**Recent Publications**

1. “The effective interfacial shear strength of carbon nanotube fibers in an epoxy matrix characterized by a microdroplet test,” **Carbon**, 50, 1271-1279 (2012), with M. Zu, Q.W. Li, Y.T. Zhu, M. Dey, G.J. Wang, W.B. Lu, J.M. Deitzel, J.W. Gillespie Jr., and J.H. Byun.
2. “Electromechanical Response and Failure Behavior of Aerogel-Spun Carbon Nanotube Fibers under Tensile Loading,” **Journal of Material Chemistry**, 22, 6792-6798 (2012), with A.S. Wu, J.W. Gillespie Jr., D. Lashmore, and J. Rioux.
3. “A State-of-Art Review of Carbon Nanotube Fibers: Oppertunities and Challenges,” **Advanced Materials**, 24 1805-1833 (2012), with W.B. Lu, M. Zu, J.H. Byun, and B. S. Kim.
4. “The use of Taguchi optimization in determining optimum electrophoretic conditions for the deposition of carbon nanofiber on carbon fibers for use in carbon/epoxy composites,” **Carbon** 50, 2853-2859 (2012), with Y. Q. Wang, J. H. Byun, B. S. Kim, and J. I. Song.
5. “Strain rate-dependent tensile properties and dynamic electromechanical response of carbon nanotube fibers,”**Carbon**, 50, 3876-3881 (2012), with A.S. Wu, X, Nie, M.C. Hudspeth, W.W Chen, D. Lashmore, M. Schauer, E. Tolle, and J. Rioux.
6. “Characterization of carbon nanotube fiber compressive properties using tensile recoil measurement,” **ACS Nano**, 60, 4288-4297 (2012), with M. Zu, W. B. Lu, Q. W. Li, and Y. T. Zhu.
7. “Carbon nanotube fibers as torsion sensors,” **Applied Physics Letters**, 100, 201908-3 (2012), with A. S. Wu, X. Nie, M. C. Hudspeth, W. W. Chen, D. S. Lashmore, M. W. Schauer, Erick Towel, and J. Rioux.
8. “Carbon Nanotube Fibers for Advanced Composites.”  **Materials Today**, 15, 302-310 (2012), with A. S. Wu.
9. “Stress relaxation in carbon nanotube-based fibers for load-bearing applications,” **Carbon**, 52, 347-355 (2012), with M. Zu, Q. W. Li, Y. T. Zhu, Y. Zhu, G. J. Wang, and J. H. Byun.
10. “Optimization of processing parameters of the chemical vapor deposition process for synthesizing high-quality single-walled carbon nanotube fluff and roving,” **Composites Science and Technology**, 72, 1855-1862 (2012), with N. H. Tai, H. M. Chen, Y. J. Chen, and J. R. Liang.
11. “Sensing of damage and healing in three-dimensional braided composites with vascular channels,” **Composites Science and Technology**, 72, 1618-1626 (2012), with A. S. Wu, A. M. Coppola, M. J. Sinnott, E. T. Thostenson, J. H. Byun, and B. S. Kim.
12. “Carbon nanotube film interlayer for strain and damage sensing in composites during dynamic compressive loading,” **Applied Physics Letters**, 101, 221909 (2012), with A. S. Wu, W. -J. Na, W.-R. Yu, and J.-H .Byun.
13. “Carbon Nanotube Fiber Based Stretchable Conductor,” **Advanced Functional Materials**, 23, 789–793 (2013), with M. Zu, Q.W. Li, G.J. Wang, and J. H. Byun.
14. “Microstructural evolution of carbon nanotube fibers: deformation and strength mechanism,” **Nanoscale**, 5, 2002–2008 (2013), with X. Liu, W. B. Lu, O. M. Ayala, L. P. Wang, A. M. Karlsson, and Q. S. Yang.
