Curriculum Vitae for Behnam Pourdeyhimi

William A. Klopman Distinguished Professor of Textile Materials
Professor, Textile Engineering, TECS, College of Textiles
Professor, Chemical and Biomolecular Engineering, College of Engineering
Associate Dean for Industry, Research, and Extension, The College of Textiles
Executive Director, The Nonwovens Institute
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EDUCATION

Year	Degree & Field of Study
1982	Ph.D., Textiles, University of Leeds, UK

EMPLOYMENT

Period	Position
2007-Present	Professor, Chemical and Bio-molecular Engineering, College of Engineering, NC State.
2007-Present	Professor, Textile Engineering, Chemistry and Science, College of Textiles, NC State.
2007-Present	Executive Director, The Nonwovens Institute, NC State.
2004-Present	Associate Dean for Industry Research and Extension, College of Textiles, NC State.
2004-Present	William A. Klopman Distinguished Professor of Textile Materials, NC State.
2000-2013	Director, The Nonwovens Cooperative Research Center, NC State.
1999-2000	Co-Director, The Nonwovens Cooperative Research Center, NC State.
1999-2007	Professor, Textiles and Apparel, Technology and Management, College of Textiles, NC State.
1995-1999	Professor, School of Textile and Fiber Engineering, Georgia Tech.
1992-1995	Associate Professor, Materials and Nuclear Engineering, University of Maryland at College Park.
1992-1994	Program Director, Textiles and Consumer Economics, University of Maryland at College Park.
1989-1992	Associate Professor, Textiles and Consumer Economics, University of Maryland at College Park.
1984-1988	Assistant Professor, Textiles and Consumer Economics, University of Maryland at College Park.
1983-1984	Research Associate, Department of Design and Environmental Analysis, Cornell University.
1982-1983	Research Associate, Department of Textile Materials and Management, NC State.
1980-1982	Lecturer of Mathematics, Airedale and Wharfedale College of Further Education, Leeds, UK.

HONORS AND AWARDS

Year	Award Title
2018	The Holladay Medal for Excellence; The highest faculty award bestowed by NC State University.
2015	The O'Max Gardner Award by the UNC System; Highest award by the UNC system
2014	TAPPI Leadership Award
2010	Outstanding Extension Service Award, NC State
2010	Induction into the Academy of Outstanding Faculty Engaged in Extension and Engagement
2009	INDA Lifetime Technical Achievement Award
2008	TAPPI Nonwovens Division 2008 Technical Award and Mark Hollingsworth Prize
2004	ASTM D-13 Dewitt Smith Medal
2004	William A. Klopman Distinguished Endowed Chaired Professor, NC State
1996	Elected as President of The Fiber Society for 1996-1997
1995	Elected as Vice President of The Fiber Society
1994	F.T.I. (Fellowship of the Textile Institute)
1994	Recipient of The Fiber Society Distinguished Scientist Award
1994	Distinguished Honors Teacher, University of Maryland
1993	Distinguished Honors Teacher, University of Maryland
1992	Fiber Society Lecturer for 1992-1993

1992 Selected as an Outstanding Teacher, University of Maryland
1987 Listing in Outstanding Young Men of America

SUMMARY OF TRAINING ACHIEVEMENTS

RESEARCH ASSOCIATES	**Number**
Research Associates Advised	21
Ph.D. Students Chaired/Co-chaired	54
M.S. Students Chaired/Co-chaired	36

RESEARCH ASSOCIATES/VISITING SCHOLARS DIRECTED

Period	**Name**	**Present Position/Status**
2014-Present	Joijode, A.	Research Associate, NWI, NC State
2014-2016	Tian, T.	Wellman Advanced Materials
2013-2015	Shahreen, L.	Mann & Hummel
2013-2016	Ievtushenko, O.	Eastman Chemical
2012-2016	Khansari, S.	Pepsi Co.
2011-2016	Rangasamy, L.	
2006-2009	Yoem, B.	3M
2006-2008	Anantharamaiah, N.	Hollingsworth & Vose
2003-2007	Verenich, S.	
2003-2007	Mazé, B.	Dir of Simulation, NWI
2002-2005	Zamfir, M.	Professor, Romania
2001-2007	Tafreshi, H.	Professor, Mechanical Engineering, VCU
2000-2008	E. Shim,	Professor, NC State
2000-2001	Kohel, L.	Professor, ENSAIT, France
1999-2002	Kim, H. S.	Professor, Pusan National University, Korea
1995-1997	Tanaka, S.	Director of Nonwovens Technologies, Toyobo, Japan
1994-1995	Jerbi, A.	Canadian Government
1992-1993	Xu, B.	Professor, an Department Head, UT Austin
1992-1993	Wu, Y.	Honeywell
1990-1992	Ulcay, Y.	President, Bursa University, Turkey
1986-1987	Ding, S.	Professor, China

