Rachel Goldman

List of Publications by Year in Descending Order

129 papers	2,146 citations	23 h-index	41 g-index
132 ext. papers	2,277 ext. citations	3.5 avg, IF	4.29 L-index

#	Paper	IF	Citations
129	Writing-to-learn in introductory materials science and engineering. *MRS Communications*, **2022**, 12, 1	2.7	1
128	Influence of strain and dislocations on GaSb/GaAs quantum dots: From nested to staggered band alignment. *Journal of Applied Physics*, **2022**, 131, 085703	2.5	0
127	Influence of gallium surface saturation on GaN nanowire polytype selection during molecular-beam epitaxy. *Applied Physics Letters*, **2021**, 119, 031601	3.4	
126	Why do nanowires grow with their c-axis vertically-aligned in the absence of epitaxy?. *Scientific Reports*, **2020**, 10, 6554	4.9	5
125	Influence of quantum dot morphology on the optical properties of GaSb/GaAs multilayers. *Applied Physics Letters*, **2020**, 116, 252107	3.4	1
124	Mechanisms of GaN quantum dot formation during nitridation of Ga droplets. *Applied Physics Letters*, **2020**, 116, 062107	3.4	2
123	Temperature-dependent study of GaAs1 x y N x Bi y alloys for band-gap engineering: photoreflectance and k p modeling. *Applied Physics Express*, **2020**, 13, 091005	2.4	2
122	Influence of electron irradiation and rapid thermal annealing on photoluminescence from GaAsNBi alloys. *Applied Physics Letters*, **2020**, 117, 142106	3.4	3
121	Mapping the composition-dependence of the energy bandgap of GaAsNBi alloys. *Applied Physics Letters*, **2019**, 115, 082106	3.4	4
120	Asymmetric 3D Elastic-Plastic Strain-Modulated Electron Energy Structure in Monolayer Graphene by Laser Shocking. *Advanced Materials*, **2019**, 31, e1900597	24	13
119	Formation and properties of InGaN QDs: Influence of substrates. *Applied Physics Letters*, **2019**, 114, 062106	3.4	2
118	Ion irradiation of III V semiconductor surfaces: From self-assembled nanostructures to plasmonic crystals. *Applied Physics Reviews*, **2019**, 6, 041307	17.3	9
117	Morphological design of complex oxides during pulsed-laser deposition: The role of plasma-plume expansion. *Journal of Applied Physics*, **2019**, 126, 184301	2.5	2
116	Surfactant-induced chemical ordering of GaAsN:Bi. *Applied Physics Letters*, **2018**, 113, 211602	3.4	8
115	Effect of modified periodic waveforms on current-induced spin polarization measurements. *AIP Advances*, **2018**, 8, 065113	1.5	
114	Influence of surface nano-patterning on the placement of InAs quantum dots. *Journal of Applied Physics*, **2018**, 124, 115307	2.5	1
113	Bi-enhanced N incorporation in GaAsNBi alloys. *Applied Physics Letters*, **2017**, 110, 242102	3.4	14