15. “Mechanical behavior and structural evolution of carbon nanotube films and fibers under tension: a coarse-grained molecular dynamics study,” **Journal of Applied Mechanics**, 80(5), 051015 (2013), with W. B. Lu, X. Liu, Q. W. Li, and J. H. Byun.
16. “Carbon Nanotube Fiber Based Stretchable Wire-Shaped Supercapacitors,” **Advanced Energy Materials**, 4, 1300759 (2014),  with P. Xu, T. L. Gu, Z. Y. Cao, B. Q. Wei, J. Y. Yu, F. X. Li, J-H. Byun, W. B. Lu, and Q. W. Li.
17. “Synthesis and failure behavior of super-aligned carbon nanotube film wrapped graphene fibers,” **Carbon**, 72, 250-256 (2014), with F. C. Meng, R. Li, Q. W. Li, and W. B. Lu.
18. “Carbon nanotube fibers spun from a sizing material,” **Applied Physics Letters**, 105, 261903 1-4 (2014), with F. Meng, W. Lu, Q. Li, M. Claes, and N. Kchit.
19. “Laminated ultrathin chemical vapor deposition graphene films based stretchable and transparent high-rate supercapacitor,” **ACS Nano**, 8(9), 9437-9445 (2014), with P. Xu, J. Kang, J.-B. Choi, J. Suhr, J. Yu, F. Li, J.-H. Byun, and B.-S. Kim.
20. “Mechanism of sonication-assisted electrophoretic deposition of carbon nano-fiber on carbon fabrics,” **Composites Science and Technology**, 107, 29-35 (2015), with G. Zhou, J.-H. Byun, Y.-Q. Wang, H.-J. Cha, J.-U. Lee, B.-M. Jung, J.-I. Song, and B.-S. Kim.
21. “Stretchable Wire-Shaped Asymmetric Supercapacitors Based on Pristine and MnO2 Coated Carbon Nanotube Fibers,” **ACS Nano**, 9(6), 6088–6096 (2015), with P. Xu, B. Wei, Z. Cao, J. Zheng, K. Gong, F. Li, J. Yu, Q. Li, W. Lu, J.-H. Byun, B.-S. Kim, and Y. Yan.
22. “Spatial strain variation of graphene films for stretchable electrodes,” **Carbon**, 93, 620-624 (2015), with P. Xu, J. Kang, J. Suhr, J. P. Smith, K. S. Booksh, B. Wei, J. Yu, F. Li, J.-H. Byun, and Y. Oh.
23. “Additive manufacturing of multi-directional preforms for composites: opportunities and challenges,” **Materials Today**, 18(9), 503-512 (2015), with Z. Quan, A. Wu, M. Keefe, X. Qin, J. Yu, J. Suhr, J.-H. Byun, and B.-S. Kim.
24. “A durability study of carbon nanotube fiber based stretchable electronic devices under cyclic deformation,” **Carbon**, 94, 352-361 (2015), with J. Yu, L. Wang, X. Lai, S. Pei, Z. Zhuang, L. Meng, Y. Huang, Q. Li, W. Lu, J.-H. Byun, Y. Oh, and Y. Yan.
25. “Coating of carbon nanotube fibers: variation of tensile properties, failure behavior and adhesion strength,” **Frontiers in Materials**, 2(53), (2015), with E. Maeder, J. W. Liu, J. Hiller, W. Lu, Q. W. Li, and S. Zhandarov.
26. “Graphene-Based Fibers: A Review,” **Advanced Materials**, 27, 5113-5131 (2015), with F. Meng, W. Lu, Q. Li, J.-H. Byun, and Y. Oh.
27. “High-Strength Single-Walled Carbon Nanotube/Permalloy Nanoparticle/Poly(vinyl alcohol) Multifunctional Nanocomposite Fiber”, **ACS Nano**, 9(11), 11414-11421 (2015), with G. Zhou, Y.-Q. Wang, J.-H. Byun, J.-W. Yi, S.-S. Yoon, H.-J. Cha, J.-U. Lee, Y. Oh, B.-M. Jung, and H.-J. Moon.