COMPLETED DOCTORAL RESEARCH DIRECTED/CO-DIRECTED

Period	**Name**	**Present Position/Status**
2013-2016	Fakhimi, S.	Research Scientist, American Air Filtration
2013-2016	Amid, A.	Research Scientist, Saint Goban
2013-2016	Kiyak, Y.	Post-doctoral Associate
2011-2017	Tuin, S.	Post-doctoral Associate
2013-2016	Luzius, D.	Research Scientist, Groz-Beckert
2013-2016	Mohseni, S.	Research Scientist, Kimberly Clark
2013-2016	Mohseni, M.	Research Scientist, Kimberly Clark
2013-2016	Gholipour, M.	Research Scientist, Kimberly Clark
2013-2016	Leary, J.	Research Engineer, Hollingsworth & Vose
2013-2016	Maier, P.	Research Scientist, adidas
2012-2015	Wei, W.	Research Scientist, KingFa
2011-2015	Bateny, F.	Tech Transfer, NC State
2010-2014	Sun, N.	Research Scientist, Xerium
2009-2013	Amirnasr, E.	Research Scientist, Mann and Hummel
2009-2013	Stoughton, H.	Research Scientist, 3M
2009-2012	Ievtushenko, O.	Research Scientist, Eastman Chemical
2008-2012	Higham, A.	Research Scientists, Thermal Instruments
2008-2012	Kilic, A.	Assistant Professor, Istanbul Technical University
2008-2012	Hassan, M.	Research Scientist, Eastman Chemical
2008-2012	Hollowell, K.	Research Scientist, Freudenberg Nonwovens
2008-2011	Canbolat, M. F.	Assistant Professor, Izmir, Turkey

2008-2011	Honarbakhsh, S.	Research Scientist, KCC
2008-2011	Dasdemir, M.	Assistant Professor, Ghazantap, Turkey
2008-2011	Aykut, Y.	Assistant Professor, Bursa Technical University, Turkey
2008-2011	Suragani Venu, L.	Research Scientists, Ahlstrom
2008-2010	Tyagi, S.	Consultant, India
2007-2011	Bagherzade, A.	Research Scientist, H&V
2007-2011	Rangasamy, L.	Research Associate, The Nonwovens Institute
2007-2010	Jung, K.	Post-Doc, University of Texas
2006-2011	Chu, A.	Consultant
2005-2009	Haslauer, C.	Post-Doc, BME, NC State
2005-2008	Talwar, S.	Research Scientist, 3M
2005-2008	Jaganathan, S.	Research Scientist, H&V
2005-2008	Paul, S.	Research Scientist, Intel
2004-2008	Qashou, I.	Research Scientist, Fiberweb
2004-2008	Beginner, A.	R&D Manager, Hanes Branded Apparel
2004-2007	Dalta, V.	Research Scientist, Pall Corp.
2004-2007	Ichhaporia, P.	Tech Service Dir., Intertek
2004-2006	Karaguzel, B.	Associate Professor, Istanbul Technical University
2003-2008	Zapletalova, T.	Research Scientist, Freudenberg Advanced Materials
2003-2007	Wang, Q.	Research Scientist, DuPont
2003-2006	Fedorova, N.	Division Manage, 3M
2003-2006	Anantharamaiah, N.	Research Scientist, H&V
2002-2005	Stewart, M.	Director or Innovation, VF Corp.
2001-2004	Dani. N.	Research Scientist, Clorox
1999-2001	Shim. E.	Professor, NC State
1990-1994	Ramanathan, R.	Senior Research Engineer, CSC
1989-1994	Na, Y.	Professor, University of Seoul, Korea
1989-1992	Xu, B.	Professor & Department Head, University of Texas at Austin
1988-1992	Presley, A. B.	Professor, University of Auburn
1987-1990	Wu, Y.	Research Scientist, Honeywell
1986-1993	Gerde, J.	Senior Engineer, US Customs
1986-1991	Wehrle, L.	Research Associate, Wolcof and Associates
1985-1989	Ulcay, Y.	Professor, President, Bursa University, Turkey

COMPLETED MASTERS RESEARCH DIRECTED/CO-DIRECTED

Period	Name	Present Position/Status
2014-2016	Phalak, S.	Research Scientist, Milliken
2014-2016	Hall, M.	Research Scientist, Krypton
2012-2014	Schenk, A.	Research Scientist, Mann and Hummel
2013-2015	Strader, P.	Research Engineer, Analytical Facilities, NC State
2013-2015	Halligan, W.	Research Engineer, Nike
2013-2015	Moore, D.	Research Engineer, NuTex Concepts
2015-2017	Tabor, J.	PhD Student, NC State
2006-2007	Canon, C.	PhD Student, NC State
2004-2008	Suwannamek, I.	Ministry of Technology, Thailand
2004-2006	Chhaparwal, S.	Research Engineer, Politex
2003-2006	Kennerly, P.	Research Engineer, Milliken
2003-2006	Williams, S.	Research Engineer, Milliken
2003-2005	Jayaraman, K. A.	Research Engineer, Spuntech
2003-2005	Arumugam, K.	Research Engineer, Hof Textiles
2003-2005	Erkman, E.	Self-Employed
2003-2005	Hatiboglu, B.	Professor, Istanbul Technical University
2003-2004	Vyas, K.	Consultant
2002-2004	Zaveri, M.	Research Engineer, Saint Goban
2001-2003	Filiz, S.	Research Engineer, Freudenberg
2001-2003	Erickson, J.	Research Engineer, Freudenberg

2000-2002	Vaydia, N.	Research Engineer, Raytech Composites
2000-2002	Grissett, G.	Patent Attorney
2000-2002	Begenir, A.	Research Scientist, Hanesbrands
1999-2001	Konopka, A.	Consultant
1996-1999	Velu, Y.	Research Scientist, DuPont
1996-1999	Niroomand, A.	Research Chemist, Ethicon
1996-1997	Wang, X.	Research Engineer, Nordson Fiber Systems
1994-1995	Lee, F.	Materials Engineer, Atlas Materials Group
1990-1992	Munter, C.	Consultant
1989-1991	Dharmadhikary, R.	Senior Research Scientist, Clarcor
1989-1991	Agarwal, V.	Senior Engineer, Johnson and Johnson
1989-1991	Chiu, J.	Senior Engineer, Eli Lili
1989-1990	Xu, B.	Professor and Dept. Head, University of Texas at Austin
1985-1988	Moreland, J.	Senior Engineer, Bard
1985-1988	Merrit, J.	Consultant
1984-1986	Feldstein, M.	Senior Engineer, Honeywell

