

Curriculum Vitae

Dharmaraj Raghavan
Department of Chemistry,
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(a) Professional Preparation

<u>College/University</u>	<u>Major</u>	<u>Degree & Year</u>
Bombay University, Bombay, India,	Chemistry	B. Sc, 1985
Indian Inst.of Technology, Bombay, India	Chemistry (Polymer Specialization)	M. Sc., 1987
New Mexico Tech, Socorro	Materials Science & Engineering (Polymer)	Ph.D., 1990

(b) Appointments

2002 – Present:	Professor of Chemistry, College of Arts & Science, Howard University, Washington DC, USA.
1994– 2014	Guest Scientist, Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD.
2002 - 2003	Visiting Scientist (Sabbatical), Polymers Division, National Institute of Standards and Technology, Gaithersburg, MD.
1998 – 2001	Associate Professor of Chemistry, College of Arts & Science, Howard University, Washington DC
1995 – 1998	Assistant Professor, Department of Chemistry, College of Arts & Science, Howard University, Washington DC
1993 – 1994	Instructor, Department of Chemistry, College of Arts & Science, Howard University, Washington DC
1990 – 1993	Post Doctoral Research Associate, University of Illinois, Department of Materials Science & Engineering, Urbana, IL

MEMBERSHIP

1990-present	American Chemical Society
1990-2005	American Physical Society

1989-2005 Minerals, Metals and Materials Society

1994-present Materials Research Society

AWARDS

1987-1990 Research Fellowship, New Mexico Institute of Mining and Technology

1996 Faculty Research Grant Award

2001 Best Poster Award, 220th National ACS Meeting, Colloids and Interface Symposium.

LISTINGS

1988-1990 Research Fellowship, New Mexico Institute of Mining and Technology

1993 Who's Who in Science and Engineering

2000 Who's Who Among Americas Teachers and Professors

2001 Best Poster Award, ACS Meeting, Colloids and Interface Symposium

INVITED SPEAKER

2001 D. Raghavan, US/Africa Workshop on Water and Environmental Quality, Invited Speaker, NSF/ACS funded Project, Dakar, Africa.

1998 Presentation on Green Composites, EPA, Washington DC

1994 Spring Materials Research Society Meeting

1993 National Workshop on Infrastructural Materials

2010 University of Akron, Department of Polymer Engineering.

ORGANIZED

1993 National Workshop on Infrastructural Materials, NIST Gaithersburg, MD

CONSULTANT

Agri-Tech Industries, 1991-1992.

External Support:

AFOSR, NSF-MRSEC, US ARMY, DOE, US Coast Guard, EPA, NIST, IBM, Michelin,

Research Training

Mentored over 80 undergraduate students in chemistry related science projects.

Theses Advised

Supervised: 12 Doctoral students and 4 MS students.

PUBLICATIONS

1. D. Raghavan, S. Goheen and R. P. Wool, Statics and Dynamics of Biodegradation of Polyethylene-Starch Composites, *Bulletin of American Physical Society*, 36(3), 631(1990).
2. D. Raghavan, R. Guay and A. E. Torma, A Study of Biodegradation of Polyethylene and Bidesulfurization of Rubber, *Applied Biochemistry and Biotechnology*, 24, 387(1990).
3. A. E. Torma and D. Raghavan, Bidesulfurization of Rubber, *Bioprocess Engineering Symposium*, R. M. Hochmuth, American Society of Materials Engineering NY, 1990, 81.
4. D. Raghavan, A. Shaligram and D. D. Deshpande, The Influence of Charge Density and Steric Factors of Aminated Chloromethyl Polystyrene Homologs in Bilirubin Adsorption, *Journal of Applied Polymer Science*, 42, 2483(1991).
5. R. P. Wool, D. Raghavan, S. Billieux and G. C. Wagner, Statics and Dynamics of Biodegradation in Polymer-Starch Blends, In : *Biodegradable Polymers and Plastics*, M. Vert, J. Feijen, A. C. Albertsson, G. Scott, and E. Chiellini, eds., Second International Scientific Workshop on Degradable Polymers and Plastics, Montpellier, France, 1991, 112-120.
6. D. Raghavan and A. E. Torma, DSC and FTIR Characterization of Biodegradation of Polyethylene, *Polymer Engineering and Science*, 32(6), 438(1992).
7. D. Raghavan, G. C. Wagner, and R. P. Wool, Carbon Balance During Biodegradation of Polymer, *Polymer Materials Science and Engineering*, 67, 357(1992).
8. D. Raghavan, G. C. Wagner and R. P. Wool, Aerobic Biometer Analysis of Glucose and Starch Biodegradation, *Journal of Environmentally Degradable Plastics*, 1(3), 203(1993).
9. R. P. Wool and D. Raghavan, Biodegradation Rates of Polymer-Starch Blends in Aquatic Environments : Effects of Fractal Structure, *ACS Polymer Preprints*, 58, 206(1993).
10. D. Raghavan, K. Tratt, and R. P. Wool, Recycled Rubber in Cement Composites, *Materials Research Society Symposium Proceedings*, 344, 177(1994).
11. D. Raghavan, K. Tratt and R. P. Wool, Interfacial Bonding of Recycled Rubber Cement

