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Associate Dean for Industry research and Extension and
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EARNED DEGREES

1982 **Ph.D.**, Textiles, University of Leeds, United Kingdom

EMPLOYMENT

2004-Present Associate Dean for Industry Research and Extension, North Carolina State University,
College of Textiles

2004-Present William A. Klopman Distinguished Endowed Chaired Professor, North Carolina State
University

2000-Present Director, Nonwovens Cooperative Research Center, North Carolina State University

1999-2000 Co-Director, Nonwovens Cooperative Research Center, North Carolina State
University

1999-Present Professor, College of Textiles, North Carolina State University

1995-1999 Professor, School of Textile and Fiber Engineering, Georgia Institute of Technology

1996-1999 Director, Sports Materials Research and Technologies (SMaRT) Center, Georgia
Institute of Technology

1992-1995 Associate Professor, Department of 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, Department of Textiles and Consumer Economics, University of
Maryland at College Park

1984-1988 Assistant Professor, Department of 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, North Carolina State University
- 1980-1982 Lecturer of Mathematics, Airedale and Wharfedale College of Further Education, Leeds, United Kingdom

GRADUATE GUIDANCE

POST-DOCTORAL RESEARCH ASSOCIATES/VISITING SCHOLARS DIRECTED

- 1986 – 1987 S. Ding, Fiber composites
 1990 – 1992 Y. Ulcay, Fiber composites
 1990 – 1993 J. C. Sobus, Image analysis
 1992 – 1993 B. Xu, Image analysis
 1992 – 1993 D. Wu, Image Analysis
 1994 – 1995 A. Jerbi, Image Analysis
 1995 – 1999 A. Deshpande, Finite Element Modeling
 1995 – 1997 S. Tanaka, Finite Element Modeling
 1999 – 2002 H. S. Kim, Modeling Performance in Nonwovens
 2000 – 2001 L. Kohel, Visiting Professor, France, Image Analysis
 2002 – 2005 M. Zamfir, Nonwovens Processing
 2000 – 2005 E. Shim, Microscopy & Surface Science
 2001 – 2004 H. Tafreshi, Computational Fluid Dynamics
 2003 – Present B. Mazé, Modeling Performance in Nonwovens
 2003 – Present S. Verenich, Enzymatic Treatment of Nonwovens

DOCTORAL RESEARCH DIRECTED/CO-DIRECTED

- 1985-1989 Yusuf Ulcay
Present Position: Associate Professor, University of Uludag, Turkey
- 1987-1990 Yejia Wu
Present Position: Research Scientist, Allied Signal, Virginia
- 1986-1991 Louise Wehrle
Present Position: Research Associate, Wolcof and Associates, Virginia
- 1989-1992 Bugao Xu.
Present Position: Professor, University of Texas at Austin
- 1988-1992 Ann Beth Jenkins
Present Position: Associate Professor, University of Auburn, Alabama
- 1986-1993 Janice Gerde
Present Position: Senior Engineer, US Customs, Washington, D. C.
- 1989-1994 Youngjoo Na
Present Position: Assistant Professor, University of Seol, Korea.
- 1990-1994 Ravi Ramanathan
Present Position: Senior Research Engineer, Computer Science Corporation, Maryland

- 1999-2001 Eunkyong Shim
Present Position: Visiting Assistant Professor, NCRC, NC State University
- 2001-2004 Nikhil Dani, Air Texturing.
Present Position: Research Engineer, Clorox
- 2002-2005 Melissa Stewart, Enzymatic Treatment of Nonwovens.
Present Position: Senior Research Engineer, Jockey International
- 2003-Present Nataliya Fedorova, Nano Fibers via Spunbonding.
PhD in Progress
- 2003-Present Nagendra Anantharamaiah, Cavitation in Hydroentangling Orifices.
PhD in Progress
- 2002-Present Ittiporn Suwannamek, Segmented-pie Bicomponent Nonwovens.
PhD in Progress
- 2003-Present Imad Qashou, Nonwovens Flammability.
PhD in Progress
- 2004-Present Terezie Zapletalova, Nonwovens Elastomers.
PhD in Progress
- 2004-Present Burcak Karaguzel, Printing Conductive Inks on Nonwovens.
PhD in Progress
- 2003-2004 Qiqi Wang, Nonwovens Filtration.
PhD in Progress

MASTERS RESEARCH DIRECTED/CO-DIRECTED

- 1984-1986 Marsha Feldstein
Present Position: Senior Engineer, Allied Signal, Virginia
- 1985-1988 Janet Moreland
Present Position: Senior Engineer, Bard Cardiovascular System Division, Massachusetts
- 1985-1988 Jane Merrit
Present Position: Consultant
- 1989-1991 Rahul Dharmadhikary
Present Position: Senior Research Scientist, Veratec, Massachusetts
- 1989-1991 Vishvaroop Agarwal
Present Position: Senior Engineer, Johnson and Johnson, New Jersey
- 1989-1991 Jessica Chiu
Present Position: Senior Engineer, Eli Lili, California
- 1989-1990 Bugao Xu
Present Position: Professor, University of Texas at Austin

