Barry Brennan

List of Publications by Year
in descending order

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70 papers	2,802 citations	236833 25 h-index	182361 51 g-index
70 all docs	70 docs citations	70 times ranked	4339 citing authors

#	Article	IF	Citations
1	Using nuclear magnetic resonance proton relaxation to probe the surface chemistry of carbon 2D materials. Nanoscale, 2021, 13, 6389-6393.	2.8	8
2	Gas Cluster Ion Beam Cleaning of CVD-Grown Graphene for Use in Electronic Device Fabrication. ACS Applied Nano Materials, 2021, 4, 5187-5197.	2.4	5
3	Understanding the bonding mechanisms of organic molecules deposited on graphene for biosensing applications. Journal of Chemical Physics, 2021, 155, 174703.	1.2	3
4	Oxidising and carburising catalyst conditioning for the controlled growth and transfer of large crystal monolayer hexagonal boron nitride. 2D Materials, 2020, 7, 024005.	2.0	13
5	Integrated Wafer Scale Growth of Single Crystal Metal Films and High Quality Graphene. ACS Nano, 2020, 14, 13593-13601.	7.3	23
6	Nanoscale characterization of plasma functionalized graphitic flakes using tip-enhanced Raman spectroscopy. Journal of Chemical Physics, 2020, 153, 184708.	1.2	14
7	Understanding metal organic chemical vapour deposition of monolayer WS₂: the enhancing role of Au substrate for simple organosulfur precursors. Nanoscale, 2020, 12, 22234-22244.	2.8	13
8	Mechanical properties of the hollow-wall graphene gyroid lattice. Acta Materialia, 2020, 201, 254-265.	3.8	10
9	Gas physisorption measurements as a quality control tool for the properties of graphene/graphite powders. Carbon, 2020, 167, 585-595.	5.4	16
10	Determining the Level and Location of Functional Groups on Few-Layer Graphene and Their Effect on the Mechanical Properties of Nanocomposites. ACS Applied Materials & Interfaces, 2020, 12, 13481-13493.	4.0	27
11	Reactive intercalation and oxidation at the buried graphene-germanium interface. APL Materials, 2019, 7, .	2.2	16
12	The Role and Control of Residual Bulk Oxygen in the Catalytic Growth of 2D Materials. Journal of Physical Chemistry C, 2019, 123, 16257-16267.	1.5	21
13	Unusual oxidation-induced core-level shifts at the HfO2/InP interface. Scientific Reports, 2019, 9, 1462.	1.6	9
14	Physicochemical characterisation of reduced graphene oxide for conductive thin films. RSC Advances, 2018, 8, 37540-37549.	1.7	14
15	Structural, chemical and electrical characterisation of conductive graphene-polymer composite films. Applied Surface Science, 2017, 403, 403-412.	3.1	25
16	Physical, chemical and electrical characterisation of the diffusion of copper in silicon dioxide and prevention via a CuAl alloy barrier layer system. Materials Science in Semiconductor Processing, 2017, 63, 227-236.	1.9	11
17	Understanding and Controlling Cu-Catalyzed Graphene Nucleation: The Role of Impurities, Roughness, and Oxygen Scavenging. Chemistry of Materials, 2016, 28, 8905-8915.	3.2	128
18	In Situ XPS Chemical Analysis of MnSiO₃ Copper Diffusion Barrier Layer Formation and Simultaneous Fabrication of Metal Oxide Semiconductor Electrical Test MOS Structures. ACS Applied Materials & Interfaces, 2016, 8, 2470-2477.	4.0	32