- Composites, *Processing of Advanced Materials*, 5, 21(1994).
12. D. Raghavan, Characterization of Degradable Plastics, *Polymer Plastics Technology and Engineering*, 34(1), 41(1995).
 13. D. Raghavan and James H. Johnson Jr., Comparison of Extraction Methodologies for Desorption of Pyrene from Contaminated Soil, *Proceedings of 27th Mid-Atlantic Industrial Waste Conference*, Technomic Publications, Lancaster, PA, 1995, 754-766.
 14. H. Huynh, D. Raghavan, C. Ferraris, Rubber Particles From Recycled Tires in Cementitious Composite Materials, *National Institute of Standards and Technology Publication*, IR5850, 1(1996).
 15. H. Huynh and D. Raghavan, Durability of Shredded Rubber Tires in Highly Alkaline Environments, *Journal of Advanced Cement Based Materials*, 6, 132(1997).
 16. K. Egwim, R. Ellis, D. Raghavan, W. R. Jones, and S. E. Broedel Jr., A Novel Approach to Polymer Coating and Waste Disposal System, *1997 DoD/Aerospace Coating Conference*, Las Vegas, NV, 1997, 19.
 17. D. Raghavan, H. Huynh and C. F. Ferraris, Workability, Mechanical Properties and Chemical Stability of a Recycled Tire Rubber-Filled Cementitious Composites, *Journal of Material Science*, 33, 1745(1998).
 18. E. Feresenbet, Y. Abrha, D. Raghavan and James H. Johnson, Thermal Extraction of 2,3 dichlorobiphenyl From Coal Matrix, *ACS Environmental Chemistry Preprints*, 38, 152(1998).
 19. D. Raghavan, D. Hunston, J. He and D. Hoffman, The Influence of Morphology and Concentration on Toughness in Dispersions Containing Preformed Acrylic Elastomer Particles in an Epoxy Matrix. *Polymer Material Science and Engineering*, 79,194(1998).
 20. D. Raghavan, K. Egwim, R. Ellis, W. R. Jones and S. E. Broedel, Biodegradable Polymers for Stripping Polymer Coating Films, *ACS Polymer Preprints*, 39, 146(1998).
 21. J. He, D. Raghavan, D. Hunston, and D. Hoffman, The Influence of Elastomer Concentration on Toughness in Dispersions Containing Preformed Acrylic Elastomer Particles in an Epoxy Matrix, *Polymer*, 40, 1923(1999).
 22. M. VanLandingham, X. Gu, D. Raghavan, and T. Nguyen, Characterization of Multi-phase and Multi-component Polymer Systems Using the Atomic Force Microscope, *Proceedings of Microscopy and Microanalysis*, Portland, OR, Springer-Verlag, New York, 1999, 962.
 23. D. Raghavan, Study of Rubber-Filled Cementitious Composites, *Journal of Applied Polymer Science*, 77(4), 934(2000).