- 1990-1992 Clair Munter
Present Position: Consultant.
- 1994-1995 Fred Lee
Present Position: Materials Engineer, Atlas Materials Group.
- 1996-1999 Yogeshwar Velu, Evaluation of Mechanical Anisotropy in Nonwovens
Present Position: Research Scientist, Fleetguard
- 1996-1999 Ali Niroomand, Predicting Lifetime of Biodegradable Sutures
Present Position: Research Chemist, Ethicon, Georgia
- 1996-1997 Xueqin Wang, Scratch and Mar Resistance in Automotive Coatings.
Present Position: Research Engineer, Nordson Fiber Systems, Georgia
- 1999-2001 Amy Konopka, Moisture Transport in Nonwovens.
Present Position: PhD Student, ENSAIT, France
- 2000-2002 Neha Vaydia, Hydroentangled Nonwovens as Precursors for Composites.
Present Position: Research Engineer, Raytech Composites.
- 2000-2002 Gregory Grissett, 3D molded Nonwovens.
Present Position: Research Engineer, Freudenberg.
- 2000-2002 Asli Begenir, The Role of Orifice Geometry on Hydroentangling.
Present Position: Research Engineer, Sara Lee.
- 2001-2003 Selcuk Filiz, Highloft Nonwovens as Gutter Fillers.
Present Position: Research Engineer, Freudenberg.
- 2001-2003 Jody Erickson, Incorporating Nanotubes into Fibers.
Present Position: Research Engineer, Freudenberg.
- 2002-2004 Mitul Zaveri, Kenaf Core Structure and Properties.
Present Position: Research Engineer, Greene Natural Fibers.
- 2003-2004 Khyati Vyas, Splittable Partially Water Dispersible Nonwovens.
Present Position: Consultant.
- 2003-2005 Kanan Allampalayam Jayaraman, Acoustical Properties of Natural Fiber Nonwovens.
Present Position: Research Engineer, Spuntech.
- 2003-2005 Karthik Arumugam, Enzymatic Treatment of Hydroentangled Nonwovens.
Present Position: Research Engineer, Hof Textiles.
- 2003-2005 Ercan Erkman, Static Generation in Moving Belts Used for the Manufacturing of Hydroentangled Nonwovens.
Present Position: Research Engineer, College of Textiles, NC State University.
- 2003-2005 Bilge Hatiboglu, Measurement of Mechanical Properties of Nano Fibers.
Masters in Progress

- 2003-2005 Paige Kennerly, Hydroentangling of Jacquard Fabrics.
Present Position: Research Engineer, Milliken
- 2003-2005 Stephania Williams, Hydroentangling of Knitted Fabrics.
Present Position: Research Engineer, Milliken
- 2004-2006 Saurabh Chhparwal
Present Position: Research Engineer, Politex

OTHER TEACHING ACTIVITIES

EXHIBITIONS

- 1987 B. Pourdeyimi, Mini-Computer Based Image Processing, Instructional Computing, Fulcrum Project, Prince George's Room, Stamps Union, University of Maryland
- 1988 B. Pourdeyimi, Mini-Computer Based Image Processing, Computer Science Department's High School and Industrial Associates Day, A.V. Williams Building, University of Maryland
- 1988 B. Pourdeyimi, Computer Aided Fabric Design, Computer Science Department's High School and Industrial Associates Day, A.V. Williams Building, University of Maryland
- 1988 B. Pourdeyimi, Computer Aided Fabric Design, **EDUCOM'88** Conference, Washington Hilton, Washington, D. C.

WORKSHOPS

- 1993 The Application of Image Analysis in Evaluating Surfaces, **VIEEW**, South Florida Test Service, Miami, Florida
- 1994 Applications of Image Analysis to Fibrous Structures, **Nonwoven Cooperative Research Center**, North Carolina State University, Raleigh, North Carolina
- 1995 Applications of Image Analysis to Fibrous Structures, **Georgia Institute of Technology**, Atlanta, Georgia
- 1996 Sports Materials, **Georgia Institute of Technology**, Atlanta, Georgia
- 1996 Applications of Image Analysis to Fibrous Structures, **Georgia Institute of Technology**, Atlanta, Georgia
- 1997 Applications of Image Analysis to Fibrous Structures, **Georgia Institute of Technology**, Atlanta, Georgia
- 1998 Applications of Image Analysis to Fibrous Structures, **Georgia Institute of Technology**, Atlanta, Georgia
- 2000 Nonwovens Fundamentals, **North Carolina State University**, Raleigh, North Carolina
- 2000 Applications of Image Analysis to Fibrous Structures, **North Carolina State University**, Raleigh, North Carolina

- 2001 Nonwovens Fundamentals, **North Carolina State University**, Raleigh, North Carolina.
- 2002 Quantitative Microscopy & Image Analysis, **North Carolina State University**, Raleigh, North Carolina.
- 2002 Fundamentals of Thermal Bonding, **North Carolina State University**, Raleigh, North Carolina.
- 2002 Fundamentals of Spunbonding & Meltblowing, **North Carolina State University**, Raleigh, North Carolina.

