Mapping of pH Distribution in Electrochemical Processes. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 16815-16819.	13.8	59
21	Fabrication of a Dendrite-Free all Solid-State Li Metal Battery via Polymer Composite/Garnet/Polymer Composite Layered Electrolyte. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900186.	3.7	58
22	Synthesis of a high-temperature stable electrochemically exfoliated graphene. <i>Carbon</i> , 2020, 157, 681-692.	10.3	55
23	A numerical and experimental study of transition processes in an obstructed channel flow. <i>Journal of Fluid Mechanics</i> , 1994, 260, 185-209.	3.4	49
24	Removal of Phenol from Contaminated Kaolin Using Electrokinetically Enhanced In Situ Chemical Oxidation. <i>Environmental Science & Technology</i> , 2006, 40, 6098-6103.	10.0	49
25	Evaluation of composite membranes for direct methanol fuel cells. <i>Journal of Power Sources</i> , 2006, 154, 115-123.	7.8	49
26	Electrochemical pre-treatment of effluents containing chlorinated compounds using an adsorbent. <i>Journal of Applied Electrochemistry</i> , 2007, 37, 1329-1335.	2.9	49
27	Numerical modelling of a bromide-polysulphide redox flow battery. Part 2: Evaluation of a utility-scale system. <i>Journal of Power Sources</i> , 2009, 189, 1231-1239.	7.8	47
28	Electrocatalytic Activity of Functionalized Carbon Paper Electrodes and Their Correlation to the Fermi Level Derived from Raman Spectra. <i>ACS Applied Energy Materials</i> , 2019, 2, 2324-2336.	5.1	47
29	Controlled deposition of nanoparticles at the liquid-liquid interface. <i>Chemical Communications</i> , 2002, , 2324-2325.	4.1	46
30	Nafion®/mordenite composite membranes for improved direct methanol fuel cell performance. <i>Journal of Membrane Science</i> , 2011, 369, 367-374.	8.2	46
31	All-Chromium Redox Flow Battery for Renewable Energy Storage. <i>International Journal of Green Energy</i> , 2011, 8, 248-264.	3.8	45
32	A novel porous carbon based on diatomaceous earth. <i>Chemical Communications</i> , 2006, , 2662.	4.1	44
33	Improvement of direct methanol fuel cell performance using a novel mordenite barrier layer. <i>Journal of Materials Chemistry A</i> , 2016, 4, 10850-10857.	10.3	42
34	Removal of organic compounds from water: life cycle environmental impacts and economic costs of the Arvia process compared to granulated activated carbon. <i>Journal of Cleaner Production</i> , 2015, 89, 203-213.	9.3	41
35	Chromium removal using a porous carbon felt cathode. <i>Journal of Applied Electrochemistry</i> , 2002, 32, 1091-1099.	2.9	36
36	Removal of tyrosol from water by adsorption on carbonaceous materials and electrochemical advanced oxidation processes. <i>Chemosphere</i> , 2018, 201, 807-815.	8.2	35

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37	The development of asymmetry and period doubling for oscillatory flow in baffled channels. <i>Journal of Fluid Mechanics</i> , 1996, 328, 19-48.	3.4	34
38	The simulation of stretch rates for the quantitative prediction and mapping of mixing within a channel flow. <i>Chemical Engineering Science</i> , 1995, 50, 3727-3746.	3.8	33
39	Disinfection of water by adsorption combined with electrochemical treatment. <i>Water Research</i> , 2014, 54, 170-178.	11.3	32
40	Hydrodynamic voltammetry in microreactors: multiphase flow. <i>Electrochemistry Communications</i> , 2002, 4, 579-583.	4.7	30
41	Voltammetry with Liquid/Liquid Microarrays: Characterization of Membrane Materials. <i>Langmuir</i> , 2003, 19, 8019-8025.	3.5	30
42	Evaluation of porous carbon substrates as catalyst supports for the cathode of direct methanol fuel cells. <i>RSC Advances</i> , 2012, 2, 1669-1674.	3.6	29
43	Enhanced Sensitivity of Dopamine Biosensors: An Electrochemical Approach Based on Nanocomposite Electrodes Comprising Polyaniline, Nitrogen-Doped Graphene, and DNA-Functionalized Carbon Nanotubes. <i>Journal of the Electrochemical Society</i> , 2019, 166, B1415-B1425.	2.9	29
44	Modelling of redox flow battery electrode processes at a range of length scales: a review. <i>Sustainable Energy and Fuels</i> , 2020, 4, 5433-5468.	4.9	29
