

Michael Breedon

List of Publications by Year in descending order

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62
papers

2,262
citations

331670

21
h-index

214800

47
g-index

64
all docs

64
docs citations

64
times ranked

3065
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 1 | Graphene-like nano-sheets for surface acoustic wave gas sensor applications. <i>Chemical Physics Letters</i> , 2009, 467, 344-347. | 2.6 | 354 |
| 2 | Synthesis of Atomically Thin WO ₃ Sheets from Hydrated Tungsten Trioxide. <i>Chemistry of Materials</i> , 2010, 22, 5660-5666. | 6.7 | 215 |
| 3 | Synthesis of Nanostructured Tungsten Oxide Thin Films: A Simple, Controllable, Inexpensive, Aqueous Sol-gel Method. <i>Crystal Growth and Design</i> , 2010, 10, 430-439. | 3.0 | 164 |
| 4 | Absorption spectral response of nanotextured WO ₃ thin films with Pt catalyst towards H ₂ . <i>Sensors and Actuators B: Chemical</i> , 2009, 137, 115-120. | 7.8 | 147 |
| 5 | Towards chromate-free corrosion inhibitors: structure-property models for organic alternatives. <i>Green Chemistry</i> , 2014, 16, 3349-3357. | 9.0 | 132 |
| 6 | High-Temperature Anodized WO ₃ Nanoplatelet Films for Photosensitive Devices. <i>Langmuir</i> , 2009, 25, 9545-9551. | 3.5 | 111 |
| 7 | Using high throughput experimental data and in silico models to discover alternatives to toxic chromate corrosion inhibitors. <i>Corrosion Science</i> , 2016, 106, 229-235. | 6.6 | 101 |
| 8 | Aqueous synthesis of interconnected ZnO nanowires using spray pyrolysis deposited seed layers. <i>Materials Letters</i> , 2010, 64, 291-294. | 2.6 | 91 |
| 9 | In situ Raman spectroscopy of H ₂ interaction with WO ₃ films. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 7330. | 2.8 | 77 |
| 10 | Electrowetting of Superhydrophobic ZnO Nanorods. <i>Langmuir</i> , 2008, 24, 5091-5098. | 3.5 | 75 |
| 11 | Adsorption of NO ₂ on Oxygen Deficient ZnO(211̄...1̄...0) for Gas Sensing Applications: A DFT Study. <i>Journal of Physical Chemistry C</i> , 2010, 114, 16603-16610. | 3.1 | 67 |
| 12 | Adsorption of NO and NO ₂ on the ZnO() surface: A DFT study. <i>Surface Science</i> , 2009, 603, 3389-3399. | 1.9 | 49 |
| 13 | Fast formation of thick and transparent titania nanotubular films from sputtered Ti. <i>Electrochemistry Communications</i> , 2009, 11, 1308-1311. | 4.7 | 40 |
| 14 | Augmenting H ₂ sensing performance of YSZ-based electrochemical gas sensors via the application of Au mesh and YSZ coating. <i>Sensors and Actuators B: Chemical</i> , 2013, 182, 40-44. | 7.8 | 37 |
| 15 | Construction of Sensitive and Selective Zirconia-Based CO Sensors Using ZnCr ₂ O ₄ -Based Sensing Electrodes. <i>Langmuir</i> , 2012, 28, 1638-1645. | 3.5 | 36 |
| 16 | Stabilized zirconia-based planar sensor using coupled oxide(+Au) electrodes for highly selective CO detection. <i>Sensors and Actuators B: Chemical</i> , 2011, 160, 1273-1281. | 7.8 | 34 |
| 17 | Stabilized zirconia-based sensor utilizing SnO ₂ -based sensing electrode with an integrated Cr ₂ O ₃ catalyst layer for sensitive and selective detection of hydrogen. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 305-312. | 7.1 | 31 |
| 18 | Correlation between molecular features and electrochemical properties using an artificial neural network. <i>Materials and Design</i> , 2016, 112, 410-418. | 7.0 | 29 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 19 | Sensing behavior of YSZ-based amperometric NO ₂ sensors consisting of Mn-based reference-electrode and In ₂ O ₃ sensing-electrode. <i>Talanta</i> , 2012, 88, 318-323. | 5.5 | 27 |
