

Archival Journal Publications and Book Chapters

- **188 journal papers**, 1 book and 4 book chapters published or in-press
- **> 17,000 Citations** (Google Scholar) with an **H-index = 64**
- **50 Publications with Impact Factor > 10**, including 1 in **Science** (Impact Factor: 41.05), 1 in **Nature** (Impact Factor: 41.57), 3 in **Nature Materials** (Impact Factor: 39.23), 3 in **Nature Communications** (Impact Factor: 12.35), 9 in **Advanced Materials** (Impact factor: 21.95), 13 in **ACS Nano** (Impact Factor: 13.70), 6 in **Nano Letters** (Impact Factor: 12.08), 7 in **Advanced Functional Materials** (Impact Factor: 13.32), 5 in **Nano Energy** (Impact Factor: 13.12) and 2 in **Nano Today** (Impact Factor: 17.75).

Book:

Nikhil Koratkar, “Graphene in Composite Materials- Synthesis, Characterization and Applications”, ISBN No. 978-1-60595-056-3, DEStech Publications, Inc. Lancaster, PA, USA.

Book Chapters:

Zuankai Wang, Nikhil Koratkar. "Understanding and Controlling Wetting Phenomena at the Micro and Nanoscales" in Nano-structured Thin Films and Surfaces, *Wiley-VCH* (2010). ISBN-10: 3-527-32155-1

Nikhil Koratkar, Jonghwan Suhr. “Mechanical Damping in Nanocomposites” in Encyclopedia of Nanoscience and Nanotechnology, *American Scientific Publishers* (2011), Edited by H. S. Nalwa, Volume 16: Pages (127-146), ISBN:1-58883-165-5.

Iti Srivastava, Mohammad A. Rafiee, Fazel Yavari, Javad Rafiee and Nikhil Koratkar, “Epoxy Nanocomposites – Graphene a promising filler” in Graphene Based Polymer Nanocomposites, Edited by Prithu Mukhopadhyay and Rakesh Gupta, *CRC Press* (2012), Chapter 9, pp. 315-352, ISBN: 978-1-4398-2779-6.

Rahul Krishnan, Rahul Mukherjee, Toh-Ming Lu and Nikhil Koratkar, “Nano-engineered Silicon Anodes for Lithium-Ion Rechargeable Batteries” in Nanotechnology for Li-ion Batteries, Edited by David Lockwood, *Springer* (2013), Chapter 3, pp. 43-66, ISBN: 978-1-4614-4604-0.

Journal Papers:

1997-2001

1. N. Koratkar, and I. Chopra, “Analysis and testing of a Froude-scaled helicopter rotor with piezoelectric bender actuated trailing-edge flaps”, *Intelligent Material Systems & Structures* 8, 553-630 (1997).
2. N. Koratkar, and I. Chopra, “Analysis and testing of a Mach-scaled rotor with trailing-edge flaps”, *AIAA Journal* 38, 1113-1124 (2000).
3. N. Koratkar, and I. Chopra, “Wind tunnel testing of a Mach-scaled rotor model with trailing-edge flaps”, *Smart Materials and Structures* 10, 1-14 (2001). **Cited 63 times**

2002

4. N. Koratkar, B. Wei, and P. Ajayan, "Carbon nanotube films for damping applications", **Advanced Materials**, Vol. 14, No. 13, pp. 997-1000, (2002). **Cited 166 times**
5. N. Koratkar, and I. Chopra, "Closed-loop wind tunnel testing of a smart rotor model with trailing-edge flaps", *Journal of the American Helicopter Society*, Vol. 47, No. 4, pp. 263-272, (2002). **Cited 73 times**
6. N. Koratkar, and I. Chopra, "Open-loop hover testing of a smart rotor model", *AIAA Journal*, Vol. 40, No. 8, pp. 1495-1502, (2002).

2003

7. A. Modi, N. Koratkar, E. Lass, B. Wei and P. Ajayan, "Miniaturized gas ionization sensors using carbon nanotubes", **Nature**, 424, 171-174, (2003). **Cited 1,021 times**
8. W. Zhang, J. Kim and N. Koratkar, "Energy-absorbent composites featuring embedded shape memory alloys" *Smart Materials and Structures*, Vol. 12, pp. 642-646, (2003).
9. N. Koratkar, B. Wei and P. Ajayan, "Multifunctional structural reinforcement featuring carbon nanotube films", *Composites Science and Technology*, Vol. 63, No. 11, pp. 1525-1531, (2003). **Cited 132 times**
10. J. Kim, Z. Rusak, and N. Koratkar, "Small-scale airfoil aerodynamic efficiency improvement by surface temperature and heat transfer" *AIAA Journal*, Vol. 41, No. 11, pp. 2105-2113, (2003).

2004

11. J. P. Singh, N. Koratkar, T. Karabacak, T.-M. Lu and G.-C. Wang, "Field ionization of argon using β -phase W nanorods," *Applied Physics Letters* 85, 15, pp. 3226-3228, (2004).
12. N. Koratkar, A. Modi, J. Kim, B. Wei, R. Vajtai, S. Talapatra and P. Ajayan, "Mobility of carbon nanotubes in high electric fields," *Journal of Nanoscience and Nanotechnology*, Vol. 4, No. 1/2, pp. 69-71, (2004).
13. N. Koratkar, A. Modi, E. Lass, and P. Ajayan, "Temperature effects on resistance of aligned multi-walled carbon nanotube films," *Journal of Nanoscience and Nanotechnology*, Vol. 4, No. 7, pp. 744-748, (2004).

2005

14. N. Koratkar, "Nanoscale field ionization sensors- a review", *International Journal of Nanoscience*, Vol. 4, pp. 945-949 (2005).
15. J. Suhr, N. Koratkar, P. Keblinski and P. Ajayan, "Viscoelasticity in carbon nanotube composites," **Nature Materials**, Vol. 4, pp. 134-137, (2005). **Cited 445 times**
16. J. Kim and N. Koratkar, "Feasibility study to develop a Mach-scaled swashplateless rotor model," *Smart Materials and Structures*, Vol. 14, No. 1, pp. 79-86, (2005).
17. N. Koratkar, J. Suhr, A. Joshi, R. Kane, L. Schadler, P. Ajayan, and S. Bartolucci, "Characterizing energy dissipation in single-walled carbon nanotube polycarbonate composites", *Applied Physics Letters*, Vol. 87, No. 6, 063102 (2005). **Cited 146 times**
18. J. Kim and N. Koratkar, "Effect of unsteady blade pitching motion on aerodynamic performance of micro-rotorcraft," *Journal of Aircraft*, Vol. 42, No. 4, pp. 874-881, (2005).
19. J. Nelson and N. Koratkar, "Eng. Note: Effect of miniaturized Gurney flaps on aerodynamic performance of micro-scale rotors," *Journal of Aircraft*, Vol. 42, No. 2, pp. 557-561, (2005).