ADVISORY BOARD

Innovent	Resolution Sciences
Magellan Systems International	SpaceNet, Inc.
Raytech Composites	Allasso Industries

HONORS AND AWARDS

- 2004 ASTM D-13 Dewitt Smith Medal
- 2002 Recipient of the Best Paper Award by TAPPI and INDA
- 2001 Recipient of the Best Paper Award by TAPPI and INDA
- 2000 Recipient of the Best Paper Award by TAPPI and INDA
- 1998 Recipient of the Best Paper Award by TAPPI
- 1996 Elected as President of The Fiber Society for 1996-1997
- 1995 Elected as Vice President of **The Fiber Society**
- 1994 Recipient of **The Fiber Society Distinguished Scientist Award**
- 1994 F.T.I. (Fellowship of the Textile Institute)
- 1994 Distinguished Honors Teacher, University of Maryland
- 1993 Distinguished Honors Teacher, University of Maryland
- 1992 Selected as an Outstanding Teacher, University of Maryland
- 1992 Fiber Society Lecturer for 1992-1993
- 1987 Listing in Outstanding Young Men of America
- 1985 Elected to Membership in The Fiber Society
- 1978 Albert Hirst Prize for best structural design of woven and knitted fabrics, U. K.
- 1978 Second prize in the Textile Institute Woven Fabric Design Competition, U. K.

PUBLISHED BOOKS AND PARTS OF BOOKS

1. B. Pourdeyhimi. Vascular Grafts: Textile Structures and Their Performance, Textile Progress, No. 15, (3), 1-35, (1987).
2. H. D. Wagner and B. Pourdeyhimi, Composite Materials for Use in Orthopedic Applications: Fracture Behavior of Acrylic Bone Cement Reinforced with High Toughness Organic Fibers, Composite Structures: Damage Assessment and Material Evaluation, (ed. I. H. Marshall), No. 2, 325-337, Elsevier Applied Science, London, (1987).
3. B. Pourdeyhimi 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).

4. B. Pourdeyhimi, Y. Ulcay, M. Singer and I. Block, Mechanical Characteristics of Spectra 900 and Spectra 1000 High Strength Polyethylene Fibers, *Advances in Macro-Mechanics of Composite Material Vessels and Components*, (ed. D. Hui and T. J. Kozik), No. 146, 137-141, (1988).
5. Y. Ulcay, I. Block and B. Pourdeyhimi, Improving the Bond Strength of Spectra 900 and Spectra 1000 High Strength Polyethylene Fibers by Chemical Etching, *Composite Materials Technology*, 1990, (ed. D. Hui and T. J. Kozik), No. 32, 23-27, (1990).
6. B. Pourdeyhimi, Y. Ulcay and H. D. Wagner, Elastic properties of Acrylic Bone Cements Reinforced with Ultra High Strength Polyethylene Fibers: The Effect of Bond Strength, *Composite Materials Technology*, 1990, (ed. D. Hui and T. J. Kozik), No. 32, 131-137, (1990).
7. Y. Ulcay, V. Agarwal and B. Pourdeyhimi, The Effect of Chemical Etching on the Fracture Toughness of 3D Randomly Distributed Spectra 900 and Spectra 1000 Discontinuous Fiber Reinforced Composites, *Composite Materials Technology*, 1991, (ed. D. Hui and T. J. Kozik), No. 37, 41-51, (1991).
8. Y. Ulcay, V. Agarwal and B. Pourdeyhimi, Elastic Properties of 3D Randomly Distributed Spectra 900 and Kevlar 49 Discontinuous Fiber Reinforced Composites, *Composite Materials Technology*, 1991, (ed. D. Hui and T. J. Kozik), No. 37, 51-59, (1991).
9. B. Pourdeyhimi and Y. Ulcay, 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).
10. Y. Ulcay and B. Pourdeyhimi, A Study on Bonding Properties of Kevlar 149 Fibers for Use in PMMA Bone Cements, Design Analysis, Machinability, and Characterization of Composite Materials, (ed. F. Veniali, A. Ertas, A. Diilio and V. Tagliaferri), Vol 47-6, 143-149, (1992).
11. Y. Ulcay and B. Pourdeyhimi, 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).
12. B. Pourdeyhimi, Y. Ulcay, R. Ramanathan, and J. Sobus., 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).
13. B. Pourdeyhimi, (editor), *Imaging and Image Analysis for Plastics*, (1999).
14. B. Pourdeyhimi and S. K. Batra. ITMA '99: A Review, *Textile Progress*, No. 1/2, (30), 51-68, (2000).
15. D. Sikkema, M. Northolt and B. Pourdeyhimi, Assessment of New High Performance Fibers for Advanced Applications, *MRS Bulletin*, Volume 8, No. 8, August 2003.
16. B. Pourdeyhimi, Structure-Property Relationships in Nonwovens, *Handbook of Nonwovens*, In Press.
17. S. K. Batra and B. Pourdeyhimi, On Thermal Bonding of Nonwovens, *Handbook of Nonwovens*, In Press.