24. D. Raghavan, X. Gu, T. Nguyen, M. VanLandingham, A. Karim, Mapping Polymer Heterogeneity By Phase Imaging And Nanoindentation AFM, *Macromolecules*, 33(7), 2573(2000).
25. R. P. Wool, D. Raghavan, G. C. Wagner, and S. Billieux, Biodegradation Dynamics of Polymer-Starch Composites, *Journal of Applied Polymer Science*, 77(8), 1643(2000).
26. D. Raghavan and K. Egwim, Degradation of Polyester Film in Alkali Solution, *Journal of Applied Polymer Science*, 78(14), 2454(2000).
27. D. Raghavan, M. VanLandingham, X. Gu, and T. Nguyen, Characterization of Heterogeneous Regions in Polymer Systems Using Tapping Mode and Force Mode Atomic Force Microscopy, *Langmuir*, 16(24), 2454(2000).
28. Y. Abrha and D. Raghavan, PCB Recovery From Spiked Organic Matrix Using Accelerated Solvent Extraction (ASE) and Solvent Extraction, *Journal of Hazardous Materials*, B80,147 (2000).
29. D. Hunston, J. He, D. Raghavan, and D. K. Hoffman, Limits on Toughening of Epoxies, *20th Proceedings of Adhesion Society Meeting*, Myrtle Beach, SC, 2000, 200.
30. X. Gu, M. VanLandingham, D. Raghavan, and T. Nguyen, Mapping Heterogeneity in Polymeric Materials Using Atomic Force Microscopy—Phase Imaging and Nanoindentation, *Polymer Materials Science and Engineering*, 82, 50(2000).
31. G. A. Holmes, E. Feresenbet, E. Pohl, W. G. McDonough, D. Raghavan and D. Thompson, Factors That Affect Adhesion at the Fiber-Matrix Interface In Composites, *21st Adhesion Society Meeting*, Savannah, GA, 2000, 382.
32. D. Hunston, J. He, D. Raghavan, and D. Hoffman, Load History Dependence of Fracture in Rubber-Toughened Epoxies, *21st Adhesion Society Meeting*, GA, 2000, 10.
33. X. Gu, D. Raghavan, T. Nguyen and M. VanLandingham, Characterization of Polyester Degradation Using Tapping Mode Atomic Force Microscopy, *Polymer Materials Science and Engineering*, 83, 336(2000).
34. D. Raghavan, X. Gu, M. VanLandingham and T. Nguyen, Mapping Chemical Heterogeneous Polymer System Using Chemical Modification and Atomic Force Microscopy, *ACS Polymer Preprints*, 41(2), 1423(2000).
35. T. Nguyen, J. Chin, D. Raghavan and A. Khaled, Sorption and Diffusion of Alkaline Solution in Organic Coatings at Ambient and Elevated Temperatures, *Polymer Materials Science and Engineering*, 83, 319(2000).
36. D. Raghavan and A. Emekalam, Characterization of Starch/Polyethylene and

- Starch/Polyethylene/Poly(lactic acid) Composites, *Polymer Degradation and Stabilization*, 72,509(2001).
37. D. Raghavan, X. Gu, M. VanLandingham, and T. Nguyen, Characterization of Chemical Heterogeneity in Polymer Systems Using Hydrolysis and Tapping Mode Atomic Force Microscopy, *Journal of Polymer Science : Polymer Physics Edition*, 39, 1460(2001).
 38. X. Gu, D. Raghavan, M. VanLandingham, T. Nguyen and D. Yebassa, Characterization of Degradation of Polyester Film Using Tapping Mode Atomic Force Microscopy : 1. Alkali Exposure, *Polymer Degradation and Stabilization*, 74,139(2001).
 39. D. Raghavan, US/Africa Workshop on Water and Environmental Quality, NSF/ACS Invitation, Dakar, Africa, 2001.
 40. D. Raghavan, X. Gu, M. VanLandingham, and T. Nguyen, Mapping Chemically Heterogeneous Polymer System Using Selective Chemical Reaction and Tapping Mode Atomic Force Microscopy, *Macromolecular Symposia*, 166, 297(2001).
 41. Karen Ashley, J. Carson Meredith, D. Raghavan, E. Amis, and A. Karim Combinatorial Measurement of Dewetting of Polystyrene Thin Films, *Polymer Communication*, 44, 769(2003).
 42. G. A. Holmes, E. Fersenbet, and D. Raghavan, Using Self-Assembled Monolayer Technology To Probe The Fiber-Matrix Interface, *24th Adhesion Society Meeting*, Richmond, VA, 2001, 62.
 43. E. Fersenbet, G. A. Holmes, and D. Raghavan, The Influence of Silane Coupling Agent on the Fiber Matrix Interfacial Shear Strength, *24th Adhesion Society Meeting*, Richmond, VA, 2001, 502.
 44. G. A. Holmes, E. Fersenbet, and D. Raghavan, The Effect of Self-Assembled Monolayer Technology On Fiber-Matrix Adhesion, *ACS Polymer Preprints*, 42(1), 296(2001).
 45. X. Gu, T. Nguyen, M. R. VanLandingham and D. Raghavan, Effects of Crosslink Density on Surface and Interface Properties of Amine-Cured Epoxy, *25th Adhesion Society Meeting*, Orlando, FL, 2002, 497.
 46. D. Raghavan, E. Feresenbet, D. Yebassa, A. Emekalam, and G. Holmes, Dispersion of Functionalized Nanoclay Platelets in an Amine Cured Epoxy Resin System *MRS Proceedings on Nanocomposite Materials*, Boston, MA, 703, 2002, 399-406.
 47. X. Gu, D. Raghavan, D. L. Ho, M. VanLandingham, and T. Nguyen, Nanocharacterization of Surfaces and Interfaces of Different Epoxy Networks, *MRS Proceedings on Surfaces and Interfaces*, Boston, MA, 710, 2002, 153-158