112	Investigation of the Influence of a Writing-to-Learn Assignment on Student Understanding of Polymer Properties. *Journal of Chemical Education*, **2017**, 94, 1610-1617	2.4	22
111	Formation of embedded plasmonic Ga nanoparticle arrays and their influence on GaAs photoluminescence. *Journal of Applied Physics*, **2017**, 122, 033102	2.5	2
110	Current-induced spin polarization in InGaAs and GaAs epilayers with varying doping densities. *Physical Review B*, **2017**, 96,	3.3	4
109	Quasi-ordering of composition fluctuations and their interaction with lattice imperfections in an optical spectra of dilute nitride alloys. *Semiconductor Science and Technology*, **2016**, 31, 095012	1.8	6
108	Origins of enhanced thermoelectric power factor in topologically insulating Bi0.64Sb1.36Te3 thin films. *Applied Physics Letters*, **2016**, 108, 043902	3.4	8
107	Influence of surface reconstruction on dopant incorporation and transport properties of GaAs(Bi) alloys. *Applied Physics Letters*, **2016**, 109, 252105	3.4	12
106	Profiling the local carrier concentration across a semiconductor quantum dot. *Applied Physics Letters*, **2015**, 106, 192101	3.4	2
105	g-factor modification in a bulk InGaAs epilayer by an in-plane electric field. *Physical Review B*, **2015**, 91,	3.3	5
104	Formation and coarsening of near-surface Ga nanoparticles on SiNx. *Applied Physics Letters*, **2015**, 106, 243102	3.4	1
103	Identifying the dominant interstitial complex in dilute GaAsN alloys. *Applied Physics Letters*, **2015**, 107, 221904	3.4	8
102	Influence of Bi on embedded nanocrystal formation and thermoelectric properties of GaAs. *Journal of Applied Physics*, **2015**, 117, 065101	2.5	2
101	Room-temperature epitaxial electrodeposition of single-crystalline germanium nanowires at the wafer scale from an aqueous solution. *Nano Letters*, **2014**, 14, 847-52	11.5	45
100	Formation and evolution of ripples on ion-irradiated semiconductor surfaces. *Applied Physics Letters*, **2014**, 104, 052103	3.4	15
99	Origins of interlayer formation and misfit dislocation displacement in the vicinity of InAs/GaAs quantum dots. *Applied Physics Letters*, **2014**, 105, 032107	3.4	1
98	Evolution of ion-induced nanoparticle arrays on GaAs surfaces. *Applied Physics Letters*, **2014**, 104, 182102	3.4	2
97	Nanodot formation induced by femtosecond laser irradiation. *Applied Physics Letters*, **2014**, 105, 163103	3.4	10
96	Influence of Sb incorporation on InGaAs(Sb)N/GaAs band alignment. *Applied Physics Letters*, **2014**, 105, 142105	3.4	4
95	Surface photovoltage and modulation spectroscopy of E and E+ transitions in GaNAs layers. *Thin Solid Films*, **2014**, 567, 101-104	2.2	14

94	Ordered horizontal Sb2Te3 nanowires induced by femtosecond lasers. *Applied Physics Letters*, **2014**, 105, 201904	3.4	0
93	Influence of GaAs surface termination on GaSb/GaAs quantum dot structure and band offsets. *Applied Physics Letters*, **2013**, 103, 082107	3.4	6
92	Mechanisms of droplet formation and Bi incorporation during molecular beam epitaxy of GaAsBi. *Applied Physics Letters*, **2013**, 102, 042106	3.4	60
91	Growth, disorder, and physical properties of ZnSnN2. *Applied Physics Letters*, **2013**, 103, 042109	3.4	98
90	Mechanisms of InAs/GaAs quantum dot formation during annealing of In islands. *Applied Physics Letters*, **2013**, 103, 132104	3.4	7
89	Spin lifetime measurements in GaAsBi thin films. *Applied Physics Letters*, **2013**, 102, 022420	3.4	23
88	Influence of N incorporation on persistent photoconductivity in GaAsN alloys. *Physical Review B*, **2013**, 87,	3.3	6
87	Ga nanoparticle-enhanced photoluminescence of GaAs. *Applied Physics Letters*, **2013**, 103, 101903	3.4	7
86	Quantifying the local Seebeck coefficient with scanning thermoelectric microscopy. *Applied Physics Letters*, **2013**, 103, 212101	3.4	3
85	Formation mechanisms of embedded nanocrystals in SiNx. *Applied Physics Letters*, **2013**, 102, 243111	3.4	2
84	Origins of ion irradiation-induced Ga nanoparticle motion on GaAs surfaces. *Applied Physics Letters*, **2013**, 103, 072115	3.4	7
83	Influence of embedded indium nanocrystals on GaAs thermoelectric properties. *Journal of Applied Physics*, **2013**, 114, 043704	2.5	3
82	Surface plasmon resonances of Ga nanoparticle arrays. *Applied Physics Letters*, **2012**, 101, 081905	3.4	14
81	Universal mechanism for ion-induced nanostructure formation on III-V compound semiconductor surfaces. *Applied Physics Letters*, **2012**, 101, 082101	3.4	12
80	Formation and transformation of embedded GaN nanocrystals. *Applied Physics Letters*, **2012**, 100, 203113	3.4	12
79	Evolution of structural and thermoelectric properties of indium-ion-implanted epitaxial GaAs. *Applied Physics Letters*, **2012**, 100, 102101	3.4	5
78	Mechanisms of nanorod growth on focused-ion-beam-irradiated semiconductor surfaces: Role of redeposition. *Applied Physics Letters*, **2012**, 100, 053103	3.4	22
77	Formation mechanisms of spatially-directed zincblende gallium nitride nanocrystals. *Journal of Applied Physics*, **2011**, 110, 124307	2.5	6