JOURNAL PUBLICATIONS

18. B. Pourdeyhimi and S. E Kern, Ease of Suturing Surgical Fabrics: A Quantitative Evaluation, American Journal of Surgery, **149**, 387-389, (1985).
19. C. C. Chu, B. Pourdeyhimi and L. Welch, Characterization of the Morphologic and Mechanical Properties of Surgical Mesh Fabrics, Journal of Biomedical Materials Research, **19**, 903-916, (1985).
20. B. Pourdeyhimi, K. C. Jackson and K. Hepworth, Development of Weaving Using Automatic Looms, Ars Textrina, **4**, 107-205, (1985).
21. B. Pourdeyhimi and H. D. Wagner, On the Correlation between the Failure of Vascular Grafts and Their Structural and Material Properties: A Critical Analysis, Journal of Biomedical Materials Research, **20**, 375-409, (1986).
22. B. Pourdeyhimi, H. Robinson, P. Schwartz and H. D. Wagner, Fracture Toughness of Kevlar 29 Reinforced Polymethylmethacrylate for Surgical Implantation, Annals of Biomedical Engineering, **14**, 277-294, (1986).
23. B. Pourdeyhimi, H. D. Wagner and P. Schwartz, A Comparison of the Mechanical Properties of Kevlar 29 Reinforced Bone and Dental Cements, Journal of Material Science, **21**, 4468-4474, (1986).
24. B. Pourdeyhimi and K. C. Jackson, A Note on the Diffusion of the Automatic Weaving within the British Cotton Industry, Ars Textrina, **6**, 101-118, (1986).
25. K. C. Jackson and B. Pourdeyhimi, Technical Progress and the Evolution of the Wage Arrangements in the British Cotton Weaving Industry, Ars Textrina, **7**, 61-74, (1987).
26. B. Pourdeyhimi, A Critical Review of the Structural and Material Properties in Vascular Grafts, Journal of Biomaterials Applications, **2** (2), 163-205, (1987).
27. B. Pourdeyhimi, On the Time to Failure of Biodegradable Sutures: A New Approach, Journal of Material Science Letters, **6**, 1039-1042, (1987).
28. B. Pourdeyhimi, Transposed Twills: A Programming Approach, Ars Textrina, **9**, 43-62, (1988).
29. B. Pourdeyhimi and H. D. Wagner, Elastic and Ultimate Properties of Acrylic Bone Cement Reinforced with Ultra-high Molecular Weight Polyethylene Fibers, Journal of Biomedical Materials Research, **23**, 63-80, (1989).
30. B. Pourdeyhimi, Porosity of Surgical Mesh Fabrics: New Technology, Journal of Biomedical Materials Research, **23**, 145-152, (1989).
31. B. Pourdeyhimi, Programming Techniques in Computer Aided Woven Fabric Design, Journal of The Textile Institute, **3**, 391-401, (1989).
32. R. Panandiker and B. Pourdeyhimi, Computer Aided Woven Fabric Design: Determination of Weave Size in Twills, Ars Textrina, **12**, 93-110, (1989).

33. M. Feldstein and B. Pourdeyhimi, A Study of the Effect of Manufacturing Treatments on the Mechanical Properties of Polyester Fibers Used in Vascular Grafts, Journal of Materials Science Letters, 9, 1061-1065, (1990).
34. Y. Wu, B. Pourdeyhimi, S. M. Spivak and N. R. S. Hollies, Instrumental Techniques to Quantify Textural and Appearance Changes in Carpet: Part III: Colorimetric Image Analysis, Textile Research Journal, 60, (11), 673-687, (1990).
35. B. Xu and B. Pourdeyhimi, Color Description and Measurement Using Digital Video Capture Systems, Ars Textrina, 15, 109-128, (1991).
36. Y. Wu, B. Pourdeyhimi and S. M. Spivak, Texture and Appearance Measurement of Carpets Using Image Analysis, Textile Research Journal, 61, (7), 407-419, (1991).
37. Y. Ulcay, B. Pourdeyhimi and I. Block, Mechanical Performance of Ultra-High-Strength Polyethylene Fibers, Composites Engineering, 1, (3), 145-156, (1991).
38. J. Sobus, B. Pourdeyhimi, J. Gerde and Y. Ulcay, Assessing Changes in Texture Periodicity Due to Appearance Loss in Carpets: Gray Level Co-occurrence Analysis, Textile Research Journal, 61, (10), 557-567, (1991).
39. B. Xu and B. Pourdeyhimi, Computer-aided Weave Design: Algorithms for Designing Double or Backed Cloths, Ars Textrina, 16, 93-103, (1991).
40. H. D. Wagner, A. Finkels, T. Elias and B. Pourdeyhimi, An Experimental Study of the Mechanical Properties of Fiber Reinforced Poly(Methyl Methacrylate): Effects of Fiber Type, Content and Aspect Ratio, Science and Engineering of Composite Materials, 2, (2), 99-118, (1992).
41. B. Xu, B. Pourdeyhimi and J. Sobus, Evaluation of Crimp in Fibers Using Image Analysis: Definitions, Algorithms and Techniques, Textile Research Journal, 62, (2), 56-67, (1992).
42. K. C. Jackson and B. Pourdeyhimi, The Transition to Rational Wage Arrangements in the British Cotton Weaving Industry, Ars Textrina, 17, 7-18, (1992).
43. J. Sobus, B. Pourdeyhimi, B. Xu and Y. Ulcay, Evaluating Loss of Texture Definition in Carpets Using Mathematical Morphology: Covariance, Textile Research Journal, 62, (1), 26-39, (1992).
44. B. Xu and B. Pourdeyhimi, Characterizing Pile lay in Carpets, Canadian Textile Journal, 110, (3), 39-48, (1993).
45. B. Pourdeyhimi and B. Xu, Pore Size Characterizing in Nonwoven Fabrics, INDA Journal of Nonwovens Research, 5, (3), 20-27, (1993).
46. B. Pourdeyhimi, J. Sobus and B. Xu, Evaluating Carpet Appearance Loss: Surface Intensity and Roughness, Textile Research Journal, 63, (9), 523-535, (1993).
47. B. Pourdeyhimi, Assessing Fiber Orientation in Nonwoven Fabrics, INDA Journal of Nonwovens Research, 5, (3), 29-36, (1993).
48. B. Xu, B. Pourdeyhimi and J. Sobus, Fiber Cross Sectional Analysis Using Image Processing Techniques, Textile Research Journal, 63, (12), 717-730, (1993).