48. D. Raghavan, E. Feresenbet, and G. Holmes, Application of Self Assembled Technology to Probe Fiber Adhesion, *MRS Proceedings on Interfaces and Thin Films*, Boston, MA, 710, 2002, 167-172
49. K. M. Ashley, A. Seghal, E. Amis, D. Raghavan, and A. Karim, Combinatorial Mapping of Polymer Film on Gradient Energy Surfaces, *MRS Proceedings on Combinatorial and Artificial Intelligence Methods in Material Science*, Boston, MA, 700, 2002, 151-156.
50. A. Emekalam, X. Gu and D. Raghavan, Characterization of Renewable Composites, *MRS Proceedings on Advanced Fibers, Plastics and Laminates*, Boston, MA, 702, 252, 2002.
51. D. Raghavan, J. He, D. Hunston, and D. Hoffmann, Strain Rate Dependence Of Fracture In a Rubber-Toughened Epoxy System, *Journal of Adhesion*, 78, 723 (2002).
52. X. Gu, D. Raghavan, J. Douglass, and A. Karim, Dewetting of Unstable Bilayer Polymer Films, *Journal of Polymer Science : Polymer Physics Edition*, 40, 2825(2002).
53. E. Fersenbet, G. A. Holmes, and D. Raghavan, The Influence of Silane Coupling Agent on the Fiber Matrix Interfacial Shear Strength, *Journal of Adhesion*, 79, 1(2002).
54. S. Balakrishnan and D. Raghavan, Chemically Functionalized Clay Nanocomposite, *NANOTECH 2003*, 3, 247.
55. G. Holmes, E. Fersenbet, and D. Raghavan, Using Self-Assembled Monolayer Technology to Probe the Mechanical Response of the Fiber Interphase-Matrix Interphase Interface, *Composite Interfaces*, 10, 510(2003).
56. S. Balakrishnan and D. Raghavan, Synthesis of 13(14) Hydroxy-cis-10-Nonadecenyl amine hydrochloride, *Journal of the American Oil Chemists Society*, 80(5), 503(2003).
57. D. Yebassa, S. Balakrishnan and D. Raghavan, Next Generation Nanocomposites Through Nanotechnology, *NANOTECH 2003*, 3, 251(2003).
58. D. Yebassa, S. Balakrishnan, E. Feresenbet, D. Raghavan, P. R. Start, and S. D. Hudson, Chemically Functionalized Clay Vinyl Ester Nanocomposites : Effect of Processing Conditions, *J. Polym. Sci. Polym. Chem. Edn.*, 42, 1310 (2004).
59. D. Raghavan, S. Balakrishnan and Y. Gebrekristios, Optimizing Processing Conditions to Influence the Morphology of Nanocomposites, *NANOTECH 2003*, 3, 243(2003).
60. S. Balakrishnan and D. Raghavan, Acrylic Elastomeric Particle Dispersed Epoxy-Clay Hybrid Nanocomposite : Mechanical Properties, *Macromolecular Rapid Communication*, 25, 481(2004).

