# Alan Savan

List of Publications by Year
in descending order

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|---|---|---|---|
| 90<br>papers | 4,118<br>citations | 126907<br>33<br>h-index | 118850<br>62<br>g-index |
| 90<br>all docs | 90<br>docs citations | 90<br>times ranked | 4805<br>citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Searching novel complex solid solution electrocatalysts in unconventional element combinations. Nano Research, 2022, 15, 4780-4784. | 10.4 | 21 |
| 2 | Zoomingâ€in â€“ Visualization of active site heterogeneity in high entropy alloy electrocatalysts using scanning electrochemical cell microscopy. Electrochemical Science Advances, 2022, 2, e2100105. | 2.8 | 27 |
| 3 | Unravelling Compositionâ€“Activityâ€“Stability Trends in High Entropy Alloy Electrocatalysts by Using a Dataâ€Guided Combinatorial Synthesis Strategy and Computational Modeling. Advanced Energy Materials, 2022, 12, . | 19.5 | 42 |
| 4 | High-throughput discovery of hydrogen evolution electrocatalysts in the complex solid solution system Coâ€“Crâ€“Feâ€“Moâ€“Ni. Journal of Materials Chemistry A, 2022, 10, 9981-9987. | 10.3 | 12 |
| 5 | Linear growth of reaction layer during in-situ TEM annealing of thin film Al/Ni diffusion couples. Journal of Alloys and Compounds, 2022, 922, 165926. | 5.5 | 3 |
| 6 | Complexâ€Solidâ€Solution Electrocatalyst Discovery by Computational Prediction and Highâ€Throughput Experimentation**. Angewandte Chemie - International Edition, 2021, 60, 6932-6937. | 13.8 | 86 |
| 7 | Complexâ€Solidâ€Solution Electrocatalyst Discovery by Computational Prediction and Highâ€Throughput Experimentation**. Angewandte Chemie, 2021, 133, 7008-7013. | 2.0 | 8 |
| 8 | Nanocrystalline equiatomic CoCrFeNi alloy thin films: Are they single phase fcc?. Surface and Coatings Technology, 2021, 410, 126945. | 4.8 | 12 |
| 9 | Stabilization of an iridium oxygen evolution catalyst by titanium oxides. JPhys Energy, 2021, 3, 034006. | 5.3 | 19 |
| 10 | Electrocatalytic oxidation of 2-propanol on PtxIr100-x bifunctional electrocatalysts â€“ A thin-film materials library study. Journal of Catalysis, 2021, 396, 387-394. | 6.2 | 11 |
| 11 | Bayesian Optimization of Highâ€Entropy Alloy Compositions for Electrocatalytic Oxygen Reduction**. Angewandte Chemie, 2021, 133, 24346-24354. | 2.0 | 22 |
| 12 | Bayesian Optimization of Highâ€Entropy Alloy Compositions for Electrocatalytic Oxygen Reduction**. Angewandte Chemie - International Edition, 2021, 60, 24144-24152. | 13.8 | 61 |
| 13 | Atomic scale understanding of phase stability and decomposition of a nanocrystalline CrMnFeCoNi Cantor alloy. Applied Physics Letters, 2021, 119, 201910. | 3.3 | 3 |
| 14 | Design von komplexen Mischkristallâ€Elektrokatalysatoren auf Basis der Korrelation von Konfiguration, Verteilungsmustern der Adsorptionsenergie und AktivitÄtskurven. Angewandte Chemie, 2020, 132, 5893-5900. | 2.0 | 15 |
| 15 | Design of Complex Solidâ€Solution Electrocatalysts by Correlating Configuration, Adsorption Energy Distribution Patterns, and Activity Curves. Angewandte Chemie - International Edition, 2020, 59, 5844-5850. | 13.8 | 81 |
| 16 | Microstructure evolution and thermal stability of equiatomic CoCrFeNi films on (0001) Î±-Al2O3. Acta Materialia, 2020, 200, 908-921. | 7.9 | 12 |
| 17 | Phase decomposition in a nanocrystalline CrCoNi alloy. Scripta Materialia, 2020, 188, 259-263. | 5.2 | 9 |
| 18 | Structure Zone Investigation of Multiple Principle Element Alloy Thin Films as Optimization for Nanoindentation Measurements. Materials, 2020, 13, 2113. | 2.9 | 5 |

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|---|---|---|---|
| 19 | Correlative chemical and structural investigations of accelerated phase evolution in a nanocrystalline high entropy alloy. Scripta Materialia, 2020, 183, 122-126. | 5.2 | 14 |
| 20 | Toward a Paradigm Shift in Electrocatalysis Using Complex Solid Solution Nanoparticles. ACS Energy Letters, 2019, 4, 1206-1214. | 17.4 | 140 |