49. Ulcay, Y and B. Pourdeyhimi, A Study of Reinforcement Selection for PMMA Bone Cement for Surgical Implantation, Proceedings of the 2nd Biennial European Joint Conference on Engineering Systems Design and Analysis, April 4-7, (1994).
50. B. Pourdeyhimi, B. Xu and L. Wehrle, Evaluating Carpet Appearance Loss: Periodicity and Tuft Placement, Textile Research Journal, 64, (1), 21-32, (1994).
51. B. Pourdeyhimi, R. Ramanathan and R. Dent, Measurement of Fiber Orientation in Nonwovens, Part 1, Simulation, Textile Research Journal, 66, (11), 713-722, (1996).
52. B. Pourdeyhimi, R. Ramanathan and R. Dent, Measurement of Fiber Orientation in Nonwovens, Part 2: Direct Tracking, Textile Research Journal, 66, (12), 747-753, (1996).
53. B. Pourdeyhimi, A. Nayernouri and B. Xu, Evaluating Carpet Appearance Loss: Pile Lay Orientation and Shading, Textile Research Journal, 64, (3), 130-135, (1994).
54. B. Pourdeyhimi and B. Xu, Characterizing Pore Size in Nonwoven Fabrics: Shape Considerations, International Nonwovens Journal, 6, (1), 26-30, (1994).
55. B. Pourdeyhimi and A. Nayernouri, Evaluating Traffic Paint Degradation Using Image Analysis, Journal of Coatings Technology, 66, (834), 51-58, 1994.
56. B. Xu and B. Pourdeyhimi, Characterizing Cotton Maturity, Textile Research Journal, 64, (6), 330-335, (1994).
57. B. Pourdeyhimi, Evaluating Carpet Appearance Loss: Color, Textile Research Journal, 64, (8), 485-490, (1994).
58. B. Pourdeyhimi, R. Ramanathan and S. Javadpour, Introducing a new Carpet Wear Simulator, Textile Research Journal, 64, (9), 528-533, (1994).
59. B. Pourdeyhimi, A. Schirokauer, Y. Na and W. Chappas, A Study of the Effect of Sterilizing Radiation on Nonwovens: Physical and Mechanical Properties. International Nonwovens Journal, 7, (2), 75-81, (1995).
60. Y. J. Na and B. Pourdeyhimi, Assessing Wrinkling Using Image Analysis, Textile Research Journal, 65, (3), 149-157, (1995).
61. B. Pourdeyhimi and R. Ramanathan, Image Analysis Method for Estimating 2-D Fiber Orientation and Fiber Length in Discontinuous Fiber reinforced Composites, Polymers and Polymer Composites, 3, (4), 277-287, (1995).
62. B. Pourdeyhimi and F. Lee, Evaluating Cracking Using Image Analysis, Part 1: Algorithms, Definitions and Techniques. European Coatings Journal, 11, 804-812, (1995).
63. S. Gandhi, S. M. Spivak, and B. Pourdeyhimi, Computer Aided Infrared Imagery for Fabric Surface Temperature Fields Under Simulated Cigarette Exposure. Journal of Fire Protection Engineering, 7, (4), 107-124, (1995).
64. D. B. Nunn, M. M. Carter, and B. Pourdeyhimi, Dilative Characteristics of Microvel and Vasculour-II Aortic Bifurcation Grafts, Journal of Biomedical Materials Research, 30, 41-46, (1996).