2006

20. W. Zhang, J. Suhr and N. Koratkar, "Observation of high buckling stability in carbon nanotube polymer composites", **Advanced Materials**, Vol. 18, pp. 452-456 (2006).
21. R. Teki, N. Koratkar, T. Karabacak and T.-M. Lu, "Enhanced photo-emission from nanostructured surface topologies", *Applied Physics Letters* 89, pp. 193116:1-3 (2006).
22. J. Suhr, W. Zhang, P. Ajayan and N. Koratkar, "Temperature activated interfacial friction damping in carbon nanotube polymer composites", **Nano Letters**, 6, 219-223 (2006). **Cited 107 times**
23. S. Kim, T. Karabacak, T.-M. Lu and N. Koratkar, "Water Electrolysis Activated by Ru Nanorod Array Electrodes", *Applied Physics Letters*, Vol. 88, pp. 263106:1-3 (2006). **Cited 64 times**
24. W. Zhang, J. Suhr and N. Koratkar, "Carbon nanotube/polycarbonate composites as multifunctional strain sensors", *Journal of Nanoscience and Nanotechnology*, Vol. 6, pp. 960-964 (2006). **Cited 214 times**
25. Z. Wang, N. Koratkar, "Suppressing electrostatic screening in nanostructured electrode arrays", *Journal of Nanoscience and Nanotechnology*, Vol. 6, pp. 1979-1984 (2006).

26. J. Suhr and N. Koratkar, "Effect of pre-strain on interfacial friction damping in carbon nanotube polymer composites", *Journal of Nanoscience and Nanotechnology*, Vol. 6, pp. 1-4 (2006).
27. D.-B. Cho, J. Suhr and N. Koratkar, "Carbon nanotube thin film coating for improved thermal management in piezoceramic sheet actuators", *Intelligent Materials Systems and Structures*, Vol. 17, pp. 209-216 (2006).
28. J. Suhr, N. Koratkar, D.-X. Ye and T.-M. Lu, "Damping properties of epoxy films with nanoscale fillers", *Intelligent Materials Systems and Structures*, Vol. 17, pp. 255-260. (2006).
29. P. Ajayan, J. Suhr and N. Koratkar, "Utilizing interfaces in carbon nanotube reinforced polymer composites for structural damping", *Journal of Materials Science* 41, 7824-7829 (2006). **Cited 83 times**

2007

30. Z. Wang, L. Ci, L. Chen, S. Nayak, P. Ajayan and N. Koratkar, "Polarity-dependent electrochemically controlled transport of water through carbon nanotube membranes", **Nano Letters** 7, 697 (2007). **Cited 162 times**
31. W. Zhang, V. Sakalkar, and N. Koratkar, "In situ health monitoring and repair in composites using carbon nanotube additives", *Applied Physics Letters* 91, 133102 (2007). **Cited 83 times**
32. Z. Wang, C. Lopez, A. Hirska and N. Koratkar, "Impact dynamics and rebound of water droplets on superhydrophobic carbon nanotube arrays", *Applied Physics Letters* 91, 023105 (2007). **Cited 169 times**
33. Z. Wang, Y. Ou, T.-M. Lu and N. Koratkar, "Wetting and electrowetting properties of carbon nanotube templated parylene films", *Journal of Physical Chemistry B* 111, 4296 (2007).
34. Z. Wang, L. Ci, P. Ajayan and N. Koratkar, "Combined micro/nanoscale surface roughness for enhanced hydrophobic stability in carbon nanotube arrays", *Applied Physics Letters* 90, 143117 (2007). **Cited 86 times**
35. L. Chen, Y. Zhang, N. Koratkar, P. Jena, and S. K. Nayak, "First principles study of interaction of molecular hydrogen with Li doped carbon nano peapod", *Physical Review B*, 77, 033405 (2007).
36. W. Zhang, R. C. Picu and N. Koratkar, "Suppression of fatigue crack growth in carbon nanotube composites", *Applied Physics Letters* 91, 193109 (2007). **Cited 107 times.**

37. Z. Wang, A. Joshi, R. Kane and N. Koratkar, “Creep mitigation in composites using carbon nanotube additives”, *Nanotechnology* 18, 185703 (2007).
38. J. Suhr, A. Joshi, L. Schadler, R. Kane and N. Koratkar, “Effect of filler geometry on interfacial friction damping in polymer nano-composites”, *Journal of Nanoscience and Nanotechnology* 7, 1684 (2007).
39. J. Ryoo, P. Hajela, J. Suhr and N. Koratkar, “Estimation of Young’s modulus of singlewalled carbon nanotubes using cellular automata”, *Advances in Engineering Software* 38, 531 (2007).

2008

40. C. Li, Z. Wang, P.-I. Wang, Y. Peles, N. Koratkar and G. P. Peterson, “Nanostructured copper interfaces for enhanced boiling”, *Small* 4, 1084-1088 (2008). This work was featured by **Nature News** (04 July 2008), doi: 10.1038/news.2008.935
Cited 364 times
41. C. Ma, L.J. Ji, R.P. Zhang, Y.F. Zhu, W. Zhang and N. Koratkar, “Alignment and dispersion of functionalized carbon nanotubes in polymer composites induced by an electric field”, *Carbon* 46, 706-710 (2008). **Cited 149 times**
42. J. P. Singh, R. Teki, L. Ci, P. Ajayan and N. Koratkar, “Detecting mechanical resonance in carbon nanotubes via inter-tube electrical transport measurements”, *Journal of Nanoscience and Nanotechnology* 8, 436-438 (2008).
43. W. Zhang, R.C. Picu and N. Koratkar, “Effect of carbon nanotube dimensions and dispersion on the fatigue behavior of epoxy nanocomposites” *Nanotechnology*, 19, 285709 (2008). **Cited 97 times**
44. S. Kim, S. Pal, P. Ajayan, T. Borca-Tasciuc and N. Koratkar, “Electrical breakdown gas detector featuring carbon nanotube array electrodes”, *Journal of Nanoscience and Nanotechnology* 8, 416-419 (2008).
45. R. Teki, T. C. Parker, H. Li, N. Koratkar, T.-M. Lu, and S. Li, “Low temperature synthesis of single crystalline ZnO nanorods by oblique angle deposition”, *Thin Solid Films*, 516, 4993–4996 (2008).
46. Z. Wang and N. Koratkar, “Electrically Controlled Wetting and Dewetting Transition on Silicon Micro-Pillar Arrays”, *Advanced Science Letters* 1, 222-225 (2008).
47. J. Suhr and N. Koratkar, “Energy dissipation in carbon nanotube composites- A review” *Journal of Materials Science* 43, 4370-4382 (2008). **Cited 118 times**

2009

48. W. Zhang, I. Srivastava, Y.-F. Zhu, C. R. Picu, and N. Koratkar, "Heterogeneity in Epoxy Nanocomposites Initiates Crazing: Significant Improvements in Fatigue Resistance and Toughening", *Small* 5, 1403-1407 (2009). **Cited 92 times**
49. A. Proper, W. Zhang, S. Bartolucci, A. Oberai and N. Koratkar, "In situ detection of impact damage in composites using carbon nanotube sensor networks", *Nanoscience and Nanotechnology Letters* 1, 3-7 (2009).
50. M. A. Rafiee, J. Rafiee, Z. Wang, H. Song, Z.-Z. Yu and N. Koratkar, "Enhanced Mechanical Properties of Nanocomposites at Low Graphene Content", *ACS Nano* 3, 3884-3890 (2009). **Cited 1,518 times**