| 20 | Influence of thickness of sub-micron Cu ₂ O-doped RuO ₂ electrode on sensing performance of planar electrochemical pH sensors. <i>Materials Letters</i> , 2012, 75, 165-168. | 2.6 | 26 |
| 21 | Surface Reactions of Ethylene Carbonate and Propylene Carbonate on the Li(001) Surface. <i>Electrochimica Acta</i> , 2017, 243, 320-330. | 5.2 | 26 |
| 22 | Stability of Boronium Cation-Based Ionic Liquid Electrolytes on the Li Metal Anode Surface. <i>ACS Applied Energy Materials</i> , 2020, 3, 5497-5509. | 5.1 | 24 |
| 23 | Selective hydrogen detection at high temperature by using yttria-stabilized zirconia-based sensor with coupled metal-oxide-based sensing electrodes. <i>Electrochimica Acta</i> , 2012, 76, 152-158. | 5.2 | 21 |
| 24 | Insight into the Aging Effect on Enhancement of Hydrogen-Sensing Characteristics of a Zirconia-Based Sensor Utilizing a Zn-Ta-O-Based Sensing Electrode. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 12099-12106. | 8.0 | 20 |
| 25 | The interaction of ethylammonium tetrafluoroborate [EtNH ₃ ⁺][BF ₄ ⁻] ionic liquid on the Li(001) surface: towards understanding early SEI formation on Li metal. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 10028-10037. | 2.8 | 20 |
| 26 | A Hydrogen Gas Sensor Based on Pt/Nanostructured WO ₃ /SiC Schottky Diode. <i>Sensor Letters</i> , 2011, 9, 11-15. | 0.4 | 19 |
| 27 | C ₃ H ₆ sensing characteristics of rod-type yttria-stabilized zirconia-based sensor for ppb level environmental monitoring applications. <i>Electrochimica Acta</i> , 2012, 73, 118-122. | 5.2 | 18 |
| 28 | Sensing characteristics of aged zirconia-based hydrogen sensor utilizing Zn-Ta-based oxide sensing-electrode. <i>Electrochemistry Communications</i> , 2013, 31, 133-136. | 4.7 | 18 |
| 29 | Molecular ionization and deprotonation energies as indicators of functional coating performance. <i>Journal of Materials Chemistry A</i> , 2014, 2, 16660-16668. | 10.3 | 18 |
| 30 | Improvement of Toluene Selectivity via the Application of an Ethanol Oxidizing Catalytic Cell Upstream of a YSZ-Based Sensor for Air Monitoring Applications. <i>Sensors</i> , 2012, 12, 4706-4714. | 3.8 | 17 |
| 31 | Seeded growth of ZnO nanorods from NaOH solutions. <i>Materials Letters</i> , 2009, 63, 249-251. | 2.6 | 15 |
| 32 | The synthesis and gas sensitivity of CuO micro-dimensional structures featuring a stepped morphology. <i>Materials Letters</i> , 2012, 82, 51-53. | 2.6 | 14 |
| 33 | Zn-Ta-based oxide as a hydrogen sensitive electrode material for zirconia-based electrochemical gas sensors. <i>Sensors and Actuators B: Chemical</i> , 2013, 187, 58-64. | 7.8 | 14 |
| 34 | Modeling corrosion inhibition efficacy of small organic molecules as non-toxic chromate alternatives using comparative molecular surface analysis (CoMSA). <i>Chemosphere</i> , 2016, 160, 80-88. | 8.2 | 14 |
| 35 | Towards materials discovery: assays for screening and study of chemical interactions of novel corrosion inhibitors in solution and coatings. <i>New Journal of Chemistry</i> , 2020, 44, 7647-7658. | 2.8 | 14 |
| 36 | A comparison of forward and reverse bias operation in a Pt/nanostructured ZnO Schottky diode based hydrogen sensor. <i>Procedia Chemistry</i> , 2009, 1, 979-982. | 0.7 | 13 |

