Vincent Meunier

List of Publications by Citations

296 papers	19,097 citations	68 h-index	132 g-index
317 ext. papers	21,438 ext. citations	8.1 avg, IF	6.78 L-index

#	Paper	IF	Citations
296	Recent Advances in Two-Dimensional Materials beyond Graphene. *ACS Nano*, **2015**, 9, 11509-39	16.7	1581
295	Ultrathin planar graphene supercapacitors. *Nano Letters*, **2011**, 11, 1423-7	11.5	1020
294	Evaluating the characteristics of multiwall carbon nanotubes. *Carbon*, **2011**, 49, 2581-2602	10.4	769
293	Controlled formation of sharp zigzag and armchair edges in graphitic nanoribbons. *Science*, **2009**, 323, 1701-5	33.3	592
292	Theoretical model for nanoporous carbon supercapacitors. *Angewandte Chemie - International Edition*, **2008**, 47, 520-4	16.4	475
291	A universal model for nanoporous carbon supercapacitors applicable to diverse pore regimes, carbon materials, and electrolytes. *Chemistry - A European Journal*, **2008**, 14, 6614-26	4.8	465
290	Graphene nanoribbon heterojunctions. *Nature Nanotechnology*, **2014**, 9, 896-900	28.7	443
289	Electronic bandgap and edge reconstruction in phosphorene materials. *Nano Letters*, **2014**, 14, 6400-6	11.5	365
288	Graphene edges: a review of their fabrication and characterization. *Nanoscale*, **2011**, 3, 86-95	7.7	353
287	Covalently bonded three-dimensional carbon nanotube solids via boron induced nanojunctions. *Scientific Reports*, **2012**, 2, 363	4.9	300
286	Mechanical and Electrical Properties of Nanotubes. *Annual Review of Materials Research*, **2002**, 32, 347-375	12.8	299
285	Anisotropic Electron-Photon and Electron-Phonon Interactions in Black Phosphorus. *Nano Letters*, **2016**, 16, 2260-7	11.5	266
284	Massless fermions in multilayer graphitic systems with misoriented layers: Ab initio calculations and experimental fingerprints. *Physical Review B*, **2007**, 76,	3.3	263
283	First-principles Raman spectra of MoS2, WS2 and their heterostructures. *Nanoscale*, **2014**, 6, 5394-401	7.7	261
282	Ab initio investigations of lithium diffusion in carbon nanotube systems. *Physical Review Letters*, **2002**, 88, 075506	7.4	234
281	Engineering of robust topological quantum phases in graphene nanoribbons. *Nature*, **2018**, 560, 209-213	50.4	227
280	Raman Shifts in Electron-Irradiated Monolayer MoS2. *ACS Nano*, **2016**, 10, 4134-42	16.7	226

279	On-Surface Synthesis and Characterization of 9-Atom Wide Armchair Graphene Nanoribbons. *ACS Nano*, **2017**, 11, 1380-1388	16.7	196
278	Electronic transport and mechanical properties of phosphorus- and phosphorus-nitrogen-doped carbon nanotubes. *ACS Nano*, **2009**, 3, 1913-21	16.7	191
277	Covalent 2D and 3D networks from 1D nanostructures: designing new materials. *Nano Letters*, **2007** , 7, 570-6	11.5	191
276	Nitrogen-mediated carbon nanotube growth: diameter reduction, metallicity, bundle dispersability, and bamboo-like structure formation. *ACS Nano*, **2007**, 1, 369-75	16.7	185
275	Ultrathin nanosheets of CrSiTe3: a semiconducting two-dimensional ferromagnetic material. *Journal of Materials Chemistry C*, **2016**, 4, 315-322	7.1	171
274	Spontaneous polarization and piezoelectricity in boron nitride nanotubes. *Physical Review B*, **2003**, 67,	3.3	170
273	Probing the interlayer coupling of twisted bilayer MoS2 using photoluminescence spectroscopy. *Nano Letters*, **2014**, 14, 5500-8	11.5	168
272	Fullerene Coalescence in Nanopeapods: A Path to Novel Tubular Carbon. *Nano Letters*, **2003**, 3, 1037-1042	11.5	166
271	Heterodoped nanotubes: theory, synthesis, and characterization of phosphorus-nitrogen doped multiwalled carbon nanotubes. *ACS Nano*, **2008**, 2, 441-8	16.7	165
270	Insight into organometallic intermediate and its evolution to covalent bonding in surface-confined ullmann polymerization. *ACS Nano*, **2013**, 7, 8190-8	16.7	164
269	Complex capacitance scaling in ionic liquids-filled nanopores. *ACS Nano*, **2011**, 5, 9044-51	16.7	161
268	Tunable water desalination across graphene oxide framework membranes. *Physical Chemistry Chemical Physics*, **2014**, 16, 8646-54	3.6	159
267	Low-Frequency Interlayer Breathing Modes in Few-Layer Black Phosphorus. *Nano Letters*, **2015**, 15, 4080-8	11.5	154
266	The importance of ion size and electrode curvature on electrical double layers in ionic liquids. *Physical Chemistry Chemical Physics*, **2011**, 13, 1152-61	3.6	151
265	Ion distribution in electrified micropores and its role in the anomalous enhancement of capacitance. *ACS Nano*, **2010**, 4, 2382-90	16.7	150
264	Ultrasensitive gas detection of large-area boron-doped graphene. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 14527-32	11.5	146
263	Scanning tunneling microscopy fingerprints of point defects in graphene: A theoretical prediction. *Physical Review B*, **2007**, 76,	3.3	146
262	Transition-Metal Substitution Doping in Synthetic Atomically Thin Semiconductors. *Advanced Materials*, **2016**, 28, 9735-9743	24	145