61. N. Eidelman, D. Raghavan, A. M. Forster, E. J. Amis, and A. Karim, Combinatorial Approach to Characterizing Epoxy Curing, *Macromolecular Rapid Communication*, 25, 259(2004).
62. A. M. Forster, D. Raghavan, N. Eidelman, and A. Karim, Combinatorial Technique to Measure Curing of Epoxy Film, *27th Adhesion Society Meeting*, Wilmington, NC, 2004, 127-130.
63. Y. Tessema, D. Raghavan, and J. Stubbs, Osteoblast Activity on Biodegradable PHBV Membrane, *Journal of Applied Polymer Science*, 93, 2445(2004).
64. S. Balakrishnan and D. Raghavan, Chemically Functionalized Clay Vinyl Ester Nanocomposite I. Vernonia Oil Based Surfactant, *Journal of Reinforced Plastics and Composites*, 24(1), 5(2005).
65. S. Balakrishnan and D. Raghavan, Mechanical Properties of Chemically Functionalized Clay Vinyl Ester Nanocomposites, MRS Proceedings on *Mechanical Properties of Nanostructure Materials and Nanocomposites*, Boston, MA, 791, 261, 2004.
66. D. Raghavan, Chapter on Strategies for Reuse of Rubber Tires, Rubber Recycling, Edited S. K. De and A. Isayev, CRC Publishers, 2005, pp. 285-310.
67. S. Balakrishnan and D. Raghavan, Chemically Functionalized Clay Epoxy Nanocomposite II. Vernonia Oil Based Surfactant, *Journal of Reinforced Plastics and Composites*, 24(8), 785(2005).
68. Y. Tessema, D. Raghavan, and J. Stubbs, Bone Cell Viability on Methacrylic acid Grafted and Collagen Immobilized Porous Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) Osteoblast Activity on Biodegradable PHBV Membrane, *Journal of Applied Polymer Science*, 98(5), 1916(2005).
69. K. M. Ashley, D. Raghavan, J. F. Douglas, and A. Karim, Wetting-Dewetting Transition Line in Thin Polymer Films, *Langmuir*, 21(21), 9518(2005).
70. S. Balakrishnan, P. Start, D. Raghavan, and S. Hudson, The Influence of Clay and Elastomer Concentration on the Morphology and Fracture Energy in Preformed Acrylic Rubber Dispersed Clay Filled Epoxy Nanocomposites, *Polymer*, 46(25), 11255 (2005).
71. Jeffrey W. Gilman, Rick D. Davis, Severine Bellayer, Paul A. Maupin, D. Raghavan, J. K. Langart, Serge Bourbigot, Xavier Flambard, Douglas M. Fox, Paul C. Trulove Hugh C. De Long, Use of Optical Probes and Laser Scanning Confocal Fluorescence Microscopy for High Throughput Characterization of Clay Dispersion in Polymer Layered Silicate Nanocomposites, *Polymer Materials Science and Engineering*, 92, 168(2005).
72. D. Raghavan, Heterogeneity in Polymer Coatings, *ACS Polymer Preprint*, 46(2), 557(2005).