***SUMMARY OF* SCHOLARY ACTIVITIES**

RESEARCH ASSOCIATES	**Number**
Books	3
Publications	320+
Presentations	200+
US Patents	20+
International Patents	60+

BOOKS

1. Yarin, A., Pourdeyhimi, B. and Ramakrishna, S. (2014). Fundamentals and Applications of Micro and Nanofibers, Cambridge Publishing, ISBN: 9781107060296 (2014).
2. Batra, S. K., and Pourdeyhimi, B. (2012). Introduction to Nonwovens, Destech Publishing, (2012).
3. Pourdeyhimi, B. (1999). *Imaging and image analysis for plastics.* Norwich, NY: Society of Plastics Engineers, Plastics Design Library.

CHAPTERS IN BOOKS

1. Sinha-Ray, S., Zhang, Y., Yarin, A. L., Davis, S. C. and Pourdeyhimi, B. (2011). Solution Blowing of Soy Protein Fibers, Biobased Monomers, Polymers and Materials, 12, 2357-2363, (2011).
2. Pourdeyhimi, B., and Maze, B. (2008). Structure and Mechanics of Nonwovens, Structure and Mechanics of Textile Fiber Assemblies, P. Schwartz (Ed.), CRC Press (2008), ISBN**:** 9782420093056.
3. Pourdeyhimi, B. (2007). Characterization, testing and Modeling of Nonwovens, Handbook of Nonwovens, S. J. Russell (Ed.), CRC Press, (2007), ISBN-13: 9781855736030.
4. Pourdeyhimi, B. (2007). Textiles Nanotechnology, Handbook of Nanoscience, Engineering, and Technology, Second Edition, William A. Goddard III, Donald W. Brenner, Sergey E. Lyshevski, Gerald J. Iafrate (Eds.), CRC Press, (2007), ISBN**:** 9780849375637.
5. Sikkema, D., Northolt, M. and Pourdeyhimi, B. (2003). Assessment of New High Performance Fibers for Advanced Applications, MRS Bulletin, Volume 8, No. 8, August (2003).
6. Pourdeyhimi, B., and Batra, S. K., ITMA '99: A Review, Textile Progress, No. 1/2, (30), 51-68, (2000).
7. Pourdeyhimi, B, Ulcay, Y., Ramanathan, R., and Sobus, J. (1993), Measuring Heat of Polymerization in Acrylic Bone Cements Using Infra-red Thermographs., Proceedings of the 16th Annual Energy-Sources Technology Conference and Exhibition Houston, Texas., 259-262, 53 (1993).
8. Pourdeyhimi, B., & Ulcay, Y. (1992)., Characterization of Mechanical Properties in Vascular Prostheses: Dilation, Design Analysis, Machinability, and Characterization of Composite Materials, (ed. F. Veniali, A. Ertas, A. Diilio and V. Tagliaferri), Vol 47-6, 107-115, (1992).
9. Pourdeyhimi, B., & Ulcay, Y. (1992). A study on bonding properties of Kevlar 149 fibers for use in PMMA Bone cements. In Proceedings of the 1992 Engineering Systems Design and Analysis Conference: presented at the First European Joint Conference on Engineering Systems Design and Analysis, Istanbul, Turkey, June 29-July 3, 1992. (pp. 143-149). New York: American Society of Mechanical Engineers.