261	Atomic structure of carbon nanotubes from scanning tunneling microscopy. *Physical Review B*, **2000**, 61, 2991-2996	3.3	144
260	STM study of a grain boundary in graphite. *Surface Science*, **2002**, 511, 319-322	1.8	140
259	Molecular selectivity of graphene-enhanced Raman scattering. *Nano Letters*, **2015**, 15, 2892-901	11.5	136
258	Electronic flexoelectricity in low-dimensional systems. *Physical Review B*, **2008**, 77,	3.3	135
257	Low-Frequency Interlayer Raman Modes to Probe Interface of Twisted Bilayer MoS2. *Nano Letters*, **2016**, 16, 1435-44	11.5	130
256	Physical properties of low-dimensional sp2-based carbon nanostructures. *Reviews of Modern Physics*, **2016**, 88,	40.5	127
255	Enhanced Electron Field Emission in B-doped Carbon Nanotubes. *Nano Letters*, **2002**, 2, 1191-1195	11.5	125
254	Low-Frequency Raman Fingerprints of Two-Dimensional Metal Dichalcogenide Layer Stacking Configurations. *ACS Nano*, **2015**, 9, 6333-42	16.7	121
253	Curvature effects in carbon nanomaterials: Exohedral versus endohedral supercapacitors. *Journal of Materials Research*, **2010**, 25, 1525-1531	2.5	121
252	Synthesis, electronic structure, and Raman scattering of phosphorus-doped single-wall carbon nanotubes. *Nano Letters*, **2009**, 9, 2267-72	11.5	121
251	Structural, magnetic, and transport properties of substitutionally doped graphene nanoribbons from first principles. *Physical Review B*, **2011**, 83,	3.3	117
250	Step-by-step growth of epitaxially aligned polythiophene by surface-confined reaction. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 11200-4	11.5	110
249	Tight-Binding Computation of the STM Image of Carbon Nanotubes. *Physical Review Letters*, **1998**, 81, 5588-5591	7.4	110
248	Low-Frequency Shear and Layer-Breathing Modes in Raman Scattering of Two-Dimensional Materials. *ACS Nano*, **2017**, 11, 11777-11802	16.7	109
247	Heterojunctions between metals and carbon nanotubes as ultimate nanocontacts. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 4591-5	11.5	100
246	Enhanced Raman Scattering on In-Plane Anisotropic Layered Materials. *Journal of the American Chemical Society*, **2015**, 137, 15511-7	16.4	97
245	Topographic and spectroscopic characterization of electronic edge states in CVD grown graphene nanoribbons. *Nano Letters*, **2012**, 12, 1928-33	11.5	97
244	Twisted $MoSe_2$ Bilayers with Variable Local Stacking and Interlayer Coupling Revealed by Low-Frequency Raman Spectroscopy. *ACS Nano*, **2016**, 10, 2736-44	16.7	95