[This paper was highlighted by 2010 Nobel Laureate Dr. Konstantin Novoselov in his 2010 Keynote Address to the MRS Fall Meeting]

51. R. Teki, M. K. Datta, R. Krishnan, T. C. Parker, T.-M. Lu, P. N. Kumta and N. Koratkar, "Nanostructured Silicon Anodes for Lithium-Ion Rechargeable Batteries", *Small* 5, 2236-2242 (2009). **Cited 346 times**
52. M. A. Rafiee, J. Rafiee, Z.-Z. Yu and N. Koratkar, "Buckling Resistant Graphene Nanocomposites", *Applied Physics Letters* 95, 223103 (2009). **Cited 139 times**
53. R. Teki, T.-M. Lu and N. Koratkar, "Effect of Tip Geometry on Photo-Electron-Emission from Nanostructures", *Journal of Nanoscience and Nanotechnology* 9, 1749-1753 (2009).
54. Y.-F. Zhu, C. Ma, W. Zhang, R.P. Zhang, N. Koratkar, J. Liang, "Alignment of multiwalled carbon nanotubes in bulk epoxy composites via electric field", *Journal of Applied Physics* 105, 054319 (2009). **Cited 146 times**
55. M. Gasda, R. Teki, T.-M. Lu, N. Koratkar, G. A. Eisman, D. Gall, "Sputter-Deposited Pt PEM Fuel Cell Electrodes: Particles vs Layers", *Journal of the Electrochemical Society*, 156, B614-B619 (2009).

2010

56. M. A. Rafiee, J. Rafiee, I. Srivastava, Z. Wang, H. Song, Z.-Z. Yu and N. Koratkar, "Fracture and Fatigue in Graphene Nanocomposites", *Small* 6, 179-183 (2010). **Cited 623 times**
57. I. Srivastava, A. Proper, M. A. Rafiee and N. Koratkar, "Three-Phase Textile Nanocomposites: Significant Improvements in Strength, Toughness and Ductility", *Journal of Nanoscience and Nanotechnology* 10, 1025-1029 (2010).
58. I. Srivastava and N. Koratkar, "Fatigue and Fracture toughness of Epoxy Nanocomposites", *JOM* 62, 50-57 (2010).

59. J. Rafiee, M. A. Rafiee, Z.-Z. Yu & N. Koratkar, “Super-hydrophobic to Super-hydrophilic wetting control in Graphene Films”, *Advanced Materials* 22, 2151-2154 (2010). **Cited 310 times**
60. P.K. Dubey, A.S.K. Sinha, S. Talapatra, N. Koratkar, P.M. Ajayan, O.N. Srivastava, “Hydrogen generation by water electrolysis using carbon nanotube anode”, *International Journal of Hydrogen Energy* 35, 3945-3950 (2010).
61. M. A. Rafiee, W. Lu, A. V. Thomas, A. Zandiatashbar, J. Rafiee, J. M. Tour and N. Koratkar, “Graphene Nano-ribbon Composites”, *ACS Nano* 4, 7415–7420 (2010). **Cited 206 times**
62. Z. Zhao, R. Teki, N. Koratkar, H. Efstathiadis, P. Haldar, ” Metal oxide buffer layer for improving performance of polymer solar cells”, *Applied Surface Science* 256, 6053-6056 (2010).
63. F. Yavari, M. A. Rafiee, J. Rafiee, Z.-Z. Yu and N. Koratkar, “Dramatic Increase in Fatigue Life in Hierarchical Graphene Composites”, *ACS Applied Materials & Interfaces* 2, 2738–2743 (2010). **Cited 142 times**
64. B. A. Malouin, Z. Wang, N. Koratkar and A. Hirska, “Directed rebounding of droplets by microscale surface roughness gradients”, *Applied Physics Letters* 96, 234103 (2010).
65. R. Nagar, B. R. Mehta, R. Teki, N. Koratkar, V. G. Sathe, D. Kanjilal, J. P. Singh, “Radiation induced modification in nano-mechanical hardness of ZnO cone structures”, *Journal of Applied Physics* 108, 063519 (2010).
66. F. Yavari, C. Kritzinger, C. Gaire, L. Song, H. Gulapalli, T. Borca-Tasciuc, P. M. Ajayan and N. Koratkar, “Tunable band gap in graphene by the controlled adsorption of water molecules”, *Small* 6, 2535-2538 (2010). **Cited 243 times**

2011

67. K. S. Hazra, J. Rafiee, M. A. Rafiee, A. Mathur, S. S. Roy, J. McLauhlin, N. Koratkar and D. S. Misra, “Thinning of multilayer graphene to monolayer graphene in a plasma environment”, *Nanotechnology* 22, 025704 (2011). This research study was featured by *Nature India* (31 December 2010), doi:10.1038/nindia.2010.187
68. X.-Z. Tang, W. Li, Z.-Z. Yu, M. A. Rafiee, J. Rafiee, F. Yavari and N. Koratkar, “Enhanced thermal stability in graphene oxide covalently functionalized with 2-amino-4, 6-didodecylamino-1, 3, 5-triazine”, *Carbon* 49, 1258-1265 (2011). **Cited 143 times**
69. R. Nagar, R. Teki, I. Srivastava, J. P. Singh and N. Koratkar, ” Carbon Nanotube Photo-Thermo-Mechanical Actuator”, *Journal of Nanoscience and Nanotechnology* 11, 935-940 (2011).