| 21 | Accelerated atomic-scale exploration of phase evolution in compositionally complex materials. Materials Horizons, 2018, 5, 86-92. | 12.2 | 72 |
| 22 | Using Instability of a Non-stoichiometric Mixed Oxide Oxygen Evolution Catalyst As a Tool to Improve Its Electrocatalytic Performance. Electrocatalysis, 2018, 9, 139-145. | 3.0 | 20 |
| 23 | Discovery of a Multinary Noble Metalâ€“Free Oxygen Reduction Catalyst. Advanced Energy Materials, 2018, 8, 1802269. | 19.5 | 227 |
| 24 | Atomic-scale investigation of fast oxidation kinetics of nanocrystalline CrMnFeCoNi thin films. Journal of Alloys and Compounds, 2018, 766, 1080-1085. | 5.5 | 39 |
| 25 | Combinatorial metallurgical synthesis and processing of high-entropy alloys. Journal of Materials Research, 2018, 33, 3156-3169. | 2.6 | 83 |
| 26 | High-throughput study of binary thin film tungsten alloys. International Journal of Refractory Metals and Hard Materials, 2017, 69, 40-48. | 3.8 | 3 |
| 27 | Nanostructured Tiâ€“Ta thin films synthesized by combinatorial glancing angle sputter deposition. Nanotechnology, 2016, 27, 495604. | 2.6 | 13 |
| 28 | On the Origin of the Improved Ruthenium Stability in RuO<sub>2</sub>â€“IrO<sub>2</sub>Mixed Oxides. Journal of the Electrochemical Society, 2016, 163, F3099-F3104. | 2.9 | 82 |
| 29 | Structural and multifunctional properties of magnetron-sputtered Feâ€“P(â€“Mn) thin films. Thin Solid Films, 2016, 603, 262-267. | 1.8 | 5 |
| 30 | Oxygen and hydrogen evolution reactions on Ru, RuO 2 , Ir, and IrO 2 thin film electrodes in acidic and alkaline electrolytes: A comparative study on activity and stability. Catalysis Today, 2016, 262, 170-180. | 4.4 | 999 |
| 31 | Combinatorial synthesis and high-throughput characterization of the thin film materials system Co-Mn-Ge: Composition, structure, and magnetic properties. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1969-1974. | 1.8 | 9 |
| 32 | Properties of anodic oxides grown on a hafniumâ€“tantalumâ€“titanium thin film library. Science and Technology of Advanced Materials, 2014, 15, 015006. | 6.1 | 21 |
| 33 | Compositionâ€Dependent Oxygen Reduction Activity and Stability of Ptâ€“Cu Thin Films. ChemElectroChem, 2014, 1, 358-361. | 3.4 | 22 |
| 34 | Potential-resolved dissolution of Pt-Cu: A thin-film material library study. Electrochimica Acta, 2014, 144, 332-340. | 5.2 | 37 |
| 35 | Electrochemistry on binary valve metal combinatorial libraries: niobium-tantalum thin films. Electrochimica Acta, 2014, 140, 366-375. | 5.2 | 12 |
| 36 | Synthesis of Au microwires by selective oxidation of Auâ€“W thin-film composition spreads. Science and Technology of Advanced Materials, 2013, 14, 015003. | 6.1 | 2 |

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| 37 | Scanning droplet cell microscopy on a wide range hafniumâ€“niobium thin film combinatorial library. Electrochimica Acta, 2013, 110, 539-549. | 5.2 | 25 |
| 38 | High-Throughput Compositional and Structural Evaluation of a Li<sub>a</sub>(Ni<sub>x</sub>Mn<sub>y</sub>Co<sub>z</sub>)O<sub>r</sub> Thin Film Battery Materials Library. ACS Combinatorial Science, 2013, 15, 401-409. | 3.8 | 18 |
| 39 | Layered WO3/TiO2 nanostructures with enhanced photocurrent densities. International Journal of Hydrogen Energy, 2013, 38, 15954-15964. | 7.1 | 42 |
| 40 | Pt-Cu Alloys as Catalysts for the Oxygen Reduction Reaction - A Thin-Film Study of Activity and Stability. ECS Transactions, 2013, 58, 587-592. | 0.5 | 2 |
| 41 | Preparation of 24 Ternary Thin Film Materials Libraries on a Single Substrate in One Experiment for Irreversible High-Throughput Studies. ACS Combinatorial Science, 2012, 14, 25-30. | 3.8 | 8 |
| 42 | High-throughput study of martensitic transformations in the complete Tiâ€“Niâ€“Cu system. Intermetallics, 2012, 26, 98-109. | 3.9 | 37 |
| 43 | Small-Scale Deposition of Thin Films and Nanoparticles by Microevaporation Sources. Journal of Microelectromechanical Systems, 2011, 20, 21-27. | 2.5 | 3 |