73. H. Liu, Y. Tesema, J. Stubbs III, and D. Raghavan, In Vitro Degradation of Porous PHBV Film, *ACS Polymer Preprint*, 46(2), 1246(2005).
74. P. Achalla, J. McCormick, T. Hodge, C. Moreland, D. Raghavan, The Application of AFM Techniques in the Characterization of BIIR/NR Blends, *ACS Polymer Preprint*, 2005.
75. Alamgir Karim, Karen M. Ashley, Jack F. Douglas, and D. Raghavan, Mapping Wetting / Dewetting Transition Line In Ultrathin Polystyrene Films Combinatorially, *Polymer Material Science and Engineering*, 93, 900(2005).
76. X. Gu, D. Raghavan, and A. Emekalam, Combination of Atomic Force Microscopy and Chemical Hydrolysis to Characterize Degradable Regions in Polymer Blends, *Journal of Applied Polymer Science*, 100(1), 726(2006).
77. P. Achalla, J. McCormick, T. Hodge, C. Moreland, P. Esnault, A. Karim, D. Raghavan, Mapping Nanoscale Morphology in Elastomeric Blends Using AFM, *Journal of Polymer Science : Polymer Physics*, 44(3), 492(2006).
78. J. Langat , S. Bellayer, P. Hudrlik, A. Hudrlik, P. H. Maupin, J. Gilman Sr., D. Raghavan, Synthesis of imidazolium salts and their application in high temperature epoxy nanocomposites, *Polymer*, 47, 6698(2006).
79. V. I. Lakshmanan, R. R. Roy, D. Raghavan, Separation Process for Advanced Materials, Advances in Material Processing and Characterization Conference, Vol 1, L. Karunamoorthy, D. Vishwanathan and K. A. Padmanabhan Chennai, India, I. K. International Publishing House, Delhi, August 2006, pp.21-28
80. E. Feresenbet, D. Raghavan, G. Holmes, The role of the terminal functional group of self-assembled monolayers on fiber matrix adhesion, *Journal of Applied Polymer Science*, 107, 462(2007).
81. H. Liu, J. Stubbs III, and D. Raghavan Evaluation of the Biological Responses of Osteoblast-like UMR-106 Cells to the Engineered Porous PHBV Matrix, *Journal of Biomedical Materials Research*, 81A(3), 669(2007).
82. D. Raghavan, K. M. Ashley, A. Seghal, J. F. Douglas, and A. Karim, Combinatorial Methods and Their Application to Mapping Wetting and Dewetting Transition Lines of Thin Polymer Films on Gradient Surface Energy Substrates, Chapter in *Combinatorial Material Science*, John Wiley Edn., 201-223 (2007).
83. I.B. Elkina, B.A. Abayomi, M.A. Harewood, S. Abudu, E.K. Williams, D. Raghavan, Synthesis and Characterization of Layered Double Hydroxides/Nafion Composites for High Temperature Fuel Cell Application, In *Processing-Structure-Mechanical Property*

- Relations in Composite Materials*, edited by L. Thilly, N. R. Moody, A. Misra, P. M. Anderson, M. Kumar (Mater. Res. Soc. Symp. Proc. 977E, Warrendale, PA) 1 (2007).
84. C. Chengang, D. Yebassa, D. Raghavan, Synthesis, characterization, and mechanical properties evaluation of thermally stable layered organosilicate nanocomposites, *Polymers for Advanced Technology*, 18, 574 (2007).
 85. D. Raghavan, J. Langat, M. Zammarano, J. Gilman, High Temperature Clay Filled Epoxy Composites, Mater. Res. Soc. Symp. Proc. Vol. 977E, Warrendale, PA, 12 (2007).
 86. S. Abegaz, D. Raghavan, V. Morris, and C. Hosten, Seasonal Variation of Heavy Metals in Ambient Air and Precipitation in Washington DC, *Environmental Pollution*, 155, 88-98(2008).
 87. J. J. Park, S. H. De Paoli Lacerda, S. K. Stanley, B. Vogel, J. F. Douglas, D. Raghavan, A. Karim, Adsorption Study of CdSe/ZnS Quantum Dots on Synthetic Template : Influence of Substrate Surface Chemistry & pH, Particle 2008, Orlando, FL.
 88. D. Raghavan, Functionalized Clay Vinylester Nanocomposites, Mater. Res. Soc. Symp. Proc. Vol. 1443E, Warrendale, PA, 1(2008).
 89. J. J. Park, S. H. De Paoli Lacerda, S. K. Stanley, B. M. Vogel, S. Kim, J. F. Douglas, D. Raghavan, A. Karim, Langmuir Adsorption Study of Cdse/Zns Quantum Dot with Model Substrates : Influence of Substrate Surface Chemistry & pH, *Langmuir*, 25(1), 443-450(2009).
 90. D. Raghavan, Thermal Stability of Imidazolium Modified Clay and TGDDM Based Epoxy Nanocomposites, *World Journal of Engineering*, 2011, in print.
 91. H. Liu, D. Raghavan, S. Abegaz, and J. Stubbs III, "Biological Responses of Osteoblast-like UMR-106 Cells to the modified PHBV Matrix – Effect of porosity and collagen dip coating", *Journal of Biomedical Materials Research*, 92(3), 922-930(2010).
 92. J. J. Park, Michael C. Weiger, Silvia H. De Paoli Lacerda, Denis Pristinski, Matthew L. Becker, Jack F. Douglas, Dharmaraj Raghavan, Alamgir Karim, Characterization of Nonequilibrium Nanoparticle Adsorption on a Model Biological Substrate, *Langmuir*, 26(7), 4822-4830(2010).
 93. Hui Liu, M. Pancholi, J. Stubbs III, D. Raghavan, Influence of hydroxyvalerate composition of Polyhydroxy butyrate valerate (PHBV) copolymer on bone cell viability and in vitro degradation, *Journal of Applied Polymer Science*, 116(6), 3225-3231(2010).
 94. J. C. Gangley, N. Karikari, D. Raghavan, Performance Enhancement of Alkaline Direct Methanol Fuel Cells by Ni/Al Layered Double Hydroxides *Journal of Fuel Cell Science and Technology*, 7, 1-6(2010).