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19	Effect of disorder on Raman scattering of single-layer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2015, 91, .	1.1	553
20	Nucleation Control for Large, Single Crystalline Domains of Monolayer Hexagonal Boron Nitride via Si-Doped Fe Catalysts. Nano Letters, 2015, 15, 1867-1875.	4.5	139
21	Removal of Organic Contamination from Graphene with a Controllable Mass-Selected Argon Gas Cluster Ion Beam. Journal of Physical Chemistry C, 2015, 119, 17836-17841.	1.5	24
22	Probing individual point defects in graphene via near-field Raman scattering. Nanoscale, 2015, 7, 19413-19418.	2.8	35
23	Quantitative characterization of defect size in graphene using Raman spectroscopy. Applied Physics Letters, 2014, 105, .	1.5	61
24	Diffusion of In0.53Ga0.47As elements through hafnium oxide during post deposition annealing. Applied Physics Letters, 2014, 104, .	1.5	23
25	Silicon Interfacial Passivation Layer Chemistry for High-k/InP Interfaces. ACS Applied Materials & Interfaces, 2014, 6, 7340-7345.	4.0	14
26	GaSb oxide thermal stability studied by dynamic-XPS. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, 041201.	0.6	18
27	Electrical and chemical characteristics of Al2O3/InP metal-oxide-semiconductor capacitors. Applied Physics Letters, 2013, 102, 132903.	1.5	37
28	Interfacial graphene growth in the Ni/SiO₂ system using pulsed laser deposition. Applied Physics Letters, 2013, 103, 134102.	1.5	20
29	HfO₂ on MoS₂ by Atomic Layer Deposition: Adsorption Mechanisms and Thickness Scalability. ACS Nano, 2013, 7, 10354-10361.	7.3	237
30	The Characterization and Passivation of Fixed Oxide Charges and Interface States in the $hbox{Al}_{2}hbox{O}_{3}/ hbox{InGaAs}$ MOS System. IEEE Transactions on Device and Materials Reliability, 2013, 13, 429-443.	1.5	43
31	Surface and interfacial reaction study of half cycle atomic layer deposited HfO2 on chemically treated GaSb surfaces. Applied Physics Letters, 2013, 102, .	1.5	25
32	Investigation of arsenic and antimony capping layers, and half cycle reactions during atomic layer deposition of Al2O3 on GaSb(100). Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	0.9	10
33	Measurement of Schottky barrier height tuning using dielectric dipole insertion method at metalâ€“semiconductor interfaces by photoelectron spectroscopy and electrical characterization techniques. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, .	0.6	14
34	Impact of N2 and forming gas plasma exposure on the growth and interfacial characteristics of Al2O3 on AlGaN. Applied Physics Letters, 2013, 103, .	1.5	29
35	Low-Temperature Atomic-Layer-Deposited High-Î¹ Dielectric for p-Channel In_{0.7}Ga_{0.3}As/GaAs_{0.35}Sb_{0.65}Heterojunction Tunneling Field-Effect Transistor. Applied Physics Express, 2013, 6, 101201.	1.1	8
36	In situ study of the role of substrate temperature during atomic layer deposition of HfO2 on InP. Journal of Applied Physics, 2013, 114, 154105.	1.1	14

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37	Surface and interfacial reaction study of InAs(100)-crystalline oxide interface. Applied Physics Letters, 2013, 102, .	1.5	14
38	In situ atomic layer deposition study of HfO2 growth on NH4OH and atomic hydrogen treated Al0.25Ga0.75N. Journal of Applied Physics, 2013, 113, .	1.1	14
39	In situ study of e-beam Al and Hf metal deposition on native oxide InP (100). Journal of Applied Physics, 2013, 114, .	1.1	9
40	In situstudy of atomic layer deposition Al₂O₃on GaP (100). Applied Physics Letters, 2013, 103, 121604.	1.5	10
41	In situ study of HfO2 atomic layer deposition on InP(100). Applied Physics Letters, 2013, 102, .	1.5	19
42	Chemical and electrical characterization of the HfO2/InAlAs interface. Journal of Applied Physics, 2013, 114, .	1.1	22
43	Atomic hydrogen cleaning of In_{0.53}Ga_{0.47}As studied using synchrotron radiation photoelectron spectroscopy. Physica Status Solidi - Rapid Research Letters, 2013, 7, 989-992.	1.2	2
44	Optimization of the ammonium sulfide (NH4)2S passivation process on InSb(111)A. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, 04E103.	0.6	23
45	Investigation of interfacial oxidation control using sacrificial metallic Al and La passivation layers on InGaAs. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, 04E104.	0.6	6
46	In situ atomic layer deposition half cycle study of Al₂O₃ growth on AlGaN. Applied Physics Letters, 2012, 101, 211604.	1.5	37
47	Interfacial oxide re-growth in thin film metal oxide III-V semiconductor systems. Applied Physics Letters, 2012, 100, .	1.5	47
48	In situ surface pre-treatment study of GaAs and In0.53Ga0.47As. Applied Physics Letters, 2012, 100, .	1.5	28
49	(S)TEM analysis of the interdiffusion and barrier layer formation in Mn/Cu heterostructures on SiO₂for interconnect technologies. Journal of Physics: Conference Series, 2012, 371, 012037.	0.3	2
50	In situ X-ray photoelectron spectroscopy characterization of Al2O3/InSb interface evolution from atomic layer deposition. Applied Surface Science, 2012, 258, 5522-5525.	3.1	10
51	Inâ€situ Xâ€ray photoelectron spectroscopy of trimethyl aluminum and water halfâ€cycle treatments on HFâ€treated and O₃â€oxidized GaN substrates. Physica Status Solidi - Rapid Research Letters, 2012, 6, 22-24.	1.2	22
52	A systematic study of (NH4)2S passivation (22%, 10%, 5%, or 1%) on the interface properties of the Al2O3/In0.53Ga0.47As/InP system for n-type and p-type In0.53Ga0.47As epitaxial layers. Journal of Applied Physics, 2011, 109, .	1.1	113
53	Synchrotron radiation photoemission study of in situ manganese silicate formation on SiO2 for barrier layer applications. Applied Physics Letters, 2011, 98, 113508.	1.5	33
54	High resolution photoemission study of the thermal stability of the HfO2/SiOx/Si(111) system. Surface Science, 2011, 605, 1925-1928.	0.8	1