| 44 | High-Throughput Characterization of Pt Supported on Thin Film Oxide Material Libraries Applied in the Oxygen Reduction Reaction. Analytical Chemistry, 2011, 83, 1916-1923. | 6.5 | 26 |
| 45 | Applications of an energyâ€dispersive pnCCD for Xâ€ray reflectivity: Investigation of interdiffusion in Feâ€“Pt multilayers. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2601-2607. | 1.8 | 12 |
| 46 | Interdiffusion in Fe/Pt Multilayers: In Situ High Temperature Synchrotron Radiation Reflectivity Study. Advanced Engineering Materials, 2011, 13, 475-479. | 3.5 | 3 |
| 47 | A New Prototype Twoâ€Phase (TiNi)â€“(Î²â€W) SMA System with Tailorable Thermal Hysteresis. Advanced Functional Materials, 2011, 21, 113-118. | 14.9 | 30 |
| 48 | Phase transformation, structural and functional fatigue properties of Tiâ€“Niâ€“Hf shape memory thin films. Acta Materialia, 2011, 59, 3267-3275. | 7.9 | 52 |
| 49 | Enhanced photoelectrochemical properties of WO3 thin films fabricated by reactive magnetron sputtering. International Journal of Hydrogen Energy, 2011, 36, 4724-4731. | 7.1 | 82 |
| 50 | High-throughput characterization of the Seebeck coefficient of a-(Cr1 â^'xSix)1 â^'yOythin film materials libraries as verification of the extended thermopower formula. Journal of Physics Condensed Matter, 2011, 23, 265501. | 1.8 | 4 |
| 51 | High-throughput characterization of film thickness in thin film materials libraries by digital holographic microscopy. Science and Technology of Advanced Materials, 2011, 12, 054201. | 6.1 | 10 |
| 52 | Combinatorial investigation of Feâ€“B thin-film nanocomposites. Science and Technology of Advanced Materials, 2011, 12, 054208. | 6.1 | 7 |
| 53 | Identification of Quaternary Shape Memory Alloys with Nearâ€Zero Thermal Hysteresis and Unprecedented Functional Stability. Advanced Functional Materials, 2010, 20, 1917-1923. | 14.9 | 304 |
| 54 | Combinatorial investigation of Hfâ€“Ta thin films and their anodic oxides. Electrochimica Acta, 2010, 55, 7884-7891. | 5.2 | 37 |

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| 55 | Effects of annealing time on the structural and magnetic properties of L10 FePt thin films. Thin Solid Films, 2010, 518, 4977-4985. | 1.8 | 14 |
| 56 | Microstructure and magnetic properties of FeCo/Ti thin film multilayers annealed in nitrogen. Thin Solid Films, 2010, 519, 770-774. | 1.8 | 5 |
| 57 | The ferromagnetic shape memory system Feâ€“Pdâ€“Cu. Acta Materialia, 2010, 58, 5949-5961. | 7.9 | 39 |
| 58 | Identification of optimized Tiâ€“Niâ€“Cu shape memory alloy compositions for high-frequency thin film microactuator applications. Smart Materials and Structures, 2010, 19, 065032. | 3.5 | 25 |
| 59 | Thermally Oxidized Mnâ€“Co Thin Films as Protective Coatings for SOFC Interconnects. Journal of the Electrochemical Society, 2009, 156, B1431. | 2.9 | 37 |
| 60 | High-throughput study of the anodic oxidation of Hfâ€“Ti thin films. Electrochimica Acta, 2009, 54, 5171-5178. | 5.2 | 20 |
| 61 | High-throughput synthesis and characterization of anodic oxides on Nbâ€“Ti alloys. Electrochimica Acta, 2009, 54, 5973-5980. | 5.2 | 39 |
| 62 | A combinatorial passivation study of Taâ€“Ti alloys. Corrosion Science, 2009, 51, 1519-1527. | 6.6 | 50 |
| 63 | Micro-hotplates for high-throughput thin film processing and in situ phase transformation characterization. Sensors and Actuators A: Physical, 2008, 147, 576-582. | 4.1 | 28 |
| 64 | Investigation of thermally oxidised Mnâ€“Co thin films for application in SOFC metallic interconnects. Applied Surface Science, 2008, 255, 1850-1859. | 6.1 | 33 |
| 65 | Combinatorial fabrication and high-throughput characterization of a Tiâ€“Niâ€“Cu shape memory thin film composition spread. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 481-482, 151-155. | 5.6 | 60 |
| 66 | Development of multifunctional thin films using high-throughput experimentation methods. International Journal of Materials Research, 2008, 99, 1144-1149. | 0.3 | 116 |