65. B. Pourdeyhimi, R. Dent and H. Davis, Measurement of Fiber Orientation in Nonwovens, Part 3: Fourier Transform, Textile Research Journal, 67, (2), 143-151, (1997).
66. D. B. Nunn and B. Pourdeyhimi, Intrinsic Graft Failure 19 years Post-Implantation, Cardiovascular Surgery, (3), 333-338, (1997).
67. B. Pourdeyhimi and R. Dent, Measurement of Fiber Orientation in Nonwovens, Part 4: Flow Filed Analysis, Textile Research Journal, (3), 181-187, (1997).
68. B. Pourdeyhimi, Y. Velu, A. Deshpande and S. Tanaka, Measurement of Fiber Orientation in Nonwovens, Proceedings of the International Nonwovens Technical Conference, Cambridge, MA, September 8, (1997).
69. S. Gandhi, S. M. Spivak, and B. Pourdeyhimi, A Study of Smoldering Conditions in Upholstery Fabrics Using Thermal Imaging. Textile Research Journal, 68, (9), 687-696, (1998).
70. M. Polk, B. Pourdeyhimi, K. Jacob, S. Warner and D. Grubb, Spider Dragline Silk, Journal of The Textile Institute, 68, (9), 687-696, (1998).
71. B. Pourdeyhimi, R. Dent, A. Jerbi, S. Tanaka and A. Deshpande, Measurement of Fiber Orientation in Nonwovens, Part 5: Real Webs, Textile Research Journal, 69 (3), 185-192, (1999).
72. B. Pourdeyhimi, and R. Dent, Measurement of Fiber Orientation in Nonwovens, Letter to the editor, Textile Research Journal, 68: (4) 307-308, (1999).
73. B. Pourdeyhimi and R. Dent, A Note on the Measurement of Fiber Diameter Distribution in Nonwovens, Textile Research Journal, 69: (4) 233-236, (1999).
74. B. Pourdeyhimi, X. Wang, and F. Lee, Evaluation of Scratch and Mar Resistance in Automotive Coatings: Nanoscratching by Atomic Force Microscope. European Coatings Journal, (3), (1999).
75. B. Pourdeyhimi, X. Wang and F. Lee, Making Scratch Resistance Visible. European Coatings Journal, (4), (1999).
76. B. Pourdeyhimi, H. S. Kim and F. Lee, Scribe Corrosion Characterized by Distance Transform. European Coatings Journal, (4), 34-42, (2000).
77. H. S. Kim, M. Latifi and B. Pourdeyhimi, Characterizing Fuzz in Nonwoven Fabrics, International Nonwovens Journal, Vol. 9, No. 1, 18-22, (2000).
78. L. Huang, R. A. McMillan, R. P. Apkarian, B. Pourdeyhimi, V. P. Conticello and E. Chaikof, Generation of Synthetic Elastin-Mimetic small Diameter Fibers and Fiber Networks. Macromolecules, 33 (8), 2989-2997, (2000).
79. B. Pourdeyhimi and H. S. Kim, Angular Nonwoven Properties. Textile Asia, 33-36, March Issue, (2000).
80. H. S. Kim, B. Pourdeyhimi, A. Abhiraman and P. Desai, Characterization of Structural Changes in Nonwoven Fabrics during Load-Deformation experiments, JTATM, <http://www.tx.ncsu.edu/jtatm>. October (2000).

81. H. S. Kim and B. Pourdeyhimi, A note on the Effect of Fiber Diameter, Fiber Crimp and Fiber orientation on Pore Size and Shape in Thin Webs, International Nonwovens Journal, 9 (4), 15-19, (2000).
82. H. S. Kim, B. Pourdeyhimi, A. Deshpande, A. Abhiraman and P. Desai, Characterization of Structural Changes in Point-Bonded Nonwoven fabrics during Load-Deformation Experiments, Textile Research Journal, 71 (2), 157-164, (2001).
83. H. S. Kim and B. Pourdeyhimi, The Role of Structure on Mechanical Properties of Point-Bonded Nonwovens, International Nonwovens Journal, Volume 10, (2), (2001).
84. M. Latifi, H. S. Kim and B. Pourdeyhimi, A Note on Pilling Due to Fabric to Fabric Abrasion, Textile Research Journal, 71 (7), 640-644, (2001).
85. H. S. Kim, B. Pourdeyhimi, P. Desai and A. Abhiraman, Anisotropy in Mechanical Properties of Thermally Point-Bonded Nonwovens: Experimental Observations, Textile Research Journal, 71 (11), 965-976, (2001).
86. A. A. Jeddi, H. S. Kim and B. Pourdeyhimi, Marring of Automotive Clear Coats Brought About by Wipes, International Nonwovens Journal, Volume 10, (4), (2001).
87. A. A. Jeddi, H. S. Kim and B. Pourdeyhimi, Measurement of Fiber Orientation in Nonwovens: Optical Fourier Transform, International Nonwovens Journal, Volume 10, (3), (2001).
88. H. S. Kim, B. Pourdeyhimi, Computational Modeling of Mechanical Performance in Thermally Point Bonded Nonwovens, JTATM, <http://www.tx.ncsu.edu/jtatm>. Vol. 1, Issue 4, Summer (2001).
89. M. F. Casanova, D. Hill and B. Pourdeyhimi "A study on the mass lesion effect of senile plaques", J. Neuroscience Methods, 110 (1-2), 125-133, (2001).
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103. B. Mazé and B. Pourdeyhimi, 2-D and 3-D Simulations of Nonwovens Structures, INTC 2005, Saint Louis, September 18-22, 2005.
104. H. Tafreshi and B. Pourdeyhimi, Aerosol Filtration, INTC 2005, Saint Louis, September 18-22, 2005.
105. H. Tafreshi, B. Mazé and B. Pourdeyhimi, Modeling Fluid Flow Through Nonwovens, INTC 2005, Saint Louis, September 18-22, 2005.
106. N. Anantharamaiah, H. Tafreshi and B. Pourdeyhimi, Hydroentangling Principles, INTC 2005, Saint Louis, September 18-22, 2005.
107. B. Pourdeyhimi, Industry-Government-University Research Partnerships, Licensing Executive Society, 2005 Spring Meeting, Raleigh, NC, May 4-5, 2005.
108. B. Pourdeyhimi, The Future of Fiber Research & Development, The Fiber Society Fall 2005 Annual Conference, NJ Institute of Technology, October 17-19, 2005.
109. B. Pourdeyhimi, Industry-Government-University Research Partnerships, AURP 2005 Annual Conference, Raleigh, NC, November 2-4, 2005.
110. B. Pourdeyhimi, Research Center Management, NSF Annual I-UCRC Center Directors Meeting Washington, DC, January 2006.
111. B. Pourdeyhimi, New Innovations in Engineered Fabrics, Innovations in Medical, Protective and Technical Textiles, AATCC, Cary, NC, February 1-2, 2006.
112. B. Pourdeyhimi, Electro-Textiles: Challenges and opportunities, IECON 05, Keynote speech, 2005.