70. I.Srivastava, R. J. Mehta, Z.-Z. Yu, L. Schadler, and N. Koratkar, “Raman Study of Interfacial Load Transfer in Graphene Nanocomposites”, *Applied Physics Letters* 98, 063102 (2011). **Cited 63 times**
71. R. Krishnan, T.-M. Lu and N. Koratkar, “Functionally strain graded nanoscoops for high power Li-ion battery anodes”, *Nano Letters* 11, 377-384 (2011). **Cited 112 times**
[5th most downloaded Nano Letters paper in January/February 2011]
72. M.A. Rafiee, J. Rafiee, F. Yavari and N. Koratkar, “Fullerene/Epoxy Nanocomposites-Enhanced Mechanical Properties at Low Nanofiller Loading”, *Journal of Nanoparticle Research* 13:733–737 (2011).
73. L. S. Walker, V. R. Marotto, M. A. Rafiee, N. Koratkar, E. L. Corral, “Toughening in Graphene Ceramic Composites”, *ACS Nano* 5, 3182–3190 (2011). **Cited 424 times**
74. J. Samuel, J. Rafiee, P. Dhiman, Z.-Z. Yu and N. Koratkar, “Graphene Colloidal Suspensions as High Performance Semi-Synthetic Metal-Working Fluids”, *Journal of Physical Chemistry C* 115, 3410-3415 (2011).
75. X. Chen, J. Wu, R. Ma, M. Hua, N. Koratkar, S. Yao, and Z. Wang, “Nanograsped Micropyramidal Architectures for Continuous Dropwise Condensation”, *Advanced Functional Materials* 21, 4617-4623 (2011). **Featured on the Cover, Cited 330 times**
76. K. S. Hazra, N. Koratkar and D. S. Misra, “Improved Field emission from multiwall carbon nanotubes with nano-size defects produced by ultra-low energy ion bombardment”, *Carbon* 49, 4760-4766 (2011).
77. F. Yavari, H. R. Fard, K. Pashayi, M. A. Rafiee, A. Zamiri, Z.-Z. Yu, R. Ozisik, T. Borca-Tasciuc, N. Koratkar, “Enhanced Thermal Conductivity in a Nanostructured Phase Change Composite due to Low Concentration Graphene Additives”, *Journal of Physical Chemistry C* 115, 8753–8758 (2011). **Cited 258 times**
78. X.-Y. Qi, D. Yan, Z. Jiang, Y.-K. Cao, Z.-Z. Yu, F. Yavari, N. Koratkar, “Enhanced Electrical Conductivity in Polystyrene Nanocomposites at Ultra-Low Graphene Content”, *ACS Applied Materials & Interfaces* 3, 3130-3133 (2011). **Cited 154 times**
79. P. Dhiman, F. Yavari, X. Mi, H. Gullapalli, Y. Shi, P. M. Ajayan and N. Koratkar, “Harvesting Energy from Water Flow over Graphene”, *Nano Letters* 11, 3123-3127 (2011). **Cited 142 times**

Most downloaded Nano Letters paper in the entire 3rd quarter of 2011.

This study was also featured by Nature (Volume 476, Page 255, 2011) in their research highlights section (doi:10.1038/476255f).

80. Stephen F. Bartolucci, Joseph Paras, Mohammad A. Rafiee, Javad Rafiee, Sabrina Lee, Deepak Kapoor, Nikhil Koratkar, "Graphene-Aluminum Nanocomposites", *Materials Science & Engineering A* 528, 7933– 7937 (2011). **Cited 285 times**
81. R. Bajpai, S. Roy, P. Kumar, P. Bajpai, N. Kulshrestha, J. Rafiee, N. Koratkar, and D. S. Misra, "Graphene Supported Platinum Nanoparticle Counter-Electrode for Enhanced Performance of Dye Sensitized Solar Cells", *ACS Applied Materials & Interfaces* 3, 3884–3889 (2011). **Cited 139 times**
82. F. Yavari, Z. Chen, A. V. Thomas, W. Ren, H.-M. Cheng and N. Koratkar, "High sensitivity gas detection using a macroscopic three-dimensional graphene foam network", *Scientific Reports* 1, 166; doi:10.1038/srep00166 (2011). **Cited 403 times**

2012

83. D. Zheng, G. Tang, H.-B. Zhang, Z.-Z. Yu, F. Yavari, N. Koratkar, S.-H. Lim, and M.-W. Lee, "In-situ thermal reduction of graphene oxide for high electrical conductivity and low percolation threshold in polyamide 6 composites", *Composites Science and Technology*, 72, 284-289 (2012). **Cited 91 times**
84. V. Gadhamshetty and N. Koratkar, "Nano-Engineered Biocatalyst-Electrode Structures for Next Generation Microbial Fuel Cells", *Nano Energy* 1, 3-5 (2012).
85. A. Zandiatashbar, C. R. Picu, and N. Koratkar, "Control of Epoxy Creep using Graphene", *Small* 8, 1676-1682 (2012).
86. R. Bajpai, S. Roy, P. Kumar, P. Bajpai, N. Kulshrestha, J. Rafiee, Nikhil Koratkar, D. S. Misra, "Graphene supported Nickel nanoparticle as a viable replacement for Platinum in dye sensitized solar cells", *Nanoscale* 4, 926-930 (2012). **Cited 123 times**
87. J. Rafiee, X. Mi, H. Gullapalli, A. Thomas, F. Yavari, Y. Shi, P. Ajayan, and N. Koratkar, "Wetting transparency of graphene", *Nature Materials* 11, 217-222 (2012). **Cited 671 times**
- This paper was also featured in their News and Views Section: "Unobstrusive Graphene Coatings" *Nature Materials* 11, 182-183 (2012).**
88. M. Kumar, V. N. Singh, B. R. Mehta, N. Koratkar, and J. P. Singh, "Electron beam induced real time rocket-type propulsion effect in indium metal filled indium oxide nanotubes", *Materials Letters* 68, 47-50 (2012).
89. A. Bush, A. Thomas, Z.-Z. Yu and N. Koratkar, "Wetting Behavior of Graphene Chitosan Nanocomposites for 3D Scaffold Structures", *Adv. Sci. Eng. Med.* 4, 15-18 (2012)

90. S. S. Kandanur, M. A. Rafiee, F. Yavari, M. Schrameyer, Z.-Z. Yu, T. A. Blanchet and N. Koratkar, "Suppression of wear in graphene polymer composites", *Carbon* 50, 3178–3183 (2012). **Cited 134 times**
91. R. Mukherjee, A. V. Thomas, A. Krishnamurthy, N. Koratkar, "Photo-Thermally Reduced Graphene As High Power Anodes for Lithium Ion Batteries", *ACS Nano* 6, 7867-7878 (2012). **Cited 242 times**
92. I. Srivastava, Z.-Z. Yu and N. A. Koratkar, "Viscoelastic Properties of Graphene Polymer Composites", *Adv. Sci. Eng. Med.* 4, 10-14 (2012).
93. X. Mi, V. Meunier, N. Koratkar and Y. Shi, "Facet-insensitive Graphene Growth on Copper", *Physical Review B* 85, 155436 (2012).
94. F. Yavari and N. Koratkar, "Graphene based chemical sensors", *Journal of Physical Chemistry Letters* 3, 1746-1753 (2012). **Featured on the Cover, Cited 311 times.**
95. F. Yavari, L. Chen, A. Zandiatashbar, Z.-Z. Yu and N. Koratkar, "Synergy derived by combining graphene and carbon nanotubes as nanofillers in composites", *Journal of Nanoscience and Nanotechnology* 12, 3165-3169 (2012).
96. A. Zandiatashbar, R.C. Picu and N. Koratkar, "Mechanical Behavior of Epoxy-Graphene Platelets Nanocomposites", *ASME Journal of Engineering Materials and Technology*, 134, 031011 (2012).
97. R. Mukherjee, R. Krishnan, L.-M. Lu and N. Koratkar, "Nanostructured Electrodes for High-Power Lithium Ion Batteries", *Nano Energy* 1, 518-533 (2012). **Cited 243 times**
98. G. Chatterjee, P. K. Singh, S. Ahmed, A. P. L. Robinson, A. D. Lad, S. Mondal, V. Narayanan, I. Srivastava, N. Koratkar, J. Pasley, A. K. Sood, and G. R. Kumar, "Macroscopic Transport of Megaampere Electron Currents in Aligned Carbon Nanotube Arrays", *Physical Review Letters* 108, 235005 (2012).
- [This paper was featured in Nature Nanotechnology: "Going to new lengths" Nature Nanotechnology 7, 413 (2012).]**
99. F. Yavari, E. Castillo, H. Gullapalli, P. M. Ajayan, and N. Koratkar, "High Sensitivity Detection of NO₂ and NH₃ in Air using Chemical Vapor Deposition grown Graphene", *Applied Physics letters* 100, 203120 (2012). **Cited 134 times**
100. A. Thomas, N. Koratkar and Y. Peles, "Dehumidification heat transfer on copper surfaces", *International Journal of Heat and Mass Transfer* 55, 7858-7864 (2012).