10. Pourdeyhimi, B., & Ulcay, Y. (1992). Statistical Analysis of Tensile Strength of Kevlar 149 Fibers, Design Analysis, Machinability, and Characterization of Composite Materials, (ed. F. Veniali, A. Ertas, A. Diilio and V. Tagliaferri), Vol 47-6, 149-155, (1992).
11. Pourdeyhimi, B., Ulcay, Y., & Agarwal, V. (1991). The effect of chemical etching on fracture toughness of 3D randomly distributed spectra 900 and spectra 1000 discontinuous fiber reinforced composites. In D. Hui, & T.J. Kozik (Eds.), Composite material technology, 1991: presented at the Fourteenth Annual Energy-Sources Technology Conference and Exhibition, Houston, Texas, January 20-23, 1991. (pp. 41-51). New York, N.Y.: American Society of Mechanical Engineers.
12. Pourdeyhimi, B., Ulcay, Y., & Agarwal, V. (1991). Elastic properties of 3D randomly distributed Spectra 900 and Kevlar 49 discontinuous fiber reinforced composites. In D. Hui, & T.J. Kozik (Eds.), Composite material technology, 1991: presented at the Fourteenth Annual Energy-Sources Technology Conference and Exhibition, Houston, Texas, January 20-23, 1991. (pp. 51-59). New York, N.Y.: American Society of Mechanical Engineers.
13. Pourdeyhimi, B., Ulcay, Y., & Block, I. (1990). Improving the bond strength of Spectra 900 and Spectra 1000 high strength polyethylene fibers by chemical etching. In D. Hui, & T.J. Kozik (Eds.), Composite material technology, 1990: presented at the Thirteenth Annual Energy-Sources Technology Conference and Exhibition, New Orleans, Louisiana, January 14-18, 1990. (pp. 23-27). New York, N.Y.: American Society of Mechanical Engineers.
14. Pourdeyhimi, B., Ulcay, Y., & Wagner, H.D. (1990). Elastic properties of acrylic bone cements reinforced with ultra high strength polyethylene fibers: The effect of bond strength. In D. Hui, & T.J. Kozik (Eds.), Composite material technology, 1990: presented at the Thirteenth Annual Energy-Sources Technology Conference and Exhibition, New Orleans, Louisiana, January 14-18, 1990. (pp. 131-137). New York, N.Y.: American Society of Mechanical Engineers.
15. Pourdeyhimi, B. and J. Moreland, A New In Vitro Fatigue Tester for Dynamic Testing of Vascular Prostheses, Elastic-Plastic Failure Modeling of Structures With Applications, (ed. D. Hui and T. J. Kozik), No. 141, 157-163, (1988).
16. Pourdeyhimi, B., Ulcay, Y., Singer, M., & Block, I. (1988). Mechanical characteristics of Spectra 900 and Spectra 1000 high strength polyethylene fibers. In D. Hu, & T. J. Kozik (Eds.), Advances in macro-mechanics of composite material vessels and components: Papers. New York: ASME.
17. B Pourdeyhimi, B. (1987). Vascular Grafts: Textile Structures and Their Performance, Textile Progress, No. 15, (3), 1-35, (1987).
18. Pourdeyhimi, B., & Wagner, H.D. (1987). Composite materials for use in orthopedic applications: Fracture behavior of acrylic bone cement reinforced with high toughness organic fibers. In I. H. Marshall (Ed.), Damage assessment and material evaluation. London: Elsevier Applied Science.

JOURNAL ARTICLES

19. Staszel, C., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2017). Adhesion of blended polymer films. *Polymer*, *112*, 92-101.
20. Amid, H., Maze, B., Flickinger, M. C., & Pourdeyhimi, B. (2017). Dynamic adsorption of ammonia: Apparatus, testing conditions, and adsorption capacities. *Measurement Science & Technology*, *28*(5).
21. Kilic, A., Shim, E., & Pourdeyhimi, B. (2017). Effect of annealing on charging properties of electret fibers. *Journal of the Textile Institute*, *108*(6), 987-991
22. Kolbasov, A., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2017). Heavy metal adsorption on solution-blown biopolymer nanofiber membranes. *Journal of Membrane Science*, *530*, 250-263.
23. Cai, S. B., Pourdeyhimi, B., & Loboa, E. G. (2017). High-throughput fabrication method for producing a silver-nanoparticles-doped nanoclay polymer composite with novel synergistic antibacterial effects at the material interface. *ACS Applied Materials & Interfaces*, *9*(25), 21105-21115.
24. Pan, Q., Shim, E., Pourdeyhimi, B., & Gao, W. (2017). Highly conductive polypropylene-graphene nonwoven composite via interface engineering. *Langmuir*, *33*(30), 7452-7458.
25. Mohiti-Asli, M., Saha, S., Murphy, S. V., Gracz, H., Pourdeyhimi, B., Atala, A., & Loboa, E. G. (2017). Ibuprofen loaded pla nanofibrous scaffolds increase proliferation of human skin cells in vitro and promote healing of full thickness incision wounds in vivo. *Journal of Biomedical Materials Research. Part B, Applied Biomaterials*, *105*(2), 327-339.
26. Leary, J. D., Maze, B., & Pourdeyhimi, B. (2017). Investigating activation of carbon fiber nonwovens for use as supercapacitor electrodes. *Journal of the Textile Institute*, *108*(9), 1528-1536.
27. Jenkins, T. L., Meehan, S., Pourdeyhimi, B., & Little, D. (2017). Meltblown polymer fabrics as candidate scaffolds for rotator cuff tendon tissue engineering. *Tissue Engineering. Part A*, *23*(17-18), 958-967.