76	Linking computational and experimental studies of III□V quantum dots for optoelectronics and photovoltaics. *Jom*, **2011**, 63, 20-26	2.1	
75	STM OF SELF ASSEMBLED III□V NANOSTRUCTURES. *Materials and Energy*, **2011**, 369-406		
74	Formation and transfer of GaAsN nanostructure layers. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2011**, 29, 060601	2.9	1
73	Formation mechanisms of embedded wurtzite and zincblende indium nitride nanocrystals. *Applied Physics Letters*, **2011**, 99, 093108	3.4	13
72	Correlating structure, strain, and morphology of self-assembled InAs quantum dots on GaAs. *Applied Physics Letters*, **2011**, 98, 021903	3.4	10
71	Influence of Mn dopants on InAs/GaAs quantum dot electronic states. *Applied Physics Letters*, **2011**, 98, 141907	3.4	4
70	Influence of wetting layers and quantum dot size distribution on intermediate band formation in InAs/GaAs superlattices. *Journal of Applied Physics*, **2011**, 110, 073105	2.5	14
69	Nitrogen composition dependence of electron effective mass in GaAs1□Nx. *Physical Review B*, **2010**, 82,	3.3	18
68	Nanometer-scale measurements of electronic states in InAs□GaAs quantum dots. *Journal of Applied Physics*, **2009**, 106, 014315	2.5	9
67	Blister formation in ion-implanted GaAs: Role of diffusivity. *Applied Physics Letters*, **2009**, 95, 111912	3.4	4
66	Influence of Si□N complexes on the electronic properties of GaAsN alloys. *Applied Physics Letters*, **2009**, 95, 092109	3.4	10
65	Influence of N interstitials on the electronic properties of GaAsN alloys. *Applied Physics Letters*, **2009**, 95, 062109	3.4	25
64	Influence of alloy buffer and capping layers on InAs/GaAs quantum dot formation. *Applied Physics Letters*, **2009**, 95, 163114	3.4	19
63	Thermoelectric properties of quantum dot chains. *Journal of Applied Physics*, **2009**, 105, 093711	2.5	12
62	Formation and coarsening of Ga droplets on focused-ion-beam irradiated GaAs surfaces. *Applied Physics Letters*, **2009**, 95, 153107	3.4	19
61	Thermal transport in a semiconductor heterostructure measured by time-resolved x-ray diffraction. *Physical Review B*, **2008**, 78,	3.3	15
60	Probing unfolded acoustic phonons with X rays. *Physical Review Letters*, **2008**, 101, 025505	7.4	28
59	Influence of N on the electronic properties of GaAsN alloy films and heterostructures. *Journal of Applied Physics*, **2007**, 102, 103710	2.5	22