2013

101. E. Singh, Z. Chen, F. Houshmand, W. Ren, Y. Peles, H.-M. Cheng, N. Koratkar, "Superhydrophobic graphene foams", *Small* 9, 75–80 (2013). **Featured on inside Cover. Cited 133 times**
102. A. Krishnamurthy, V. Gadhamshetty, R. Mukherjee, Z. Chen, W. Ren, H.-M. Cheng, and N. Koratkar, "Passivation of Microbial Corrosion Using a Graphene Coating", *Carbon* 56, 45-49 (2013). **Cited 77 times**
103. A. Bianco, H.M. Cheng, T. Enoki, Y. Gogotsi, R. H. Hurt, N. Koratkar, T. Kyotani, M. Monthieux, C. R. Park, J. M. D. Tascon, J. Zhang, "All in the graphene family - A recommended nomenclature for two-dimensional carbon materials", *Carbon* 65, 1-6 (2013). **Cited 427 times**
104. R. Bajpai, S. Roy, N. Koratkar and D. S. Misra, "NiO nanoparticles deposited on graphene platelets as a cost-effective counter electrode in a dye sensitized solar cell", *Carbon* 56, 56-63 (2013).
105. E. Singh, A. V. Thomas, R. Mukherjee, X. Mi, F. Houshmand, Y. Peles, Y. Shi, and N. Koratkar, "Graphene Drape Minimizes the Pinning and Hysteresis of Water Drops on Nanotextured Rough Surfaces", *ACS Nano* 7, 3512–3521 (2013).
106. N. Kulshrestha, A. Misra, N. Koratkar, and D. S. Misra, "Electrical Transport and Breakdown in Graphene Multilayers loaded with Electron Beam Induced deposited Platinum", *ACS Applied Materials & Interfaces* 5, 3424–3430 (2013).
107. S.-H. Lee, V. Sridhar, J.-H. Jung, K. Karthikeyan, Y.-S. Lee, R. Mukherjee, N. Koratkar and I.-K. Oh, "Graphene-Nanotube-Iron Hierarchical Nanostructure as a Lithium Ion Battery Anode", *ACS Nano* 7, 4242–4251 (2013). **Cited 127 times**
108. J. Zhong, Z. Yang, R. Mukherjee, A. V. Thomas, K. Zhu, P. Sun, J. Lian, H. Zhu and N. Koratkar, "Carbon Nanotube Sponges as Conductive Networks for Supercapacitor Devices", *Nano Energy* 2, 1025-1030 (2013).
109. I. Arora, J. Samuel and N. Koratkar, "Experimental Investigation of the Machinability of Epoxy Reinforced with Graphene Platelets", *ASME Journal of Manufacturing Science and Engineering* 135, 041007 (2013).
110. B. Chu, E. Singh, N. Koratkar, and J. Samuel, "Graphene-Enhanced Environmentally-Benign Cutting Fluids for High-Performance Micro-Machining Applications", *Journal of Nanoscience and Nanotechnology* 13, 5500-5504 (2013).
111. S. A. Shojaei, A. Zandiatashbar, N. Koratkar, D. A. Lucca, "Raman Spectroscopic Imaging of Graphene Dispersion in Polymer Composites", *Carbon* 62, 510-513 (2013).
112. J. Dang, F. Xiang, N. Gu, R. Zhang, R. Mukherjee; I. Oh, N. Koratkar, Z. Yang, "Synthesis and Electrochemical Performance Characterization of Ce-doped $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ as Cathodes for Lithium-Ion Batteries", *Journal of Power Sources* 243, 33-39 (2013). **Cited 67 times**

2014

113. R. Mukherjee, A. V. Thomas, D. Datta, E. Singh, J. Li, O. Eksik, V. B. Shenoy and N. Koratkar, “Defect Induced Plating of Lithium Metal within Porous Graphene Networks”, **Nature Communications** 5, 3710 (2014). **Cited 212 times**
114. A. Zandiatashbar, G.-H. Lee, S. J. An, S. Lee, N. Mathew, M. Terrones, T. Hayashi, R. C. Picu, J. Hone, N. Koratkar, “Effect of defects on the intrinsic strength and stiffness of graphene”, **Nature Communications** 5, 3186 (2014). **Cited 286 times**
115. O. Eksik , J. Gao , S. Ali Shojaee , A. Thomas , P. Chow , S. F. Bartolucci , D. A. Lucca , and N. Koratkar, “Epoxy Nanocomposites with Two-Dimensional Transition Metal Dichalcogenide Additives”, **ACS Nano** 8, 5282-5289 (2014). **Cited 69 times**
116. G.-T. Kim, S.-J. Gim, S.-M. Cho, N. Koratkar and I.-K. Oh, “Wetting-Transparent Graphene Films for Hydrophobic Water-Harvesting Surfaces”, **Advanced Materials**, 26, 5166-5172 (2014). **Featured on the inside Cover.**
117. G. Xin, H. Sun, T. Hu, H. R. Fard, X. Sun, N. Koratkar, T. Borca-Tasciuc and J. Lian, “Large Area Free-Standing Graphene Paper for Superior Thermal Management”, **Advanced Materials** 26, 4521–4526 (2014). **Cited 169 times**
118. F. Xiang, J. Zhong, N. Gu, R. Mukherjee, I.-K. Oh, N. Koratkar and Z. Yang, “Far-Infrared Reduced Graphene Oxide as High Performance Electrodes for Supercapacitors”, *Carbon* 75, 201-208 (2014).
119. J. Zhong, J. Meng, X. Gui, T. Hu, N. Xie, X. Lu, Z. Yang, N. Koratkar, “Nanocarbon aerogel complexes inspired by the leaf structure”, *Carbon* 77, 637-644 (2014).
120. J. Gao, P. K. Chow, A. V. Thomas, T.-M. Lu, T. Borca-Tasciuc, N. Koratkar, “Reduced stability of copper interconnects due to wrinkles and steps on hexagonal boron nitride substrates”, *Applied Physics Letters* 105, 123108 (2014).
121. Dibakar Datta, Junwen Li, Nikhil Koratkar, Vivek B. Shenoy, “Enhanced Lithiation in Defective Graphene”, *Carbon* 80, 305-310 (2014). **Cited 78 times**
122. D. Shao, H. Sun, J. Gao, G. Xin, M. Anthony Aguilar, T. Yao, N. Koratkar, J. Lian, S. Sawyer, “Flexible, thorn-like ZnO-multiwalled carbon nanotube hybrid paper for efficient ultraviolet sensing and photocatalyst applications”, *Nanoscale* 6, 13630-13636 (2014).
123. W. J. Gerken, A. V. Thomas, N. Koratkar, M. A. Oehlschlaeger, “Nanofluid pendant droplet evaporation: experiments and modeling”, *International Journal of Heat and Mass Transfer* 74, 263-268 (2014).