113. B. Pourdeyhimi, Nonwoven Structure Definition, INTC, September 2006.
114. B. Mazé and B. Pourdeyhimi, Nonwoven Structure Simulation and Definition, INTC, September 2006.
115. B. Pourdeyhimi, Role of Thermal Bonding on Performance, INTC, September 2006.
116. H. V. Tafreshi and B. Pourdeyhimi, Role of Hydroentangling on Performance, INTC, September 2006.
117. B. Mazé and B. Pourdeyhimi, Modeling Mechanical Properties of Thermally Bonded Nonwovens, INTC, September 2006.
118. H. V. Tafreshi and B. Pourdeyhimi, Role of Structure on Transport, INTC, September 2006.
119. V. M Datla, E. Shim and B. Pourdeyhimi, Surface Modification of Fibers & Nonwovens with Melt Additives, INTC, September 2006
120. N. Fedorova and B. Pourdeyhimi, Commercially Feasible Strong Nano Fiber Based Nonwovens, TechTextil, Atlanta, March 2006.
121. S. K. Batra and B. Pourdeyhimi, From Disposable to Durable – Implications, TechTextil, Atlanta, March 2006.
122. S. Verenich and B. Pourdeyhimi, High Strength Durable Coated Fabrics Made From Nonwovens, TechTextil, Atlanta, March 2006.
123. H. V. Tafreshi and B. Pourdeyhimi, Hydroentangling – A Path to Technical Nonwovens, TechTextil, Atlanta, March 2006.
124. N. Fedorova and B. Pourdeyhimi, Spunbond Strong Nano Fiber Based Structures, ACS, Atlanta, March 2006.
125. H. Q. Wang, B. Maze, H. Vahedi Tafreshi and B. Pourdeyhimi, Nanoparticle Filtration by Virtual Nonwoven Media”, AFS, May 2006
126. B. Pourdeyhimi, N. Fedorova & J. McCulloch, Meltspun Multi-component Processes for Economic Nanofiber Webs, AFS, May 2006.

RECENT PATENTS

1. B. Pourdeyhimi and T. J. Little, Photo Luminescent Fibers – NCSU File 00-88, Patent Filed, (2000), Patent Allowed.
2. B. Pourdeyhimi, Device for Measuring Absorbency, Desorbency and Pore Size – NCSU File 00-89. Provisional Patent No. 60/253,716, Patent Filed, (2000).
3. B. Pourdeyhimi and T. J. Little, Rigid and Semi Rigid 3-D Thermoformed Fabrics from Nonwoven Planar fabrics, Laminates and Films – NCSU File 00-90, Patent Filed, (2000), Patent Allowed.
4. B. Pourdeyhimi and W. Oxenham, Gutter-Fill High Loft Nonwovens – NCSU File 02-30, Patent Filed, (2001).

5. B. Pourdeyhimi, Improving Performance of Knitted and Woven Fabrics by High Pressure Waterjets – NCSU File 03-142, Provisional Patent Filed, (2003)
6. B. Pourdeyhimi, M. Dixon, H. Tafreshi and J. H. Lowder, Improved Design for Hydroentangling Nozzle Strips – NCSU File 04-002, Provisional Patent Filed, (2004).
7. H. Tafreshi and B. Pourdeyhimi, Long-Lasting Composite Hydroentangling Nozzles– NCSU File 04-002, Provisional Patent Filed, (2004).