243	Nanoscale Ferroelectricity in Crystalline Glycine. *Advanced Functional Materials*, **2012**, 22, 2996-3003	15.6	94
242	Electronic and field emission properties of boron nitride/carbon nanotube superlattices. *Applied Physics Letters*, **2002**, 81, 46-48	3.4	92
241	Structure and dynamics of electrical double layers in organic electrolytes. *Physical Chemistry Chemical Physics*, **2010**, 12, 5468-79	3.6	84
240	Controlled Sculpture of Black Phosphorus Nanoribbons. *ACS Nano*, **2016**, 10, 5687-95	16.7	84
239	The role of collective motion in the ultrafast charge transfer in van der Waals heterostructures. *Nature Communications*, **2016**, 7, 11504	17.4	79
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236	Novel Electromechanical Phenomena at the Nanoscale: Phenomenological Theory and Atomistic Modeling. *MRS Bulletin*, **2009**, 34, 643-647	3.2	78
235	A "counter-charge layer in generalized solvents" framework for electrical double layers in neat and hybrid ionic liquid electrolytes. *Physical Chemistry Chemical Physics*, **2011**, 13, 14723-34	3.6	75
234	Quantum Dots in Graphene Nanoribbons. *Nano Letters*, **2017**, 17, 4277-4283	11.5	74
233	Phosphorus and phosphorus-nitrogen doped carbon nanotubes for ultrasensitive and selective molecular detection. *Nanoscale*, **2011**, 3, 1008-13	7.7	74
232	Theoretical study of the vibrational edge modes in graphene nanoribbons. *Physical Review B*, **2008**, 78,	3.3	74
231	Atomic and electronic structures of large and small carbon tori. *Physical Review B*, **1998**, 57, 14886-14890	3.3	74
230	Revealing the Electronic Structure of Silicon Intercalated Armchair Graphene Nanoribbons by Scanning Tunneling Spectroscopy. *Nano Letters*, **2017**, 17, 2197-2203	11.5	72
229	An atomistic branching mechanism for carbon nanotubes: sulfur as the triggering agent. *Angewandte Chemie - International Edition*, **2008**, 47, 2948-53	16.4	69
228	Enhanced thermoelectric figure of merit in assembled graphene nanoribbons. *Physical Review B*, **2012**, 86,	3.3	68
227	Intrinsic electron transport properties of carbon nanotube Y-junctions. *Applied Physics Letters*, **2002**, 81, 5234-5236	3.4	66
226	Electronic structure of polychiral carbon nanotubes. *Physical Review B*, **2000**, 62, 5129-5135	3.3	66