28. Pan, Q., Shim, E., Pourdeyhimi, B., & Gao, W. (2017). Nylon-graphene composite nonwovens as monolithic conductive or capacitive fabrics. *ACS Applied Materials & Interfaces, 9*(9), 8308-8316.
29. Venu, L. B. S., Shim, E., Anantharamaiah, N., & Pourdeyhimi, B. (2017). Structures and properties of hydroentangled nonwovens: effect of number of manifolds. *Journal of the Textile Institute, 108*(3), 301-313.
30. Hassan, M. A., Anantharamaiah, N., Khan, S. A., & Pourdeyhimi, B. (2016). Computational fluid dynamics simulations and experiments of meltblown fibrous media: new die designs to enhance fiber attenuation and filtration quality. *Industrial & Engineering Chemistry Research, 55*(7), 2049-2058.
31. Tuin, S. A., Pourdeyhimi, B., & Loboa, E. G. (2016). Creating tissues from textiles: Scalable nonwoven manufacturing techniques for fabrication of tissue engineering scaffolds. *Biomedical Materials, 11*(1).
32. Mohiti-Asli, M., Molina, C., Diteepeng, T., Pourdeyhimi, B., & Loboa, E. G. (2016). Evaluation of silver ion-releasing scaffolds in a 3D coculture system of MRSA and human adipose-derived stem cells for their potential use in treatment or prevention of osteomyelitis. *Tissue Engineering. Part A, 22*(21-22), 1258-1263.
33. Hassan, M. A., Khan, S. A., & Pourdeyhimi, B. (2016). Fabrication micro-meltblown filtration media using parallel plate die design. *Journal of Applied Polymer Science, 133*(7).
34. Tuin, S. A., Pourdeyhimi, B., & Loboa, E. G. (2016). Fabrication of novel high surface area mushroom gilled fibers and their effects on human adipose derived stem cells under pulsatile fluid flow for tissue engineering. applications. *Acta Biomaterialia, 36*, 220-230.
35. Amid, H., Maze, B., Flickinger, M. C., & Pourdeyhimi, B. (2016). Hybrid adsorbent nonwoven structures: a review of current technologies. *Journal of Materials Science, 51*(9), 4173-4200.
36. Kolbasov, A., Sinha-Ray, S., Joijode, A., Hassan, M. A., Brown, D., Maze, B., Pourdeyhimi, B., & Yarin, A. L. (2016). Industrial-scale solution blowing of soy protein nanofibers. *Industrial & Engineering Chemistry Research, 55*(1), 323-333.
37. Farukh, F., Demirci, E., Ali, H., Acar, M., Pourdeyhimi, B., & Silberschmidt, V. V. (2016). Nonwovens modelling: A review of finite-element strategies. *Journal of the Textile Institute, 107*(2), 225-232.
38. Ghosal, A., Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Numerical modeling and experimental study of solution-blown nonwovens formed on a rotating drum. *Polymer, 105*, 255-263.
39. Ghosal, A., Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Numerical modeling and experimental study of solution-blown nonwovens formed on a rotating drum. *Polymer, 105*, 255-263.
40. Ghosal, A., Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Numerical modeling and experimental study of solution-blown nonwovens formed on a rotating drum. *Polymer, 105*, 255-263.
41. Ghosal, A., Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Numerical modeling and experimental study of solution-blown nonwovens formed on a rotating drum. *Polymer, 105*, 255-263.
42. Ghosal, A., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Numerical prediction of the effect of uptake velocity on three-dimensional structure, porosity and permeability of meltblown nonwoven laydown. *Polymer, 85*, 19-27.
43. Tallury, S. S., Pourdeyhimi, B., Pasquinelli, M. A., & Spontak, R. J. (2016). Physical microfabrication of shape-memory polymer systems via bicomponent fiber spinning. *Macromolecular Rapid Communications, 37*(22), 1837-1843.
44. Leary, J. D., Hamouda, F., Maze, B., & Pourdeyhimi, B. (2016). Preparation of pseudocapacitor electrodes via electrodeposition of polyaniline on nonwoven carbon fiber fabrics. *Journal of Applied Polymer Science, 133*(16).
45. Shim, E., Pourdeyhimi, B., & Shiffler, D. (2016). Process-structure-property relationship of melt spun poly(lactic acid) fibers produced in the spunbond process. *Journal of Applied Polymer Science, 133*(47).
46. Heller, M., Wimbish, R., Gurgel, P. V., Pourdeyhimi, B., & Carbonell, R. G. (2016). Reducing diffusion limitations in Ion exchange grafted membranes using high surface area nonwovens. *Journal of Membrane Science, 514*, 53-64.
47. Staszel, C., Sett, S., Yarin, A. L., & Pourdeyhimi, B. (2016). Sintering of compound nonwovens by forced convection of hot air. *International Journal of Heat and Mass Transfer, 101*, 327-335.
48. Suvari, F., Ulcay, Y., & Pourdeyhimi, B. (2016). Sound absorption analysis of thermally bonded high-loft nonwovens. *Textile Research Journal, 86*(8), 837-847.
49. Kilic, A., Jones, K., Shim, E., & Pourdeyhimi, B. (2016). Surface crystallinity of meltspun isotactic polypropylene filaments. *Macromolecular Research, 24*(1), 25-30.
50. Saleh, A. M., Tafreshi, H. V., & Pourdeyhimi, B. (2016). An analytical approach to predict pressure drop and collection efficiency of dust-load pleated filters. *Separation and Purification Technology, 161*, 80-87.

51. Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2015). Application of solution-blown 20-50 nm nanofibers in filtration of nanoparticles: The efficient van der Waals collectors. *Journal of Membrane Science, 485*, 132-150.
52. Sett, S., Lee, M. W., Weith, M., Pourdeyhimi, B., Yarin, A. L. (2015). Biodegradable and biocompatible soy protein/polymer/adhesive sticky nano-textured interfacial membranes for prevention of esca fungi invasion into pruning cuts and wounds of vines. *Journal of Materials Chemistry B, 3*(10), 2147-2162.
53. Farukh, F., Demirci, E., Acar, M., Pourdeyhimi, B., & Silberschmidt, V. V. (2015). Deformation and damage of thermally bonded nonwoven networks. *Engineering Materials*, , 181-199.
54. Kilic, A., Shim, E., & Pourdeyhimi, B. (2015). Electrostatic capture efficiency enhancement of polypropylene electret filters with barium titanate. *Aerosol Science and Technology, 49*(8), 666-673.
55. Sahu, R., Sett, S., Yarin, A. L., & Pourdeyhimi, B. (2015). Impact of aqueous suspension drops onto non-wettable porous membranes: Hydrodynamic focusing and penetration of nanoparticles. *Colloids and Surfaces. A, Physicochemical and Engineering Aspects, 467*, 31-45.
56. Kilic, A., Shim, E., & Pourdeyhimi, B. (2015). Measuring electrostatic properties of fibrous materials: A review and a modified surface potential decay technique. *Journal of Electrostatics, 74*, 21-26.
57. Farukh, F., Demirci, E., Sabuncuoglu, B., Acar, M., Pourdeyhimi, B., & Silberschmidt, V. V. (2015). Mechanical analysis of bi-component-fibre nonwovens: Finite-element strategy. *Composites. Part B, Engineering, 68*, 327-335.
58. Dasdemir, M., Maze, B., Anantharamaiah, N., Pourdeyhimi, B. (2015). Reactive compatibilization of polyamide 6/polyethylene nonwoven based thermoplastic composites. *European Polymer Journal, 63*, 194-206.
59. Sinha-Ray, S., Sinha-Ray, S., Yarin, A. L., & Pourdeyhimi, B. (2015). Theoretical and experimental investigation of physical mechanisms responsible for polymer nanofiber formation in solution blowing. *Polymer, 56*, 452-463.
60. Haslauer, C. M., Avery, M. R., Pourdeyhimi, B., & Loboa, E. G. (2015). Translating textiles to tissue engineering: Creation and evaluation of microporous, biocompatible, degradable scaffolds using industry relevant manufacturing approaches and human adipose derived stem cells. *Journal of Biomedical Materials Research. Part B, Applied Biomaterials, 103*(5), 1050-1058.
61. Kilic, A., Shim, E., Pourdeyhimi, B., & Yeom, B. Y. (2014). Aerosol filtration properties of nucleating agent containing electret filters. *Polymer Engineering and Science, 54*(7), 1533-1539.
62. Amirnasr, E., Shim, E., Yeom, B. Y., & Pourdeyhimi, B. (2014). Basis weight uniformity analysis in nonwovens. *Journal of the Textile Institute, 105*(4), 444-453.
63. Tuin, S. A., Pourdeyhimi, B., & Loboa, E. G. (2014). Interconnected, microporous hollow fibers for tissue engineering: Commercially relevant, industry standard scale-up manufacturing. *Journal of Biomedical Materials Research. Part A, 102*(9), 3311-3323.
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2. S. D. McCullen, P. R. Miller, S. D. Gittard, Pourdeyhimi, B., R. J. Narayan, Loboa, E. G., In situ collagen polymerization of layered cell-seeded electrospun scaffolds. Proceedings of the 11th Annual North Carolina Tissue Engineering and Regenerative Medicine Conference. Winston-Salem, NC, November 2009.
3. C. H. Haslauer, Pourdeyhimi, B., E, G. Loboa. Nonwoven Structures with Interconnected Pore Configuration for Bone Tissue Engineering. Proceedings of the 10^th Annual North Carolina Tissue Engineering and Regenerative Medicine (NCTERM) Conference, Raleigh, NC, November 2008.

4. S. Talwar, J. Hinestroza, Pourdeyhimi, B. S. A. Khan, Associative polymer facilitated electrospinning of nanofibers: role of viscoelasticity, Society of Rheology meeting, October 2007, Salt Lake City.
5. Pourdeyhimi, B., New Innovations in Engineered Fabrics, Innovations in Medical, Protective and Technical Textiles, AATCC, Cary, NC, February 1-2, 2006.
6. Pourdeyhimi, B., High Performance Nonwovens, Beltwide Conference, Jan 2007, New Orleans.
7. Pourdeyhimi, B., Industry-Government-University Research Partnerships, AURP 2005 Annual Conference, Raleigh, N.C., November 2-4, 2005.
8. Pourdeyhimi, B., Industry-Government-University Research Partnerships, Licensing Executive Society, 2005 Spring Meeting, Raleigh, N.C., May 4-5, 2005.
9. Pourdeyhimi, B., Industry-Government-University Research Partnerships, AURP 2005 Annual Conference, Raleigh, N.C., November 2-4, 2005.
10. Pourdeyhimi, B., Research Center Management, NSF Annual I-UCRC Center Directors Meeting Washington, DC, January 2006.
11. H. Tafreshi, A. Begenir and Pourdeyhimi, B., The Role of Nozzle Design in Characteristics of the Hydroentangling Waterjets, ILASS Americas, 16th Annual Conference on Liquid Atomization and Spray Systems, Monterey, CA, May 2003
12. Pourdeyhimi, B., Bicomponent Fibers and Their Applications, Industrial Fabrics Association, October 2002, Charlotte, NC.
13. Pourdeyhimi, B., New Directions in Nonwovens Technology, American Fiber Manufacturers' Association, October 2002, Greenville, SC.
14. Pourdeyhimi, B., Nonwovens Cooperative Research Center: Industry University Partnership, Beltwide Conference, Jan 2001, Anneheim, California.
15. Pourdeyhimi, B., Hygiene Issues in Disposable Fabrics, The Industrial Fabrics Meeting, Atlanta, October 21-23, (1996).
16. Pourdeyhimi, B., Application of Image Analysis to Nonwovens, The Textile Research Institute Annual Meeting, Princeton, New Jersey, May 3-6, (1994).
17. Pourdeyhimi, B., Fiber Orientation in Nonwoven Fabrics, Presented to the Nonwoven Cooperative Research Center, Raleigh, North Carolina, Nov. 17-18, (1993).
18. Casanova, M. F, D. Weinberger, E. F. Torrey, Xu, B.,, Pourdeyhimi, B., Focal temporal lobe abnormalities in schizophrenia. New Research Program and Abstracts American Psychiatric Association Annual Meeting, May 4-7, p. 147, (1992).
19. Ulcay, Y.,, V. Agarwal and Pourdeyhimi, B., The Effect of Chemical Etching on the Fracture Toughness of 3D Randomly Distributed Spectra 900 and Spectra 1000 Discontinuous Fiber Reinforced Composites, ASME Energy- source Technology Conference and Exhibition, Houston, Texas, January 20- 23, (1991).
20. Ulcay, Y.,, V. Agarwal and Pourdeyhimi, B., Elastic Properties of 3D Randomly Distributed Spectra 900 and Kevlar 49 Discontinuous Fiber Reinforced Composites, ASME Energy-source Technology Conference and Exhibition, Houston, Texas, January 20-23, (1991).
21. Ulcay, Y.,, I. Block and Pourdeyhimi, B., Improving the Bond Strength of Spectra 900 and Spectra 1000 High Strength Polyethylene Fibers by Chemical Etching, ASME Energy-source Technology Conference and Exhibition, New Orleans, Louisiana, January 14-17, (1990).
22. Pourdeyhimi, B., Ulcay, Y.,, and Wagner, H. D., , Elastic properties of Acrylic Bone Cements Reinforced with Ultra High Strength Polyethylene Fibers: The Effect of bond Strength, ASME Energy-source Technology Conference and Exhibition, New Orleans, Louisiana, January 14-17, (1990).
23. Pourdeyhimi, B., G. Chiu and J. Moreland, Mechanical Properties of Vascular Prostheses, ASME Annual Winter Conference, San Francisco, California, December 14-18, (1989).
24. Pourdeyhimi, B. and J. Moreland, A New In-Vitro Fatigue Tester for Dynamic Testing of Vascular Prostheses. ASME Pressure Vessels and Piping Conference, Pittsburgh, Pennsylvania, June 19-23, (1988).
25. Pourdeyhimi, B., Ulcay, Y.,, M. Singer and I. Block, Mechanical Characteristics of Spectra 900 and Spectra 1000 High Strength Polyethylene Fibers, ASME Pressure Vessels and Piping Conference, Pittsburgh, Pennsylvania, June 19-23, (1988).
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27. Pourdeyhimi, B., H. Robinson, P. Schwartz and Wagner, H. D., Mechanical Behavior of Random Fiber Kevlar/PMMA Composites: Preliminary Results, 21st Annual Conference of the Israel Institute of Chemical Engineers, Shefayim, Israel, April 16-17, (1985).