95. D. Raghavan and C. Chenggang Chapter 7 : Thermally Stable Polymer Nanocomposites In : Advances in Polymer Nanocomposites Technology, V. Mittal Ed., Nova Publishers, 2010, 1-26.
96. Jung Jin Park, Jeffrey Fagan, JiYeon Huh, Kalman Migler, Alamgir Karim, Dharmaraj Raghavan, SPR Study of DNA Wrapped Single Wall Carbon Nanotube (ssDNA-SWCNT) Adsorption on a Model Biological (Collagen) Substrate, *Soft matter* 6, 5581-5588 (2010).
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100. P. Pitliya, G. Singh, J. Chapa, A. Karim and D. Raghavan, Dispersion-Orientation effects of fulleropyrrolidine in zone annealed block copolymer films toward optimizing OPV interfaces, *Polymer*, 54(4), 1415-1424 (2013).
101. A. Gebregeorgis, C. Bhan, O. Wilson and D. Raghavan. Characterization of Silver/Bovine Serum Albumin (Ag/BSA) nanoparticles structure: Morphological, compositional, and interaction studies, *Journal of Colloid and Interface Science*, 389(1), 31-41(2013).
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103. M. L. Gupta, S. A. Sydlik, J. M. Schnorr, D. J. Woo, S. Osswald, T. M. Swager, and D. Raghavan, The effect of mixing methods on the dispersion of carbon nanotubes during the solvent-free processing of multiwalled carbon nanotube/epoxy composites, *Journal of Polymer Science : Polymer Physics Edition*, 51, 410-420 (2013).
104. C. Bhan, T. L. Brower and D. Raghavan. SPR studies of the adsorption of Silver/Bovine Serum Albumin (Ag/BSA) nanoparticles onto the model biological substrates *Journal of Colloid and Interface Science*, 402, 40-49 (2013).

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108. H Yuan, G Singh, D Raghavan, AM Al-Enizi, A Elzatahry, A Karim, Dispersion Morphology and Correlation to Moduli using Buckling Metrology in Clay-Biopolymer Nanocomposite Thin Films, *ACS Applied Materials & Interfaces*, 6 (16), 13378 (2014).
109. R. Bakare, C. Bhan, D. Raghavan, Synthesis and characterization of collagen grafted poly hydroxybutyrate valerate (PHBV) scaffold for loading of bovine serum albumin capped silver (Ag/BSA) nanoparticles in the potential use of tissue engineering application, 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, (2014).
110. Rotimi A. Bakare; Samantha Hawthorne; Dharmaraj Raghavan, Factors influencing loading of Ag/BSA nanoparticles on collagen grafted PHBV scaffold, 248th ACS National Meeting & Exposition, San Francisco, CA, United States, August 10-14, (2014),
111. S. Samant; A. Karim, S. Hailu, C. Grabowski, D. Raghavan, M. Durstock, Structured block copolymer nanocomposite thin films for high density pulsed power capacitors, 248th ACS National Meeting & Exposition, San Francisco, CA, United States, August 10-14, (2014).
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