28. “Microstructural design and additive manufacturing and characterization of 3D orthogonal short carbon fiber/acrylonitrile-butadiene-styrene preform and composite”, **Composites Science and Technology**, 126, 139-148 (2016), with Z. Quan, Z. Larimore, A. Wu, J. Yu, X. Qin, M. Mirotznik, J. Suhr, J.-H. Byun, and Y. Oh.
29. “An electromechanical behavior of reduced graphene oxide fiber”, **Carbon**, 105, 244-247 (2016), with F. Meng, M. Wang, W. Lu, Q. Li, and L. Zheng.
30. “Omnidirectionally Stretchable High-Performance Supercapacitor Based on Isotropic Buckled Carbon Nanotube Films”, **ACS Nano**, 10(5), 5204-5211 (2016), with J. Yu, W. Lu, S. Pei, K. Gong, L. Wang, L. Meng, Y. Huang, J. P. Smith, K. S. Booksh, Q. Li, J.-H. Byun, Y. Oh, and Y. Yan.
31. “Microstructural characterization of additively manufactured multi-directional preforms and composites via X-ray micro-computed tomography”, **Composites Science and Technology**, 131, 48-60 (2016), with Z. Quan, Z. Larimore, X. Qin, J. Yu, M. Mirotznik, J.-H. Byun, and Y. Oh.
32. “A continuum mechanics model of multi-buckling in graphene – substrate systems with randomly distributed debonding”, **International Journal of Solids and Structures**, 97-98, 510-519 (2016), with X. Gao, C. Li, and Y. Song.
33. “Multifunctional continuous fibers based on aligned carbon nanotubes”, **Journal of Physics D: Applied Physics**, 49,461002 (2016), TW Chou.
34. “A High Performance Stretchable Asymmetric Fiber-Shaped Supercapacitor with a Core-Sheath Helical Structure”, **Advanced Energy Materials**, 7, 1600976 (2017), with J. Yu, W. Lu, J. P. Smith, K. S. Booksh, L. Meng, Y. Huang, Q. Li, J.-H. Byun, Y. Oh, and Y. Yan.
35. “Electromechanical behavior of carbon nanotube fibers under transverse compression”, **Journal of Physics D: Applied Physics**, 50, 085303 (2017), with Y. Li, W. Lu, S. Sockalingam, B. Gu, B. Sun, J. Gillespie.
36. “Temperature effects on electrochemical performance of carbon nanotube film based flexible all-solid-state supercapacitors”, **Electrochimica Acta**, 233, 181-189(2017), with D. Chen, J. Yu, W. Lu, Y. Zhao, Y. Yan.
37. “Highly Sensitive Wearable Textile-Based Humidity Sensor Made of High-Strength, Single-Walled Carbon Nanotube/Poly(vinyl alcohol) Filaments”, **ACS Appl Mater Interfaces**, 9(5), 4788-4797 (2017), with G. Zhou, J. Byun, Y. Oh, B. Jung, H. Cha, D. Seong, M. Um and S. Hyun.
38. “A semi-continuum mechanical model for analyzing the wrinkling of graphene sheet supported by an elastic substrate”, **Computational Materials Science**, 135, 152-159 (2017), with X. Gao, C. Li, Y. Song.
39. “Ultrahigh-Rate Wire-Shaped Supercapacitor Based on Graphene Fiber”, **Carbon**, 119, 332-338 ( 2017), with J. Yu, M. Wang, P. Xu, S. Cho, J. Suhr, K. Gong, L. Meng, Y. Huang, J. Byun, Y. Oh, Y. Yan.
40. “Superb electromagnetic wave-absorbing composites based on large-scale graphene and carbon nanotube films”,**Scientific Reports**,7: 2349 (2017), with J. Li, W. Lu, J. Suhr, H. Chen, J. Xiao.