| 67 | Ceramic nitride/metal coatings with enhanced fracture toughness and fatigue resistance using a multiscalar laminate architecture. International Journal of Surface Science and Engineering, 2008, 2, 419. | 0.4 | 1 |
| 68 | High-throughput characterization of hydrogen storage materials using thin films on micromachined Si substrates. Journal of Alloys and Compounds, 2007, 446-447, 516-521. | 5.5 | 42 |
| 69 | Topographical evolution of sputtered chromium nitride thin films. Thin Solid Films, 2007, 515, 2903-2920. | 1.8 | 11 |
| 70 | Combinatorial study of phase transformation characteristics of a Tiâ€“Niâ€“Pd shape memory thin film composition spread in view of microactuator applications. Applied Surface Science, 2007, 254, 743-748. | 6.1 | 45 |
| 71 | Investigation of hard magnetic properties in the Feâ€“Pt system by combinatorial deposition of thin film multilayer libraries. Applied Surface Science, 2006, 252, 2518-2523. | 6.1 | 27 |
| 72 | Corrosion behaviour of MoSx-based coatings deposited onto high speed steel by magnetron sputtering. Surface and Coatings Technology, 2006, 201, 4099-4104. | 4.8 | 19 |

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| 73 | Structural and magnetic characteristics of FeCo thin films modified by combinatorial ion implantation. Thin Solid Films, 2006, 495, 169-174. | 1.8 | 8 |
| 74 | Interdiffusion in Feâ€“Pt multilayers. Journal of Applied Physics, 2006, 100, 073517. | 2.5 | 24 |
| 75 | Effects of temperature on the chemistry and tribology of co-sputtered MoSx-Ti composite thin films. Thin Solid Films, 2005, 489, 137-144. | 1.8 | 35 |
| 76 | Resistance to electrochemical corrosion of CrxNy- and DLC-coated steel tools in the environment of wet wood. Surface and Coatings Technology, 2005, 200, 83-86. | 4.8 | 8 |
| 77 | Reactions of water and ethanol with polycrystalline TiC surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2005, 23, 234-240. | 2.1 | 9 |
| 78 | Design and application of gradient annealing devices for the parallel thermal processing of Fe/Pt multilayers. Materials Research Society Symposia Proceedings, 2005, 894, 1. | 0.1 | 2 |
| 79 | MoS2-based alloys and nanocomposites for solid lubrication. Lubrication Science, 2004, 16, 229-238. | 2.1 | 4 |
| 80 | In-process structuring of CrN coatings, and its influence on friction in dry and lubricated sliding. Wear, 2003, 254, 1099-1105. | 3.1 | 49 |
| 81 | Alloying MoS2 with Al and Au: structure and tribological performance. Surface and Coatings Technology, 2003, 169-170, 716-720. | 4.8 | 40 |
| 82 | Microstructure, chemistry, and tribological performance of MoSx/WSey co-sputtered composites. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1682-1689. | 2.1 | 10 |
| 83 | Structure and mechanical properties of argon assisted carbon nitride films. Thin Solid Films, 2001, 398-399, 124-129. | 1.8 | 12 |
| 84 | Microstructure and tribological performance of MoSx/Au co-sputtered composites. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 609-613. | 2.1 | 15 |
| 85 | Mechanical and tribological performance of MoS2 co-sputtered composites. Surface and Coatings Technology, 2000, 126, 15-24. | 4.8 | 115 |
| 86 | Use of nanoscaled multilayer and compound films to realize a soft lubrication phase within a hard, wear-resistant matrix. Surface and Coatings Technology, 2000, 126, 159-165. | 4.8 | 52 |
| 87 | Characterisation of magnetron sputter deposited MoSx/metal multilayers. Thin Solid Films, 1999, 354, 59-65. | 1.8 | 26 |
| 88 | Morphology and tribological properties of metal (oxide)â€“MoS2 nanostructured multilayer coatings. Surface and Coatings Technology, 1998, 105, 175-183. | 4.8 | 71 |
| 89 | Structural, morphological, chemical and tribological investigations of sputter deposited MoSx/metal multilayer coatings. Surface and Coatings Technology, 1998, 108-109, 340-344. | 4.8 | 74 |
| 90 | Phase constitution of the noble metal thin-film complex solid solution system Ag-Ir-Pd-Pt-Ru in dependence of elemental compositions and annealing temperatures. Nano Research, 0, , 1. | 10.4 | 2 |