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|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 37 | Adsorption of atomic nitrogen and oxygen on $\text{ZnO}(2 \times 1 \text{ or } 1 \times 1)0$ surface: a density functional theory study. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 144208. | 1.8 | 13 |
| 38 | Compact YSZ-Rod-Based Hydrocarbon Sensor Utilizing Metal-Oxide Sensing-Electrode and Mn-Based Reference-Electrode Combination. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, J23. | 2.2 | 12 |
| 39 | Effect of Sintering Temperature on Hydrogen Sensing Characteristics of Zirconia Sensor Utilizing Zn-Ta-O-Based Sensing Electrode. <i>Journal of the Electrochemical Society</i> , 2013, 160, B164-B169. | 2.9 | 11 |
| 40 | Evaluation of novel Griess-reagent candidates for nitrite sensing in aqueous media identified via molecular fingerprint searching. <i>RSC Advances</i> , 2019, 9, 3994-4000. | 3.6 | 11 |
| 41 | A microclimate model to simulate neutral salt spray testing for corrosion inhibitor evaluation and functional coating development. <i>Progress in Organic Coatings</i> , 2017, 111, 327-335. | 3.9 | 10 |
| 42 | Gas Sensing Properties of Interconnected ZnO Nanowires. <i>Sensor Letters</i> , 2011, 9, 929-935. | 0.4 | 10 |
| 43 | Reduction in Ethanol Interference of Zirconia-Based Sensor for Selective Detection of Volatile Organic Compounds. <i>Journal of the Electrochemical Society</i> , 2013, 160, B146-B151. | 2.9 | 9 |
| 44 | Adsorption of NO_2 on YSZ(111) and Oxygen-Enriched YSZ(111) Surfaces. <i>Journal of Physical Chemistry C</i> , 2013, 117, 12472-12482. | 3.1 | 9 |
| 45 | The correlation between electric field emission phenomenon and Schottky contact reverse bias characteristics in nanostructured systems. <i>Journal of Applied Physics</i> , 2011, 109, 114316. | 2.5 | 7 |
| 46 | Spectroscopic and Computational Study of Boronium Ionic Liquids and Electrolytes. <i>Chemistry - A European Journal</i> , 2021, 27, 12826-12834. | 3.3 | 7 |
| 47 | Working Mechanism of Novel Mn-Based Reference Electrode for Solid-State Electrochemical Gas Sensors. <i>Journal of the Electrochemical Society</i> , 2012, 159, B801-B810. | 2.9 | 5 |
| 48 | The (In)Stability of the Ionic Liquids [(TMEDA) BH_2][TFSI] and [FSI] on the Li(001) Surface. <i>Batteries and Supercaps</i> , 2021, 4, 1126-1134. | 4.7 | 5 |
| 49 | Fluorinated Boron-Based Anions for Higher Voltage Li Metal Battery Electrolytes. <i>Nanomaterials</i> , 2021, 11, 2391. | 4.1 | 4 |
| 50 | Towards higher electrochemical stability of electrolytes: lithium salt design through <i>in silico</i> screening. <i>Journal of Materials Chemistry A</i> , 2022, 10, 13254-13265. | 10.3 | 4 |
| 51 | ZnO nanostructured arrays grown from aqueous solutions on different substrates. , 2008, , . | | 3 |
| 52 | ZnO nanostructures grown on epitaxial GaN. <i>Thin Solid Films</i> , 2009, 518, 1053-1056. | 1.8 | 3 |
| 53 | Fe-based Solid Reference Electrode Utilized in YSZ-Based Oxygen Sensor. <i>ECS Electrochemistry Letters</i> , 2012, 2, B1-B3. | 1.9 | 3 |
| 54 | The adsorption of NO on YSZ(111) and oxygen-enriched YSZ(111) surfaces. <i>Chemical Physics Letters</i> , 2014, 593, 61-68. | 2.6 | 3 |

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|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 55 | The interaction of several fluorinated ionic liquids on the LiF(001) surface. Surfaces and Interfaces, 2021, 22, 100836. | 3.0 | 3 |
| 56 | Potentiometric YSZ-Based Sensors Using Zn-Ta-O-Based Sensing Electrode for Selective H ₂ Detection. ECS Transactions, 2013, 50, 179-187. | 0.5 | 2 |
| 57 | Superhydrophobic and superhydrophilic surfaces with MoO _x sub micron structures. , 2007, , . | | 0 |
| 58 | UV-induced wettability change of teflon-modified ZnO nanorod arrays on LiNbO ₃ substrate. , 2008, , . | | 0 |
| 59 | Developing High-Throughput Assays for Screening and Studying Chemical Interactions of Novel Corrosion Inhibitors in Solution and Coatings. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |
| 60 | Developing High-Throughput Assays for Screening and Studying Chemical Interactions of Novel Corrosion Inhibitors in Solution and Coatings. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |
| 61 | Faster High Throughput Electrochemical Testing for Batteries. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |
| 62 | Understanding the Link between Anion Structure and Lithium Coordination. ECS Meeting Abstracts, 2019, , . | 0.0 | 0 |