124. N. K. Naik, K. S. Pandya, V. R. Kavala, W. Zhang and N. Koratkar, “Alumina nanoparticle filled epoxy resin: High strain rate compressive behavior”, *Polymer Engineering and Science*, 54, 2896-2901 (2014).
125. P. K. Chow, O. Eksik and N. Koratkar, “Mechanical Property Enhancement of Layered Reduced Graphene Oxide Papers by Non-Covalent Modification with Terephthalic Acid”, *Particles and Particle Systems Characterization* 31, 337–341 (2014).

2015

126. D. Shao, J. Gao, P. Chow, H. Sun, G. Xin, P. Sharma, J. Lian, N. Koratkar, S. Sawyer, “Organic–Inorganic Heterointerfaces for Ultrasensitive Detection of Ultraviolet Light”, **Nano Letters** 15, 3787–3792 (2015).
127. G. Zhou, L. Li, C. Ma, S. Wang, Y. Shi, N. Koratkar, W. Ren, F. Li, H.-M. Cheng, “A graphene foam electrode with high sulfur loading for flexible and high energy Li-S batteries”, **Nano Energy** 11, 356-365 (2015). **Cited 309 times**
- [6th most cited paper published in Nano Energy Journal]**
128. P. K. Chow, R. B. Jacobs-Gedrim, J. Gao, T.-M. Lu, B. Yu, H. Terrones, N. Koratkar, “Defect-Induced Photoluminescence in Monolayer Semiconducting Transition Metal Dichalcogenides”, **ACS Nano** 9, 1520–1527 (2015). **Cited 155 times**
129. P. K. Chow, E. Singh, B. Viana, J. Gao, J. Luo, J. Li, Z. Lin, A. Elías, Y. Shi, Z. Wang, M. Terrones, N. Koratkar, “Wetting of Mono and Few-Layered WS₂ and MoS₂ Films Supported on Si/SiO₂ Substrates”, **ACS Nano** 9, 3023–3031 (2015). **Cited 79 times**
130. A. V. Thomas, B. C. Andow, S. Suresh, J. Yin, A. H. Dyson, and N. Koratkar, “Controlled Crumpling of Graphene Oxide Films for Tunable Optical Transmittance”, **Advanced Materials** 27, 3256–3265 (2015). **Featured on the inside Front Cover**
131. J. Zhong, J. Meng, Z. Yang, P. Poulin, N. Koratkar, “Shape memory fiber supercapacitors”, **Nano Energy** 17, 330-338 (2015).
132. L. Li, Z. Wu, H. Sun, D. Chen, J. Gao, S. Suresh, P. Chow, C. V. Singh, N. Koratkar, “A Foldable Lithium-Sulfur Battery”, **ACS Nano** 9, 11342-11350 (2015).
133. D. Shao, J. Gao, G. Xin, Y. Wang, L. Li, J. Shi, J. Lian, N. Koratkar and S. Sawyer, “Cl-doped ZnO Nanowire Arrays on 3D Graphene Foam with Highly Efficient Field Emission, and Photocatalytic Properties”, **Small** 11, 4785-4792 (2015).
134. J. W. Hu, Z. P. Wu, S. W. Zhong, W. B. Zhang, S. Suresh, A. Mehta, N. Koratkar, “Folding Insensitive, High Energy Density Lithium-Ion Battery Featuring Carbon Nanotube Current Collectors”, *Carbon* 87, 292-298 (2015).

135. S. Roy, R. Bajpai, N. Koratkar, D.S. Misra, “Localized Transformation of Few-Layered Graphene Producing Graphitic Shells with Nanoparticle Cores for Catalytic Applications”, *Carbon* 85, 406-413 (2015).
136. P. J. Smith, B. Chu, E. Singh, P. Chow, J. Samuel, Nikhil Koratkar, “Graphene oxide colloidal suspensions mitigate carbon diffusion during diamond turning of steel”, *Journal of Manufacturing Processes* 17, 41–47 (2015).
137. B. Chu, J. Samuel, N. Koratkar, “Micromilling Responses of Hierarchical Graphene Composites”, *Journal of Manufacturing Science and Engineering* 137, 011002 (2015).
138. N. K. Naik, K. S. Pandya, V. R. Kavala, W. Zhang and N. Koratkar, “High-strain rate compressive behavior of multi-walled carbon nanotube dispersed thermoset epoxy resin”, *Journal of Composite Materials* 49, 903-910 (2015).
139. S. Bhargava, N. Koratkar, T. A. Blanchet, “Effect of Platelet Thickness on Wear of Graphene-Polytetrafluoroethylene (PTFE) Composites”, *Tribology Letters* 59, 1-12, (2015).
140. B. Chu, E. Singh, J. Samuel, N. Koratkar, “Graphene Oxide Colloidal Suspensions as Cutting Fluids for Micromachining - Part 1: Fabrication and Performance Evaluation”, *ASME Journal of Micro and Nano Manufacturing* 3, 041002 (2015).
141. F. Xiang, R. Mukherjee, J. Zhong, Y. Xia, N. Gu, Z. Yang, N. Koratkar, “Scalable and Rapid Far Infrared Reduction of Graphene Oxide for High Performance Lithium Ion Batteries”, *Energy Storage Materials*, 1, 9-16 (2015).
142. Q. Peng, L. Han, J. Lian, X. Wen, S. Liu, Z. Chen, N. Koratkar, Suvranu De, “Mechanical Degradation of Graphene by Epoxidation: Insight from First-principles Calculations”, *Phys. Chem. Chem. Phys.* 17, 19484-19490 (2015).
143. A. Krishnamurthy, V. Gadhamshetty, R. Mukherjee, B. Natarajan, O. Eksik, S. A. Shojaee, D. A. Lucca, W. Ren, H.-M. Cheng, N. Koratkar, “Superiority of Graphene over Polymer Coatings for Prevention of Microbially Induced Corrosion”, *Scientific Reports* 5, 13858 (2015).

2016

144. J. Zhang, M. Terrones, C. R. Park, R. Mukherjee, M. Monthieux, N. Koratkar, Y. Kim, R. Hurt, E. Frackowiak, T. Enoki, Y. Chen, Y. Chen, A. Bianco, “Carbon science in 2016: Status, challenges and perspectives”, *Carbon* 98, 708-732 (2016). **Cited 122 times**
145. O. Eksik, A. Maiorana, S. Spinella, A. Krishnimurthy, S. Weiss, R. A. Gross, and N. Koratkar, “Nanocomposites of a Cashew Nut Shell Derived Epoxy Resin and Graphene Platelets: From Flexible to Tough”, *ACS Sustainable Chemistry & Engineering* 4, 1715–1721 (2016).