45	Hydrodynamic Study of Ion Transfer at the Liquid/Liquid Interface: the Channel Flow Cell. <i>Analytical Chemistry</i> , 2003, 75, 486-493.	6.5	28
46	Electrochemical quantification of high-affinity halide binding by a steroid-based receptor. <i>Organic and Biomolecular Chemistry</i> , 2004, 2, 2716.	2.8	28
47	Breakdown products formed due to oxidation of adsorbed phenol by electrochemical regeneration of a graphite adsorbent. <i>Electrochimica Acta</i> , 2013, 110, 550-559.	5.2	28
48	Environmentally friendly preparation of exfoliated graphite. <i>Journal of Industrial and Engineering Chemistry</i> , 2014, 20, 1936-1941.	5.8	28
49	Wastewater treatment by adsorption with electrochemical regeneration using graphite-based adsorbents. <i>Journal of Applied Electrochemistry</i> , 2012, 42, 797-807.	2.9	27
50	Pre-treatment of adsorbents for waste water treatment using adsorption coupled with electrochemical regeneration. <i>Journal of Industrial and Engineering Chemistry</i> , 2013, 19, 1689-1696.	5.8	26
51	Electrokinetic removal of caesium from kaolin. <i>Journal of Hazardous Materials</i> , 2005, 122, 91-101.	12.4	25
52	Encapsulation of metal particles within the wall structure of mesoporous carbons. <i>Chemical Communications</i> , 2005, , 1912.	4.1	24
53	A stable TiO ₂ graphene nanocomposite anode with high rate capability for lithium-ion batteries. <i>RSC Advances</i> , 2020, 10, 29975-29982.	3.6	24
54	Reaction and diffusion in a lamellar structure: the effect of the lamellar arrangement upon yield. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 262, 294-306.	2.6	23

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55	Mass Transport and Residence Time Characteristics of an Oscillatory Flow Electrochemical Reactor. <i>Chemical Engineering Research and Design</i> , 1999, 77, 212-217.	5.6	23
56	Thermochemical CO ₂ splitting using double perovskite-type Ba ₂ Ca _{0.66} Nb _{1.34} xFe _x O ₆ . <i>Journal of Materials Chemistry A</i> , 2017, 5, 6874-6883.	10.3	23
57	Hybrid energy storage using nitrogen-doped graphene and layered-MXene (Ti ₃ C ₂) for stable high-rate supercapacitors. <i>Electrochimica Acta</i> , 2021, 388, 138664.	5.2	22
58	A systematic diagnosis of state of the art in the use of electrocoagulation as a sustainable technology for pollutant treatment: An updated review. <i>Sustainable Energy Technologies and Assessments</i> , 2021, 47, 101353.	2.7	22
59	In situ chemical polymerization of conducting polymer nanocomposites: Effect of DNA-functionalized carbon nanotubes and nitrogen-doped graphene as catalytic molecular templates. <i>Chemical Engineering Journal</i> , 2020, 389, 124500.	12.7	21
60	A membrane free electrochemical cell using porous flow-through graphite felt electrodes. <i>Journal of Applied Electrochemistry</i> , 2008, 38, 637-644.	2.9	20
61	Transport and Electrochemical Interface Properties of Ionomers in Low-Pt Loading Catalyst Layers: Effect of Ionomer Equivalent Weight and Relative Humidity. <i>Molecules</i> , 2020, 25, 3387.	3.8	20
62	Co-Doped Electrochemically Exfoliated Graphene/Polymer Nanocomposites with High Dielectric Constant and Low Dielectric Loss for Flexible Dielectrics and Charge Storage. <i>ACS Applied Nano Materials</i> , 2020, 3, 4512-4521.	5.0	20
63	Mixed-acid intercalation for synthesis of a high conductivity electrochemically exfoliated graphene. <i>Carbon</i> , 2021, 171, 130-141.	10.3	19
64	Electrochemical regeneration of a graphite adsorbent loaded with Acid Violet 17 in a spouted bed reactor. <i>Chemical Engineering Journal</i> , 2016, 304, 1-9.	12.7	18
65	Electrocoagulation using an oscillating anode for kaolin removal. <i>Journal of Environmental Chemical Engineering</i> , 2018, 6, 2785-2793.	6.7	18
66	Influence of Flow Field Design on Zinc Deposition and Performance in a Zinc-Iodide Flow Battery. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 41563-41572.	8.0	18
67	How does periodic polarity reversal affect the faradaic efficiency and electrode fouling during iron electrocoagulation?. <i>Water Research</i> , 2021, 203, 117497.	11.3	18