REGIONAL PRESENTATIONS

1. Pourdeyhimi, B., Nonwovens as a Platform Technology, Combination Products, NC Biotechnology Center, April 9, 2009, Durham, NC.
2. Pourdeyhimi, B. and Ulcay, Y.,, Characterization of Mechanical Properties in Vascular Prostheses: Dilation, 1992 Engineering Systems Design and Analysis Conference, Istanbul, Turkey, June 29-July 3, (1992).
3. Ulcay, Y., and Pourdeyhimi, B., A Study on Bonding Properties of Kevlar 149 Fibers for Use in PMMA Bone Cements, 1992 Engineering Systems Design and Analysis Conference, Istanbul, Turkey, June 29-July 3, (1992).
4. Ulcay, Y., and Pourdeyhimi, B., Statistical Analysis of Tensile Strength of Kevlar 149 Fibers, 1992 Engineering Systems Design and Analysis Conference, Istanbul, Turkey, June 29-July 3, (1992).
5. Wagner, H. D., A. Finkels and Pourdeyhimi, B., Recent Results in the Study of Failure in Fiber Reinforced Bone and Dental Cements, The U. K. Israel Bi-national Symposium on Biomaterials, Tel Aviv, Israel, March 17-19, (1986).
6. Pourdeyhimi, B., H. Robinson, P. Schwartz and Wagner, H. D., Mechanical Behavior of Random Fiber Kevlar/PMMA Composites: Preliminary Results, 21st Annual Conference of the Israel Institute of Chemical Engineers, Shefayim, Israel, April 16-17, (1985).
7. Wagner, H. D., A. Finkels and Pourdeyhimi, B., Composite Materials for Use As Bone Cement: Conditions for Improved Mechanical Properties, 3rd Israel Materials Engineering Conference, Haifa, Israel, December 10- 11, (1985).

US PATENTS – 23+

	Patent Title	Patent No.
1.	Electrospinning Device	9,469,920
2.	Articles Containing Ultra-High Surface Area Macro Polymeric Fibers	9,284,663
3.	System and Method for Reducing Jet Streaks in Hydroentangled Fibers	7,467,446
4.	Articles Containing Ultra-High Surface Area Macro Polymeric Fibers	Allowed
5.	Composite Filter Media with High Surface Area Fibers	8,410,006
6.	Biodegradable Fabric Having Plant Virus Encapsulated for Drug Delivery	8,535,727
7.	Composite Hydroentangling Nozzle Strip and Method for Producing Nonwoven	7,237,308
8.	Fiber-Based Nano Drug Delivery Systems (NDDS)	7,491,407
9.	Nonwoven Textile Microwave Patch Antennas and Components	7.463,198
10.	Nonwoven Textile Microwave Patch Antennas and Components	8,174,449
11.	Micro and Nano-Fiber Fabrics by Fibrillating Islands in the Sea Fibers	7,981,226
12.	Micro and Nano-Fiber Fabrics by Fibrillating Islands in the Sea Fibers	8,420,556
13.	High Strength, Durable Fabrics Produced By Fibrillating Multilobal Fibers	7,883,772
14.	High Surface Area Fiber and Textiles Made from the Same	8,129,019
15.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	7,438,777
16.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	7,935,645
17.	Hydroentangling Jet Strips Device Defining an Orifice	7,303,465
18.	Micro and Nanofiber Nonwoven Spunbonded Fabric	8,349,232
19.	Process of Making Mixed Fibers and Nonwoven Fabrics	7,981,336
20.	Multilayer Elastic Metallized Material	5,656,355
21.	Process to Make an Elastomeric Metallized Fabric	5,599,585
22.	Staple Fiber Durable Nonwoven Fabrics	8,148,279
23.	Three-Dimensional Deep Molded Structures with Enhanced Properties	7,060,344