225	Emergence of atypical properties in assembled graphene nanoribbons. *Physical Review Letters*, **2011**, 107, 135501	7.4	65
224	On-Surface Synthesis of BN-Substituted Heteroaromatic Networks. *ACS Nano*, **2015**, 9, 9228-35	16.7	64
223	A theoretical and experimental study on manipulating the structure and properties of carbon nanotubes using substitutional dopants. *International Journal of Quantum Chemistry*, **2009**, 109, 97-118	2.1	64
222	Mechanistic Picture and Kinetic Analysis of Surface-Confined Ullmann Polymerization. *Journal of the American Chemical Society*, **2016**, 138, 16696-16702	16.4	63
221	Voltage Dependent Charge Storage Modes and Capacity in Subnanometer Pores. *Journal of Physical Chemistry Letters*, **2012**, 3, 1732-7	6.4	63
220	Mesoscopic metal-insulator transition at ferroelastic domain walls in VO2. *ACS Nano*, **2010**, 4, 4412-9	16.7	63
219	DNA Translocation in Nanometer Thick Silicon Nanopores. *ACS Nano*, **2015**, 9, 6555-64	16.7	62
218	Structure and stability of small boron and boron oxide clusters. *Journal of Physical Chemistry A*, **2007**, 111, 6539-51	2.8	62
217	Reoxidation of TiO2(110) via Ti interstitials and line defects. *Physical Review B*, **2007**, 75,	3.3	61
216	Nonequilibrium quantum transport properties of organic molecules on silicon. *Physical Review Letters*, **2005**, 95, 206805	7.4	60
215	A carbon science perspective in 2018: Current achievements and future challenges. *Carbon*, **2018**, 132, 785-801	10.4	59
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213	Theoretical Model for Nanoporous Carbon Supercapacitors. *Angewandte Chemie*, **2008**, 120, 530-534	3.6	57
212	Engineering Three-Dimensional (3D) Out-of-Plane Graphene Edge Sites for Highly Selective Two-Electron Oxygen Reduction Electrocatalysis. *ACS Catalysis*, **2020**, 10, 1993-2008	13.1	57
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209	Energetics of bent carbon nanotubes. *Physical Review B*, **1998**, 57, 2586-2591	3.3	56
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206	Quantum transport in graphene nanonetworks. *Nano Letters*, **2011**, 11, 3058-64	11.5	55
205	Nonlinear photon-assisted tunneling transport in optical gap antennas. *Nano Letters*, **2014**, 14, 2330-8	11.5	53
204	On-Surface Cyclization of ortho-Dihalotetracenes to Four- and Six-Membered Rings. *Journal of the American Chemical Society*, **2017**, 139, 17617-17623	16.4	52
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200	Controlling edge morphology in graphene layers using electron irradiation: from sharp atomic edges to coalesced layers forming loops. *Physical Review Letters*, **2010**, 105, 045501	7.4	50
199	Surface-Synthesized Graphene Nanoribbons for Room Temperature Switching Devices: Substrate Transfer and ex Situ Characterization. *ACS Applied Nano Materials*, **2019**, 2, 2184-2192	5.6	49
198	Negative differential resistance in C60-based electronic devices. *ACS Nano*, **2010**, 4, 7205-10	16.7	49
197	Clean nanotube unzipping by abrupt thermal expansion of molecular nitrogen: graphene nanoribbons with atomically smooth edges. *ACS Nano*, **2012**, 6, 2261-72	16.7	48
196	Atomistic Insight on the Charging Energetics in Subnanometer Pore Supercapacitors. *Journal of Physical Chemistry C*, **2010**, 114, 18012-18016	3.8	48
195	Guiding electrical current in nanotube circuits using structural defects: a step forward in nanoelectronics. *ACS Nano*, **2008**, 2, 2585-91	16.7	48
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187	Electronic properties of two-dimensional covalent organic frameworks. *Journal of Chemical Physics*, **2012**, 137, 244703	3.9	44
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178	Selective tuning of the electronic properties of coaxial nanocables through exohedral doping. *Nano Letters*, **2007**, 7, 2383-8	11.5	41
177	Width and Crystal Orientation Dependent Band Gap Renormalization in Substrate-Supported Graphene Nanoribbons. *Journal of Physical Chemistry Letters*, **2016**, 7, 1526-33	6.4	40
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175	Carbon kagome lattice and orbital-frustration-induced metal-insulator transition for optoelectronics. *Physical Review Letters*, **2014**, 113, 085501	7.4	38
174	Properties of one-dimensional molybdenum nanowires in a confined environment. *Nano Letters*, **2009**, 9, 1487-92	11.5	37
173	Measuring the helicity of carbon nanotubes. *Carbon*, **2000**, 38, 1713-1721	10.4	37
172	Carbon science perspective in 2020: Current research and future challenges. *Carbon*, **2020**, 161, 373-391	10.4	35

171	Bright photoluminescence from the inner tubes of "peapod"-derived double-walled carbon nanotubes. *Small*, **2009**, 5, 2678-82	11	35
170	Interlayer bond polarizability model for stacking-dependent low-frequency Raman scattering in layered materials. *Nanoscale*, **2017**, 9, 15340-15355	7.7	32
169	Isotope-Engineering the Thermal Conductivity of Two-Dimensional MoS. *ACS Nano*, **2019**, 13, 2481-2489	16.7	32
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159	Electronic transport properties of assembled carbon nanoribbons. *ACS Nano*, **2012**, 6, 6483-91	16.7	25
158	Edge-edge interactions in stacked graphene nanoplatelets. *ACS Nano*, **2013**, 7, 2834-41	16.7	25
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152	Theoretical and Experimental Insight into the Mechanism for Spontaneous Vertical Growth of ReS2 Nanosheets. *Advanced Functional Materials*, **2018**, 28, 1801286	15.6	23
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148	Anomalous vibrational modes in few layer WTe 2 revealed by polarized Raman scattering and first-principles calculations. *2D Materials*, **2017**, 4, 035024	5.9	21
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125	A Universal Length-Dependent Vibrational Mode in Graphene Nanoribbons. *ACS Nano*, **2019**, 13, 13083-13091	13.7	15
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