68	Removal of Tartrazine From Water by Adsorption with Electrochemical Regeneration. <i>Chemical Engineering Communications</i> , 2015, 202, 1280-1288.	2.6	17
69	Electrochemical Oxidation of an Organic Dye Adsorbed on Tin Oxide and Antimony Doped Tin Oxide Graphene Composites. <i>Catalysts</i> , 2020, 10, 263.	3.5	17
70	Investigation of electrode passivation during electrocoagulation treatment with aluminum electrodes for high silica content produced water. <i>Water Science and Technology</i> , 2022, 85, 925-942.	2.5	17
71	A two-stage reaction with initially separated reactants. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 256, 65-86.	2.6	15
72	Treatment of dyehouse effluents with a carbon-based adsorbent using anodic oxidation regeneration. <i>Water Science and Technology</i> , 2004, 49, 219-225.	2.5	15

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73	Magnetic nanofluidic electrolyte for enhancing the performance of polysulfide/iodide redox flow batteries. <i>Electrochimica Acta</i> , 2021, 369, 137687.	5.2	15
74	The influence of segregation on the yield for a seriesâ€“parallel reaction. <i>Chemical Engineering Science</i> , 1998, 53, 1791-1801.	3.8	14
75	Inâ€“Operando Mapping of pH Distribution in Electrochemical Processes. <i>Angewandte Chemie</i> , 2019, 131, 16971-16975.	2.0	14
76	Comparative adsorptionâ€“regeneration performance for newly developed carbonaceous adsorbent. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 69, 90-98.	5.8	14
77	Anodic electrochemical regeneration of a graphene/titanium dioxide composite adsorbent loaded with an organic dye. <i>Chemosphere</i> , 2020, 241, 125020.	8.2	14
78	Degradation of Carbon Electrodes in the Allâ€“Vanadium Redox Flow Battery. <i>ChemSusChem</i> , 2021, 14, 2100-2111.	6.8	14
79	Disinfection performance of adsorption using graphite adsorbent coupled with electrochemical regeneration for various microorganisms present in water. <i>Journal of Industrial and Engineering Chemistry</i> , 2016, 44, 216-225.	5.8	13
80	Electrocoagulation Separation Processes. <i>ACS Symposium Series</i> , 2020, , 167-203.	0.5	13
81	The effects of anodic treatment on the surface chemistry of a Graphite Intercalation Compound. <i>Electrochimica Acta</i> , 2014, 135, 568-577.	5.2	12
82	Electrochemically Exfoliated Graphite Nanosheet Films for Electromagnetic Interference Shields. <i>ACS Applied Nano Materials</i> , 2021, 4, 7221-7233.	5.0	12
83	Effects of aluminum, iron, and manganese sulfate impurities on the vanadium redox flow battery. <i>Journal of Power Sources</i> , 2022, 529, 231271.	7.8	12
84	Solid state electrochemical synthesis of titanium carbide. <i>Chemical Physics Letters</i> , 2015, 621, 184-187.	2.6	11
85	The Influence of a Lamellar Structure upon the Yield of a Chemical Reaction. <i>Chemical Engineering Research and Design</i> , 2000, 78, 371-377.	5.6	10
86	The oxidation of aqueous thiols on a graphite intercalation compound adsorbent. <i>Adsorption</i> , 2013, 19, 989-996.	3.0	10
87	Combined adsorption/regeneration process for the removal of trace emulsified hydrocarbon contaminants. <i>Chemosphere</i> , 2019, 230, 596-605.	8.2	10
88	The effect of non-uniform compression on the performance of polymer electrolyte fuel cells. <i>Journal of Power Sources</i> , 2022, 521, 230973.	7.8	10
89	Measuring striation widths. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1999, 260, 209-217.	2.1	9
90	The combination of adsorbent slurry sorption with adsorbent electrochemical regeneration for VOC removal. <i>Chemical Engineering Journal</i> , 2012, 198-199, 130-137.	12.7	9

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91	Potential Graphite Materials for the Synthesis of GICs. <i>Chemical Engineering Communications</i> , 2015, 202, 508-512.	2.6	9
92	Removal of mercaptans from a gas stream using continuous adsorption-regeneration. <i>Water Science and Technology</i> , 2012, 66, 1849-1855.	2.5	8