INTERNATIONAL PATENTS – 50+

	Patent Title	Patent No.	Country
1.	Method to Minimize or Eliminate Jet Streaks	Pending	Korea
2.	Method to Minimize or Eliminate Jet Streaks	Pending	Europe
3.	An Improved Composite Filter Media with High Surface Area Fibers	101617072	China
4.	High Efficiency Filters with Low Pressure Drop	Pending	Canada
5.	High Efficiency Filters with Low Pressure Drop	Pending	Canada

6.	High Efficiency Filters with Low Pressure Drop	Pending	China
7.	High Efficiency Filters with Low Pressure Drop	Pending	Japan
8.	High Efficiency Filters with Low Pressure Drop	Pending	Japan
9.	High Efficiency Filters with Low Pressure Drop	Pending	Europe
10.	High Efficiency Filters with Low Pressure Drop	Pending	Europe
11.	Composite Filter Media with High Surface Area Fibers	8,410,006	US
12.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	200680022804.50	China
13.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	EP1907201	Germany
14.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	EP1907201	Europe
15.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	EP1907201	France
16.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	Pending	Hong Kong
17.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	EP1907201	Italy
18.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	5266050	Japan
19.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	10-1280398	Korea
20.	High Strength Durable Micro and Nano-Fiber Fabrics Produced by Fibrillating Islands in the Sea Fibers	Pending	Mexico
21.	Durable Fabrics Produced By Fibrillating Multilobal Fibers	2,165,010	Europe
22.	Durable Fabrics Produced By Fibrillating Multilobal Fibers	Pending	PCT
23.	Durable Fabrics Produced By Fibrillating Multilobal Fibers	Pending	Hong Kong
24.	High Tensile and High Tear Strength Nonwoven	1866472	Germany
25.	High Tensile and High Tear Strength Nonwoven	1866472	France
26.	High Tensile and High Tear Strength Nonwoven	1866472	UK
27.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	1866472	Europe
28.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	Pending	South Korea
29.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	Pending	Canada
30.	Lightweight High-Tensile, High-Tear Strength Bicomponent Nonwoven Fabrics	5339896	Japan
31.	Hydroentangling Jet Strips Device Defining an Orifice	7,303,465	US
32.	Incorporation of porous silver microparticles in electrospun nanofibers for controlled release scaffolds	Pending	PCT
33.	Method of Forming Nonwovens Utilizing Reduced Energy	Pending	PCT
34.	Microdenier Fibers and Fabrics Incorporating Elastomers or Particulate Additives	Pending	France
35.	Microdenier Fibers and Fabrics Incorporating Elastomers or Particulate Additives	Pending	Germany
36.	Microdenier Fibers and Fabrics Incorporating Elastomers or Particulate Additives	Pending	UK
37.	Mixed Fiber and Nonwoven Fabrics Made from the Same	10-1210973	Korea
38.	Mixed Fiber and Nonwoven Fabrics Made from the Same	ZL200880106893.0	China
39.	Mixed Fiber and Nonwoven Fabrics Made from the Same	2179081	Germany

40.	Mixed Fiber and Nonwoven Fabrics Made from the Same	2179081	Europe
41.	Mixed Fiber and Nonwoven Fabrics Made from the Same	2179081	France
42.	Mixed Fiber and Nonwoven Fabrics Made from the Same	2179081	UK
43.	Mixed Fiber and Nonwoven Fabrics Made from the Same	2179081	Italy
44.	Mixed Fiber and Nonwoven Fabrics Made from the Same		Japan
45.	Solution Blowing	Pending	PCT
46.	Bicomponent fibers capable of thermally induced shape recovery after low-temperature strain fixing	Pending	PCT
47.	Forming an artificial leather substrate from leather waste	Pending	PCT
48.	Elastomeric Nonwoven Filter Capable of Being Backwashed	Pending	PCT
49.	Three-Dimensional Deep Molded Structures with Enhanced Properties	Pending	Hong Kong
50.	Three-Dimensional Deep Molded Structures with Enhanced Properties	2004236166	Australia
51.	Three-Dimensional Deep Molded Structures with Enhanced Properties	Pending	Brazil

SOFTWARE PACKAGES DEVELOPED – 5

	Year	Citation
1.	1987	Image Processing Software
2.	1988	WEAVE-CAD, Weave Computer Aided Textile Design. Marketed by The University of Maryland.
3.	1991	FAS, Fiber Image Analysis System – Developed for Allied Signal.
4.	1992	IMAGE, Image Analysis System. ***The software was donated to NC State. Funds generated will go to an educational endowment fund.***
5.	1993	PSAS, Paint Surface Analysis System.