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55	Investigation of Tunneling Current in $hbox{SiO}_{2}/ hbox{HfO}_{2}$ Gate Stacks for Flash Memory Applications. IEEE Transactions on Electron Devices, 2011, 58, 4189-4195.	1.6	5
56	Optimisation of the ammonium sulphide (NH4)2S passivation process on In0.53Ga0.47As. Applied Surface Science, 2011, 257, 4082-4090.	3.1	71
57	Interdiffusion and barrier layer formation in thermally evaporated Mn/Cu heterostructures on SiO2 substrates. Applied Physics Letters, 2011, 98, 123112.	1.5	38
58	Effect of post deposition anneal on the characteristics of HfO2/InP metal-oxide-semiconductor capacitors. Applied Physics Letters, 2011, 99, .	1.5	51
59	In-situ characterization of Ga2O passivation of In0.53Ga0.47As prior to high-k dielectric atomic layer deposition. Applied Physics Letters, 2011, 99, .	1.5	15
60	High-k Oxide Growth on III-V Surfaces: Chemical Bonding and MOSFET Performance. ECS Transactions, 2011, 35, 403-413.	0.3	6
61	Surface and Interfacial Reaction Study of Half Cycle Atomic Layer Deposited Al$_{2}$O$_{3}$ on Chemically Treated InP Surfaces. Applied Physics Express, 2011, 4, 125701.	1.1	36
62	Photoemission studies of the initial interface formation of ultrathin MgO dielectric layers on the Si(111) surface. Thin Solid Films, 2010, 518, 1980-1984.	0.8	11
63	Identification and thermal stability of the native oxides on InGaAs using synchrotron radiation based photoemission. Journal of Applied Physics, 2010, 108, .	1.1	80
64	(NH4)2S Passivation of High-k/In0.53Ga0.47As Interfaces: A Systematic Study of (NH4)2S Concentration. ECS Transactions, 2010, 28, 231-238.	0.3	6
65	High resolution photoemission study of SiOx/Si(111) interface disruption following in situ HfO2 deposition. Applied Physics Letters, 2009, 95, 072903.	1.5	4
66	Half-Cycle Atomic Layer Deposition Reaction Study Using O[sub 3] and H[sub 2]O Oxidation of Al[sub 2]O[sub 3] on In[sub 0.53]Ga[sub 0.47]As. Electrochemical and Solid-State Letters, 2009, 12, H205.	2.2	34
67	Growth, ambient stability and electrical characterisation of MgO thin films on silicon surfaces. Microelectronic Engineering, 2009, 86, 1711-1714.	1.1	26
68	Detection of Ga suboxides and their impact on III-V passivation and Fermi-level pinning. Applied Physics Letters, 2009, 94, .	1.5	250
69	In situ H2S passivation of In0.53Ga0.47Asâ^•InP metal-oxide-semiconductor capacitors with atomic-layer deposited HfO2 gate dielectric. Applied Physics Letters, 2008, 92, 022902.	1.5	49
70	Photoemission studies of the interface formation of ultrathin MgO dielectric layers on the oxidised Si(111) surface. Journal of Physics: Conference Series, 2008, 100, 042047.	0.3	16