41. “High performance solid-state flexible supercapacitor based on Fe3O4/carbon nanotube/polyaniline ternary films”, **Mater. Chem. A**, 5, 11271-11277(2017), with J. Li, W. Lu, Y. Yan.
42. “Characterization of residual stress and deformation in additively manufactured ABS polymer and composite specimens”, **Composites Science and Technology**, 150, 102-110 (2017), with W. Zhang, A. Wu, J. Sun, Z. Quan, B. Gu, B. Sun, C. Cotton, D. Heider.
43. “Printing direction dependence of mechanical behavior of additively manufactured 3D preforms and composites”, **Composite Structures**, 184, 917-923 (2018), with Z. Quan, J. Suhr, J. Yu, X. Qin, C. Cotton, and M. Mirotznik.
44. “Interfacial bonding strength of short carbon fiber/acrylonitrile-butadiene-styrene composites fabricated by fused deposition modeling”, **Composites Part B: Engineering**, 137, 51-59 (2018), with W. Zhang, C. Cotton, J. Sun, D. Heider, B. Gu, and B. Sun.
45. “Flexible electromagnetic wave absorbing composite based on 3D rGO-CNT-Fe3O4ternary films”, **Carbon**, 129, 76-84 (2018), With J. Li, Y. Xie and W. Lu.
46. “Highly porous and Easy Shapeable Poly-Dopamine Derived Graphene-Coated Single Walled Carbon Nanotube Aerogels for Stretchable Wire-Type Supercapacitors”, **Carbon**, 130, 137-144 (2018), with G. Zhou, N. Kim, S. Chun, W. Lee, M. Um, M. Islam, J. Byun and Y. Oh.
47. “Flexible ultra-thin Fe3O4/MnO2 core-shell decorated CNT composite with enhanced electromagnetic wave absorption performance”, **Composites Part B: Engineering**, 144, 111-117 (2018), with Y. Shao, W. Lu, H. Chen, J. Xiao and Y. Qiu.
48. “Shape Memory Behavior and Recovery Force of 4D Printed Textile Functional Composites”, **Composites Science and Technology**, 160, 224-230 (2018), with W. Zhang, F. Zhang, X. Lan, J. Leng, A. Wu, T. Bryson, C. Cotton, B. Gu and B. Sun.
49. “Microbuckling-enhanced electromagnetic-wave-absorbing capability of a stretchable Fe3O4/carbon nanotube/poly(dimethylsiloxane) composite film”, **ACS Applied Nano Materials**, 1(5), 2227-2236 (2018), with Y. Shao, J. Li, W. Lu, J.Q. Xiao and Y. Qiu.
50. “Shape memory behavior and recovery force of 4D printed laminated Miura-origami structures subjected to compressive loading”, **Composites Part B: Engineering,** 153 233-242 (2018), with Y. Liu, W. Zhang, F. Zhang, X. Lan, J. Leng, S. Liu, X. Jia, C. Cotton, B. Sun, and B. Gu.
51. “Polyaniline-stabilized electromagnetic wave absorption composites of reduced graphene oxide on magnetic carbon nanotube film”, **Nanotechnology**, 29, 1-9 (2018), with J. Li, Y. Duan and W. Lu.
52. “Experimental Investigation of Mechanical Properties of UV-Curable 3D Printing Materials”, **Polymer**, 145, 88-94 (2018), with S.Y. Hong, Y.C. Kim, M. Wang, H.I. Kim, D.Y. Byun, J.D. Nam, P.M. Ajayan, L. Ci, and J. Suhr.
53. “MnO2 based sandwich structure electrode for supercapacitor with large voltage window and high mass loading”, **Chemical Engineering Journal,** (2019), with Y. Zhang, X. Yuan, W. Lu, Y. Yan and J. Zhu.