146. J. Gao, B. Li, J. Tan, P. Chow, T.-M. Lu, N. Koratkar, “Aging of Transition Metal Dichalcogenide Monolayers”, ***ACS Nano*** 10, 2628–2635 (2016). **Cited 118 times**
147. O. Eksik, S. F. Bartolucci, T. Gupta, H. Fard, T. Borca-Tasciuc, N. Koratkar, “A Novel Approach to Enhance the Thermal Conductivity of Epoxy Nanocomposites Using Graphene Core-Shell Additives”, *Carbon* 101, 239–244 (2016).
148. G. Zhou, H. Zhang, S. Xu, X. Gui, N. Koratkar, J. Zhong, “Fast Triggering of Shape Memory Polymers using an Embedded Carbon Nanotube Sponge Network”, *Scientific Reports* 6, 24148 (2016).
149. J. Gao, L. Li, J. Tan, H. Sun, B. Li, J. C. Idrobo, C. V. Singh, T.-M. Lu, N. Koratkar, “Vertically Oriented Arrays of ReS₂ Nanosheets for Electrochemical Energy Storage and Electrocatalysis”, ***Nano Letters*** 16, 3780–3787 (2016). **Cited 89 times**
150. L. Li, G. Zhou, L. Yin, N. Koratkar, F. Li, H.-M. Cheng, “Stabilizing Sulfur Cathodes using Nitrogen-Doped Graphene as a Chemical Immobilizer for Li-S Batteries”, *Carbon* 108, 120–126 (2016).
151. N. Koratkar, “Materials Synthesis: 2D Gallium Nitride”, ***Nature Materials*** 15, 1153–1154 (2016).
152. J. Gao, Y. D. Kim, L. Liang, J. C. Idrobo, P. Chow, J. Tan, B. Li, L. Li, B. G. Sumpter, T.-M. Lu, V. Meunier, J. Hone, N. Koratkar, “Transition Metal Substitution Doping in Synthetic Atomically-Thin Semiconductors”, ***Advanced Materials*** 28, 9735-9743 (2016).
153. R. Tabassian, J.-H. Oh, S. Kim, D. Kim, S. Ryu, S.-M. Cho, N. Koratkar, I. Oh, “Graphene-coated Meshes for Electro-active Flow Control Devices utilizing two Antagonistic Functions: Repellency versus Permeability”, ***Nature Communications***, 7, 13345 (2016).
154. A. Yang, J. Gao, B. Li, J. Tan, Y. Xiang, T. Gupta, L. Li, S. Suresh, J. C. Idrobo, T.-M. Lu, M. Rong, N. Koratkar, “Humidity sensing using vertically oriented arrays of ReS₂ nanosheets deposited on an interdigitated gold electrode”, *2D Materials* 3, 045012 (2016).
155. J. Yang, X. Li, S. Han, Y. Zhang, P. Min, N. Koratkar, Z.-Z. Yu, “Air-dried, high-density graphene hybrid aerogels for phase change composites with exceptional thermal conductivity and shape stability”, *Journal of Materials Chemistry A* 4, 18067-18074 (2016).

2017

156. L. Li, L. Chen, S. Mukherjee, J. Gao, H. Sun, Z. Liu, X. Ma, T. Gupta, C. V. Singh, W. Ren, H.-M. Cheng, N. Koratkar, “Phosphorene as a Polysulfide Immobilizer and Catalyst in High-Performance Lithium-Sulfur Batteries”, **Advanced Materials** 29, 1602734 (2017). **Cited 87 times**
157. S. Suresh, Z. P. Wu, S. F. Bartolucci, S. Basu, R. Mukherjee, T. Gupta, P. Hundekar, Y. Shi, T.-M. Lu, N. Koratkar, “Protecting Silicon-Film Anodes in Lithium-Ion Batteries Using an Atomically-Thin Graphene Drape”, **ACS Nano** 11, 5051-5061 (2017).
158. Y. Yu, J. Zhong, W. Sun, R. Kumar, N. Koratkar, “Solid-State Hybrid Fibrous Supercapacitors Produced by Dead-End Tube Membrane Ultrafiltration”, **Advanced Functional Materials** 27, 1606461 (2017).
159. J.-E. Kim, J.-H. Oh, M. Kotal, N. Koratkar, I. Oh, “Self-Assembly and Morphological Control of Three-Dimensional Macroporous Architectures Built of Two-Dimensional Materials”, **Nano Today** 14, 100–123 (2017).
160. M. Yarali, X. Wu, T. Gupta, D. Ghoshal, L. Xie, Z. Zhu, J. Bao, S. Chen, T. Luo, N. Koratkar and A. Mavrokefalos, “Effects of Defects on the Temperature Dependent Thermal Conductivity of Suspended Monolayer Molybdenum Disulfide Grown by Chemical Vapor Deposition”, **Advanced Functional Materials**, 27, 1704357 (2017).
161. V. Upadhyayula, D. E. Meyer, V. Gadhamshetty, N. Koratkar, “A Screening-Level Life Cycle Assessment of Graphene-Polyetherimide Coatings Protecting Unalloyed Steel from Severe Atmospheric Corrosion”, *ACS Sustainable Chemistry & Engineering* 5, 2656–2667 (2017).
162. G. Chilkoor, V. Upadhyayula, V. Gadhamshetty, N. Koratkar, M. Tysklind, “Sustainability of Renewable Fuel Infrastructure: A Screening LCA Case Study of Anti-Corrosive, Graphene Oxide Epoxy Liners in Steel Tanks for Storage of Biodiesel and its Blends”, *Environmental Science: Processes & Impacts* 19, 141-153 (2017).
163. Y.-G. Yu, J. Zhong, J. Liu, G.-X. Zhou, L.-X. Lv, C.-Y. Xu, N. Koratkar, “In-situ pressing synthesis of densely compacted carbon nanotubes reinforced nanocomposites with outstanding mechanical performance”, *Composites Science and Technology* 146, 131-138 (2017).
164. G.-X. Zhou, J. Zhong, H. Zhang, X. Hu, J. Wu, N. Koratkar, X. Shi, “Influence of releasing graphene oxide into a clayey sand: physical and mechanical properties”, *RSC Advances* 7, 18060-18067 (2017).