58	Mechanisms of GaAsN growth: Surface and step-edge diffusion. *Journal of Applied Physics*, **2007**, 101, 083520	2.5	15
57	Formation of single crystal sulfur supersaturated silicon based junctions by pulsed laser melting. *Journal of Vacuum Science & Technology B*, **2007**, 25, 1847		55
56	Ultrafast optical generation and remote detection of terahertz sound using semiconductor superlattices. *Applied Physics Letters*, **2007**, 91, 023115	3.4	14
55	In-Plane Thermoelectric Properties of Horizontally Aligned InAs/GaAs Quantum Dot Superlattices **2006**, 541		
54	Moments-based tight-binding calculations of local electronic structure in InAs/GaAs quantum dots for comparison to experimental measurements. *Applied Physics Letters*, **2006**, 88, 053109	3.4	7
53	Observation of surface-avoiding waves: a new class of extended states in periodic media. *Physical Review Letters*, **2006**, 97, 124301	7.4	31
52	Stress evolution in GaAsN alloy films. *Journal of Applied Physics*, **2005**, 97, 103523	2.5	17
51	Control of InAs□GaAs quantum dot density and alignment using modified buffer layers. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2005**, 23, 1736		17
50	Nanometer-scale studies of point defect distributions in GaMnAs alloys. *Applied Physics Letters*, **2005**, 86, 011911	3.4	12
49	Generation and propagation of a picosecond acoustic pulse at a buried interface: time-resolved x-ray diffraction measurements. *Physical Review Letters*, **2005**, 95, 246104	7.4	33
48	Matrix-seeded growth of nitride semiconductor nanostructures using ion beams. *Journal of Applied Physics*, **2005**, 97, 064301	2.5	13
47	Effects of buffer layers on the structural and electronic properties of InSb films. *Journal of Applied Physics*, **2005**, 97, 043713	2.5	34
46	Nanoprobing of semiconductor heterointerfaces: quantum dots, alloys and diffusion. *Journal Physics D: Applied Physics*, **2004**, 37, R163-R178	3	12
45	Formation and blistering of GaAsN nanostructure layers. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2004**, 22, 989		10
44	Initiation and evolution of phase separation in GaP/InP short-period superlattices. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2004**, 22, 216		6
43	Mechanisms of nitrogen incorporation in GaAsN alloys. *Applied Physics Letters*, **2004**, 85, 1692-1694	3.4	46
42	Origins of luminescence from nitrogen-ion-implanted epitaxial GaAs. *Applied Physics Letters*, **2004**, 85, 2774-2776	3.4	4
41	Mechanisms of lateral ordering of InAs/GaAs quantum dot superlattices. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2003**, 21, 1920		6

40	Mechanisms of semiconductor nanostructure formation. *Physica Status Solidi A*, **2003**, 195, 151-158		6
39	Evolution of structural and optical properties of ion-beam synthesized GaAsN nanostructures. *Journal of Applied Physics*, **2002**, 92, 4012-4018	2.5	24
38	Lateral indium–indium pair correlations within the wetting layers of buried InAs/GaAs quantum dots. *Applied Physics Letters*, **2002**, 81, 1423-1425	3.4	11
37	Initiation and evolution of phase separation in heteroepitaxial InAlAs films. *Applied Physics Letters*, **2002**, 80, 3292-3294	3.4	26
36	Growth of high density self-organized (In,Ga)As quantum dots with ultranarrow photoluminescence linewidths using buried In(Ga,Al)As stressor dots. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2000**, 18, 1502		15
35	Structural and compositional variations in ZnSnP2/GaAs superlattices. *Applied Physics Letters*, **2000**, 77, 2894-2896	3.4	8
34	Evolution of structural and electronic properties of highly mismatched InSb films. *Journal of Applied Physics*, **2000**, 88, 6276-6286	2.5	48
33	INTERDIFFUSION, SEGREGATION, AND DISSOLUTION IN InAs/GaAs QUANTUM DOT SUPERLATTICES. *Surface Review and Letters*, **2000**, 07, 539-545	1.1	8
32	Nanometer-scale studies of Al–Ga interdiffusion and As precipitate coarsening in nonstoichiometric AlAs/GaAs superlattices. *Applied Physics Letters*, **1999**, 75, 4082-4084	3.4	14
31	Nanometer-scale studies of vertical organization and evolution of stacked self-assembled InAs/GaAs quantum dots. *Applied Physics Letters*, **1999**, 74, 2824-2826	3.4	71
30	Interdiffusion and surface segregation in stacked self-assembled InAs/GaAs quantum dots. *Applied Physics Letters*, **1999**, 75, 2797-2799	3.4	56
29	Kinetics of Carbon–NO Reaction Studied by Scanning Tunneling Microscopy on the Basal Plane of Graphite. *Journal of Catalysis*, **1998**, 180, 245-257	7.3	9
28	Effects of GaAs substrate misorientation on strain relaxation in InxGa1−xAs films and multilayers. *Journal of Applied Physics*, **1998**, 83, 5137-5149	2.5	91
27	Strain variations in InGaAsP/InGaP superlattices studied by scanning probe microscopy. *Applied Physics Letters*, **1998**, 72, 1727-1729	3.4	28
26	Morphological and compositional variations in strain-compensated InGaAsP/InGaP superlattices. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1997**, 15, 1027		18
25	Nanometer-scale studies of nitride/arsenide heterostructures produced by nitrogen plasma exposure of GaAs. *Journal of Electronic Materials*, **1997**, 26, 1342-1348	1.9	3
24	In situ detection of misfit dislocations by light scattering. *Journal of Crystal Growth*, **1997**, 174, 550-557	1.6	4
23	Modulation-doped In0.53Ga0.47As/In0.52Al0.48As heterostructures grown on GaAs substrates using step-graded InxGa1−xAs buffers. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1996**, 14, 3035		7