93	Removal of humic acid from water using adsorption coupled with electrochemical regeneration. <i>Korean Journal of Chemical Engineering</i> , 2013, 30, 1415-1422.	2.7	8
94	Chlorinated breakdown products formed during oxidation of adsorbed phenol by electrochemical regeneration of a graphite intercalation compound. <i>Journal of Industrial and Engineering Chemistry</i> , 2015, 30, 212-219.	5.8	8
95	Electro-deoxidation modelling of titanium dioxide to titanium. <i>Electrochimica Acta</i> , 2016, 209, 95-101.	5.2	8
96	Novel Magnetic Flowable Electrode for Redox Flow Batteries: A Polysulfide/Iodide Case Study. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 824-841.	3.7	8
97	Determination of the local micromixing structure in laminar flows. <i>Chemical Engineering Journal</i> , 2010, 160, 267-276.	12.7	7
98	On-site destruction of radioactive oily wastes using adsorption coupled with electrochemical regeneration. <i>Chemical Engineering Research and Design</i> , 2013, 91, 713-721.	5.6	7
99	Electrochemically synthesized GIC-based adsorbents for water treatment through adsorption and electrochemical regeneration. <i>Journal of Industrial and Engineering Chemistry</i> , 2014, 20, 2200-2207.	5.8	7
100	Free chlorine formation during electrochemical regeneration of a graphite intercalation compound adsorbent used for wastewater treatment. <i>Journal of Applied Electrochemistry</i> , 2015, 45, 611-621.	2.9	7
101	Prediction of diffusional conductance in extracted pore network models using convolutional neural networks. <i>Computers and Geosciences</i> , 2022, 162, 105086.	4.2	7
102	Towards an odour control system combining slurry sorption and electrochemical regeneration. <i>Chemical Engineering Science</i> , 2012, 79, 219-227.	3.8	6
103	Combining adsorption with anodic oxidation as an innovative technique for removal and destruction of organics. <i>Water Science and Technology</i> , 2013, 68, 1216-1222.	2.5	6
104	Synthesis of electrically conducting composite adsorbents for wastewater treatment using adsorption & electrochemical regeneration. <i>Journal of Industrial and Engineering Chemistry</i> , 2014, 20, 781-786.	5.8	6
105	Improved phenol adsorption from aqueous solution using electrically conducting adsorbents. <i>Korean Journal of Chemical Engineering</i> , 2014, 31, 834-840.	2.7	6
106	Titanium production in rotationally symmetric electrochemical reactors. <i>Electrochimica Acta</i> , 2015, 164, 48-54.	5.2	6
107	On the possibility of electrochemical unzipping of multiwalled carbon nanotubes to produce graphene nanoribbons. <i>Materials Research Bulletin</i> , 2016, 80, 243-248.	5.2	6
108	<i>Operando</i> Studies of Iodine Species in an Advanced Oxidative Water Treatment Reactor. <i>ACS ES&T Water</i> , 2021, 1, 2293-2304.	4.6	5

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109	Mercaptan's Removal from Aqueous Solution using Modified Graphite-Based Adsorbent through Batch-Wise Adsorption-Regeneration. <i>Chemical Engineering Communications</i> , 2015, 202, 1155-1160.	2.6	4
110	The impact of a magnetic field on electrode fouling during electrocoagulation. <i>Chemosphere</i> , 2022, 303, 135207.	8.2	4
111	Exploring the impact of an NSERC CREATE program on job readiness among science and engineering graduate students and postdoctoral fellows. <i>Education for Chemical Engineers</i> , 2021, 36, 176-189.	4.8	3
112	Wastewater treatment by multi-stage batch adsorption and electrochemical regeneration. <i>Journal of Electrochemical Science and Engineering</i> , 2012, , .	3.5	3
113	A new hydrodynamic strategy for studying liquid-liquid reactivity. <i>Journal of Electroanalytical Chemistry</i> , 2000, 483, 197-200.	3.8	2
114	Effect of electrochemical regeneration on the surface of a graphite adsorbent loaded with an organic contaminant. <i>International Journal of Environmental Science and Technology</i> , 2020, 17, 3131-3142.	3.5	2
115	Treatment of Thiols in a GAS Stream Using Adsorption with Electrochemical Regeneration. <i>Chemical Engineering Communications</i> , 2015, 202, 1018-1023.	2.6	1