165. L. Li, S. Basu, Y. Wang, Z. Chen, P. Hundekar, B. Wang, J. Shi, Y. Shi, S. Narayanan, N. Koratkar, “Self-heating–induced healing of lithium dendrites”, **Science** 359, 1513–1516 (2018).
166. G. Chilkoor, S. P. Karanam, S. Star, N. Shrestha, R. K. Sani, V. K. K. Upadhyayula, D. Ghoshal, N. Koratkar, M. Meyyappan, V. Gadhamshetty, “Hexagonal boron nitride: the thinnest insulating barrier to microbial corrosion”, **ACS Nano** 12, 2242–2252 (2018).
167. R. Huang, M. Huang, X. Li, F. An, N. Koratkar, Z.-Z. Yu, “Porous graphene films with unprecedented elastomeric scaffold-like folding behavior for foldable energy storage devices”, **Advanced Materials** 30, 1707025 (2018).
168. A. Yang, D. Wang, X. Wang, D. Zhang, N. Koratkar, M. Rong, “Recent advances in phosphorene as a sensing material”, **Nano Today** 20, 13–32 (2018).
169. D. Ghoshal, A. Yoshimura, T. Gupta, A. House, S. Basu, Y. Chen, T. Wang, Y. Yang, W. Shou, J. Hachtel, J. C. Idrobo, T.-M. Lu, S. Basuray, V. Meunier, S. Shi, N. Koratkar, “Theoretical and Experimental Insight into the Mechanism for Spontaneous Vertical Growth of ReS₂ Nanosheets”, **Advanced Functional Materials** 28, 1801286 (2018).
170. M. Kotal, J. Kim, R. Tabassian, S. Roy, N. Koratkar, I.-K. Oh, “Highly bendable ionic soft actuator based on Nitrogen-enriched 3D hetero-nanostructure electrode”, **Advanced Functional Materials** 28, 1802464 (2018).
171. P. Min, J. Liu, X. Li, F. An, P. Liu, Y. Shen, N. Koratkar, Z.-Z. Yu, “Thermally Conductive Phase Change Composites Featuring Anisotropic Graphene Aerogels for Real-Time and Fast-Charging Solar-Thermal Energy Conversion”, **Advanced Functional Materials** 28, 1805365 (2018).
172. S. Basu, S. Suresh, K. Ghatak, S. Bartolucci, T. Gupta, P. Hundekar, R. Kumar, T.-M. Lu, D. Datta, Y. Shi, N. Koratkar, “Utilizing van der Waals slippery interfaces to enhance the electrochemical stability of Silicon film anodes in lithium-ion batteries”, *ACS Applied Materials & Interfaces* 10, 13442–13451 (2018).
173. Z. Yue, T. Gupta, F. Wang, C. Li, R. Kumar, Z. Yang, N. Koratkar, “Utilizing a graphene matrix to overcome the intrinsic limitations of red phosphorus as an anode material in lithium-ion batteries”, *Carbon* 127, 588–595 (2018).
174. L. Li, L. Huang, R. J. Linhardt, N. Koratkar, T. J. Simmons, “Repurposing paper by-product lignosulfonate as sulfur donor/acceptor for high performance lithium-sulfur batteries”, *Sustainable Energy Fuels* 2, 422–429 (2018).

175. X. Wang, D. Wang, A. Yang, N. Koratkar, J. Chu, P. Lv, M. Rong, “Effects of adatom and gas molecule adsorption on the physical properties of tellurene: a first principles investigation”, *Physical Chemistry Chemical Physics* 20, 4058-4066 (2018).
176. S. Mukherjee, A. Banwait, S. Grixti, N. Koratkar, C. V. Singh, “Adsorption and diffusion of lithium and sodium on defective rhenium disulfide: A first principles study”, *ACS Applied Materials and Interfaces* 10, 5373–5384 (2018).
177. A. Bianco, Y. Chen, Y. Chen, D. Ghoshal, R. H. Hurt, Y. Kim, N. Koratkar, V. Meunier, M. Terrones, “A carbon science perspective in 2018: Current achievements and future challenges”, *Carbon* 132, 785-801 (2018).
178. L. Krishnia, B. S. Yadav, U. Palnitkar, P.V. Satyam, B. K. Gupta, N. A. Koratkar, P. K. Tyagi, “As-pyrolyzed sugarcane bagasse possessing exotic field emission properties”, *Applied Surface Science* 443, 184-190 (2018).
179. R. Kumar, V. Kumar, M. K. Jaiswal, R. Gupta, J. Ram, I. Sulania, S. Ojha, X. Sun, N. Koratkar, “Effect of Low Energy (keV) ion irradiation on structural, optical and morphological properties of SnO₂-TiO₂ nanocomposite thin films”, *Journal of Materials Science: Materials in Electronics* 29, 13328-13336 (2018).
180. J. Garofalo, J. Lawler, D. Walczyk, N. Koratkar, “Analysis of Deposition Methods for Lithium-Ion Battery Anodes Using Reduced Graphene Oxide Slurries on Copper Foil”, *ASME Journal of Manufacturing Science and Engineering* 140, 094501 (2018).
181. J.-L. Pan, Z. Zhang, H. Zhang, P.-P. Zhu, J.-C. Wei, J.-X. Cai, J. Yu, N. Koratkar, and Z.-Y. Yang, “Ultra-thin and Strong Electrospun Porous Fiber Separator”, *ACS Applied Energy Materials* 1, 4794-4803 (2018).
182. V. Chauhan, T. Gupta, N. Koratkar, R. Kumar, “Studies of the electronic excitation modifications induced by SHI of Au ions in RF sputtered ZrO₂ thin films”, *Materials Science in Semiconductor Processing* 88, 262-272 (2018).
183. X. Sun, Z. Lu, T. Gupta, S. Basu, N. Koratkar, M.A. Washington, T.-M. Lu, “Comparative study on the antioxidation behaviors of polycrystalline multilayer and single-crystalline monolayer graphene”, *2D Materials* 6, 015020 (2018).
184. R. Gupta, R.P. Chauhan, S.K. Chakarvarti, M.K. Jaiswal, D. Ghoshal, S. Basu, S. Suresh, S. F. Bartolucci, N. Koratkar, R. Kumar, “Enhanced field emission from copper nanowires synthesized using ion track-etch membranes as scaffolds”, *Journal of Materials Science: Materials in Electronics* 29, 19013-19027 (2018).
185. L. Li, L. Hou, J. Cheng, T. Simmons, F. Zhang, L.T. Zhang, R.J. Linhardt, N. Koratkar, “A flexible carbon/sulfur-cellulose core-shell structure for advanced lithium–sulfur batteries”, *Energy Storage Materials* 15, 388-395 (2018).

2019

186. Q.-W. Wang, H.-B. Zhang, J. Liu, S. Zhao, X. Xie, L. Liu, R. Yang, N. Koratkar, Z.-Z. Yu, “Multifunctional and Water-Resistant MXene-Decorated Polyester Textiles with Outstanding Electromagnetic Interference Shielding and Joule Heating Performances”, **Advanced Functional Materials**, doi:10.1002/adfm.201806819 (2019).
187. Z. Zhang, S. Basu, P. Zhu, H. Zhang, A. Shao, N. Koratkar, Z. Yang, “Highly sulfiphilic Ni-Fe bimetallic oxide nanoparticles anchored on carbon nanotubes enable effective immobilization and conversion of polysulfides for stable lithium-sulfur batteries”, *Carbon* 142, 32-39 (2019).
188. V. Chauhan, T. Gupta, P. Singh, P.D. Sahare, N. Koratkar, R. Kumar, “Influence of 120 MeV S⁹⁺ ion irradiation on structural, optical and morphological properties of zirconium oxide thin films deposited by RF sputtering”, *Physics Letters A*, doi: 10.1016/j.physleta.2018.12.013 (2019).