22	Atomic-scale structure and electronic properties of GaN/GaAs superlattices. *Applied Physics Letters*, **1996**, 69, 3698-3700	3.4	49
21	Correlation of buffer strain relaxation modes with transport properties of two-dimensional electron gases. *Journal of Applied Physics*, **1996**, 80, 6849-6854	2.5	9
20	Anomalous moment and anisotropy behavior in Fe3O4 films. *Physical Review B*, **1996**, 53, 9175-9187	3.3	384
19	Relationship between surface morphology and strain relaxation during growth of InGaAs strained layers. *Applied Physics Letters*, **1995**, 67, 3744-3746	3.4	32
18	Study of □n-scale spatial variations in strain of a compositionally step-graded InxGa1□As/GaAs(001) heterostructure. *Applied Physics Letters*, **1995**, 66, 869-871	3.4	25
17	Relaxation-induced polarized luminescence from InxGa1-xAs films grown on GaAs(001). *Physical Review B*, **1995**, 51, 5033-5037	3.3	12
16	Structural and Magnetic Characterization of Bi-Substituted Garnet on Si and GaAs. *Materials Research Society Symposia Proceedings*, **1995**, 384, 41		
15	Influence of GaAs(001) substrate misorientation towards {111} on the optical properties of InxGa1□As/GaAs. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1995**, 13, 1766		2
14	Gate-controlled modulation of charge transport in long-channel, □doped, heterojunction Hall-bar structures. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1995**, 13, 1853		1
13	Correlation of anisotropic strain relaxation with substrate misorientation direction at InGaAs/GaAs(001) interfaces. *Applied Physics Letters*, **1995**, 67, 344-346	3.4	30
12	Effects of Substrate Misorientation Direction on Strain Relaxation at InGaAs/GaAs(001) Interfaces. *Materials Research Society Symposia Proceedings*, **1995**, 379, 21		
11	Homogeneous Strain Relaxation and Mosaic Spread in IngaAs/GaAs Heterostructures Using Triple Axis Diffractometry **1995**, 221-226		1
10	Homogeneous Strain Relaxation and Mosaic Spread in InGaAs/GaAs Heterostructures Using Triple Axis Diffractometry. *Advances in X-ray Analysis*, **1994**, 38, 221-226		
9	Strain relaxation induced deep levels in In1□GaxAs thin films. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1994**, 12, 1050-1053	2.9	2
8	Optical detection of misfit dislocation-induced deep levels at InGaAs/GaAs heterojunctions. *Applied Physics Letters*, **1994**, 64, 3572-3574	3.4	12
7	A Brillouin scattering investigation of NiO. *Journal of Magnetism and Magnetic Materials*, **1994**, 129, 327-333	2.3	22
6	Dislocation-Induced deep level states in In0.08Ga0.92As/GaAs heterostructures. *Journal of Electronic Materials*, **1994**, 23, 929-933	1.9	3
5	Anisotropic structural, electronic, and optical properties of InGaAs grown by molecular beam epitaxy on misoriented substrates. *Applied Physics Letters*, **1994**, 65, 1424-1426	3.4	19

List of Publications

4	Anisotropic Structural and Electronic Properties of InGaAs/GaAs Heterojunctions. *Materials Research Society Symposia Proceedings*, **1994**, 340, 349	1
3	Light Scattering Study of the Evolution of the Surface Morphology During Growth of Ingaas on GaAs. *Materials Research Society Symposia Proceedings*, **1994**, 375, 193	
2	Control of surface morphology and strain relaxation in InGaAs grown on GaAs using a step-graded buffer **1994**, 2140, 179	3
1	Superlattices and long-range order in electrodeposited dendrites. *Physical Review Letters*, **1990**, 64, 2152-2155	14