OTHER INTELLECTUAL PRODUCTS

SOFTWARE PACKAGES DEVELOPED

- | | |
|------|-------------------------------------------------------------------------------------|
| 1987 | Image Processing Software. |
| 1988 | WEAVE-CAD, Weave Computer Aided Textile Design. Marketed by University of Maryland. |
| 1991 | FAS, Fiber Image Analysis System. |
| 1992 | IMAGE, Image Analysis System. |
| 1993 | PSAS, Paint Surface Analysis System. |

SERVICE

PROFESSIONAL CONTRIBUTIONS

ORGANIZATION MEMBERSHIPS AND POSITIONS HELD

- | | |
|--------------|-----------------------------------------------------------------|
| 1975-2000 | The Textile Institute (U. K.) |
| 1985-Present | The Fiber Society |
| 1986-1988 | Biomaterials Section, American Society for Testing of Materials |
| 1986-1988 | ASTM, Committee F4 on Surgical Implants |
| 1987-1989 | Lectureship Committee, The Fiber Society |
| 1989-1990 | Lectureship Committee Chairman, The Fiber Society |
| 1990-1993 | Member, Governing Council, The Fiber Society |
| 1995-1996 | The Vice-President of The Fiber Society |
| 1996-1997 | The President of The Fiber Society |
| 1999-Present | INTC Organizing Committee |
| 1999-Present | INDA Technical Advisory Board |
| 2003-Present | TAPPI Properties & Performance Group - Chair |

SCHOLARLY ACTIVITIES

- | | |
|---------------|--------------------------------------------------------------|
| 1987-Present | Associate Editor, Computerized Medical Imaging and Graphics |
| 1987- Present | Reviewer for ASME Conference |
| 1987- Present | Reviewer for Ars Textrina |
| 1988- Present | Reviewer for Textile Research <u>Journal</u> . |
| 1989- Present | Reviewer for Journal of Engineering Materials and Technology |
| 1988-1989 | Co-Chairman, Ars Textrina Conference, University of Maryland |
| 1989- Present | Reviewer for Journal of The Textile Institute, U. K. |
| 1991- Present | Reviewer for Journal of Cells and Biology. |
| 1991- Present | Reviewer for Journal of Microscopy. |
| 1991- Present | Reviewer for Journal of Orthopedic Research. |

UNIVERSITY CAMPUS CONTRIBUTIONS

UNIVERSITY OF MARYLAND AT COLLEGE PARK

1984-1985 Chair, Minorities Committee
 1985-1986 Chair, Ph.D. Qualifying Exam Committee
 1985-1991 Chair, Computer Committee
 1985-1988 Member, Senior Honors Committee
 1985-1986 Evaluation of the University of Maryland Band Uniforms
 1986-1987 Member, College Committee for Academic Dishonesty
 1987-1988 Member, Committee for Reviewing the Apparel Design Program
 1987-1990 Chair, College Computer Committee
 1987-1988 Chair, Senior Honors Committee
 1987-1990 Member, Campus Computer Coordinating Committee
 1988-1989 Member, Senate Adjunct Committee on Research
 1988-1990 Coordinator, College Computer Proposal
 1988-1990 Member, Dean's Research Advisory Task Force
 1989-1990 Vice Chair, College Executive Committee
 1989-1990 Chair, Ph.D. Qualifying Exam Committee
 1989-1990 Chair, Committee for Reviewing Ph.D. Qualifying and Candidacy Exams
 1990-1995 Member, Campus Senate
 1990-1995 Member, CACP
 1990-1991 Chair, College Assembly
 1990-1991 Member, Dean's Budget Advisory Committee
 1990-1991 Chair, College Executive Committee
 1990-1991 Member, College of Human Ecology Dissolution Committee
 1992-1993 Member, Campus Affairs Committee
 1992-1993 Chair, The Human Relations Committee of The Campus Senate
 1992-1994 Textile Programs Program Coordinator
 1994-1995 Member, Curriculum Committee
 1993-1995 Member, Space Committee

GEORGIA INSTITUTE OF TECHNOLOGY

1995 Member, NTC Equipment Review Committee
 1995 Member, Graduate Curriculum Committee
 1995 Chair, Area Committee for Dr. Mary Lynn Reaff
 1996 Member, Area Committee for Dr. Haskell Beckham
 1996 Seminar Coordinator
 1996 Curriculum Committee
 1996 Chair, Semester Conversion Committee for B.S. in Textile and Fiber Engineering
 1996 Chair, Semester Conversion Committee for Graduate Programs
 1996 Chair, Textile Engineering Qualifying Exam Committee
 1996 Member, Area Committee for Dr. Lewis Dorrity
 1997 Chair, Textile Engineering Qualifying Exam Committee

NORTH CAROLINA STATE UNIVERSITY

1999-2001 Member, TATM Search Committee
 2000-2001 Member, TECS Search Committee
 2000-2001 Chair, College Library Committee
 2000-2004 Member, Technology Lab
 2000-2001 Member, Undergraduate Committee
 2001-2002 Chair, Technology Lab
 2001-2004 Member, TATM Search Committee
 2002-2003 Member, Search Committee for Vice Chancellor for Research
 2000-Present NCSU Intellectual Property Committee
 2003-Present Science & Technology Research Advisory Group to the Vice Chancellor for Research

2003-Present	Member, TATM Graduate Curriculum Committee
2004-Present	Member, Research Operations Council
2004-Present	Member, College of Textiles Dean's Council
2004-Present	Member, College of Textiles Safety Committee
2004-Present	Co-chair, College of Textiles Research Committee
2004-Present	Member, NC State Technology Incubator Steering Committee
2005-Present	Member, TATM Core Committee
2005-Present	Member, Extension Operations Council