**David Brookstein, Sc.D.**

**Curriculum Vitae**

Professional Experience:

Brookstein Consulting LLC.

Engineering and Litigation Consultant in Fields of Textiles, Garment Systems, Fibers, Fabrics and Composites

2000-present

IFC Mercantile

2013-present — Director of Market Development
Responsible for Technical and Market Development of antimicrobial, antifungal and flame resistant textile fabrics. Development of new fabric systems for flame-resistant garments.

Montgomery County Community College (PA)

2012-2013 — Dean for Science, Technology, Engineering and Mathematics (STEM)

Philadelphia University

2010 – 2012 — Executive Dean for University Research
Professor of Mechanical Engineering

1994 – 2010 — Dean and Professor of Mechanical Engineering
School of Engineering & Textiles

2007 – Executive Director of Institute for Textile and Apparel Product Safety

2008 – Executive Director of Pennsylvania Advanced Textile Research and Innovation Center including Biomedical Textile Structures Laboratory

2005- Executive Director of Research for Philadelphia University

2004-2012 – Principal Investigator – DoD Funded program – Laboratory for Engineered Human Protection (LEHP) –program focused on working with US Army to develop new garment-based soldier protection systems. The research and development program was to design, develop and produce prototype chemically protective garments with the required comfort using the latest materials produced in collaboration with selected suppliers.

Chief academic, administrative and fiscal officer for a school with undergraduate and graduate majors in industrial and systems engineering, architectural engineering, mechanical engineering, composites engineering, textile engineering technology, textile design (knitted, woven, and printed) fashion design and fashion industry management.

MAG Indutrial Automation Systems

2009-2012 – Engineering consultant to worldwide manufacturer of engineering automation systems for the aerospace industry

Harvard University

2002 – 2003 Visiting Scholar (sabbatical)
Harvard University Center for Textile and Apparel Research (Division of Engineering and Applied Sciences and Harvard Business School) – Studied trends in patent applications involving textile structures

Albany International Research Co. - Mansfield, MA

1992 - 1994 Associate Director
1983 - 1992 Assistant Director
1980 - 1982 Senior Research Associate

Directed all activities of the professional engineering group responsible for contract research, development, and manufacture of advanced composite materials and technical polymeric materials and fabrics. Accomplishments include the working with NASA to develop new garment systems for astronauts, invention and development of the multilayer interlock braiding system for producing three-dimensionally reinforced fibrous preforms for aerospace structures, the development

of implantable biomedical devices such as sutures, vascular prostheses, orthopedic implants (knitted and woven) and the development of unique textile-based civil engineering structures. Engineering innovations led to 12 US patents and many other inventions protected by trade secret. Member of the senior management staff of the organization.

Northeastern University - Boston, MA
1981-1983 Adjunct Professor in Mechanical Engineering

Taught undergraduate courses in statics, dynamics, and mechanics of deformable bodies and material science.

Georgia Institute of Technology, College of Engineering
1975 - 1980 Assistant Professor of Textile Engineering

Taught and conducted research in the fields of textile and composites engineering with special emphasis on improving the energy efficiency of manufacturing systems. Obtained substantial funding from US DOE and US DOD. Active participant in College of Engineering co-op undergraduate programs.

Education:

- Doctor of Science in the field of Mechanical Engineering, Minor Studies in Management from Sloan School of Management, Massachusetts Institute of Technology, 1976.
- Master of Science in Textile Technology, Massachusetts Institute of Technology, 1973.
- Bachelor of Textile Engineering, Georgia Tech, 1971.
- Harvard Business School Summer Program on Research Management, 1990.
- Harvard University Graduate School of Education MLE Program, 1998.
- Massachusetts Institute of Technology Professional Institute - Data and Models in Engineering, Science and Business, 2006
- Harvard University Graduate School of Education Institute for Education Management, 2007.
- Massachusetts Institute of Technology Professional Institute - Nanomaterials for Biological and Pharmaceutical Technologies – 2008
- MIT Sloan School Executive Education Program "Product Design, Development, and Management" – 2009

- MIT Professional Institute, "From Technology to Innovation: Putting Ideas to Work" - 2010

Outside Professional Activities:

- Founding Member of the Greater Philadelphia University Council of Engineering Deans
- Chairman of the National Textile Center (NTC) Operating Board (2006-2007). NTC is a federally funded research consortium consisting of Georgia Tech, North Carolina State, Auburn, Clemson, Cornell, UMASS-Dartmouth, UC Davis and Philadelphia University.
- Advisory Board of the College of Engineering, Georgia Tech (1990-1995).
- President, The Fiber Society (1996)
- Chairman, Textile Engineering Division-American Society of Mechanical Engineers (1994-1996)

Memberships:

- American Society for Engineering Education (member of Engineering Deans Council)
- Institute of Industrial Engineers
- ASME - Textile Engineering Division, Chairman, 1980, 1994
- American Conference of Academic Deans
- The Fiber Society - Fiber Society Lecturer, 1986-1987, 1993-1994, President 1996
- SAMPE - Society for Advanced Materials and Process Engineering
- The Textile Institute (United Kingdom)

Awards and Honors:

- American Society of Mechanical Engineers (ASME) – Fellow, 1995
- ASME - Textile Engineering Division, Chairman, 1980, 1994
- The Fiber Society - Fiber Society Lecturer, 1986-1987, 1993-1994, President, 1996
- The Textile Institute (United Kingdom) – Fellow, 1992
- Georgia Tech Academy of Distinguished Engineering Alumni, 1999
- Techtextil Innovation Prize, 1993 (Germany)
- ASTM Harold Dewitt Smith Award, 1998

Publications:

"Deductions about the False-Twist Process from Observations of the Variation of Torque on Detwisting at Heat Set Yarn," with Backer, S., and Thwaites, J.J., Journal of the Textile Institute, 67, p. 183-186, 1976.

"Transient Threadline Behavior in False-Twist Texturing," with Thwaites, J.J., and Backer, S., Journal of the Textile Institute, 67, 1976.

"Mechanics of Texturing Thermoplastic Yarns: Part III. Experimental Observations of Torsional Behavior of the Texturing Threadline for Pre-Drawn PET Yarns," with Backer, S., Textile Research Journal, 46, pp. 802-908, 1976.

"Mechanics of Texturing Thermoplastic Yarns: Part V. Steady State Mechanics of Drawing Texturing," Textile Research Journal, 47, p. 256-266, 1977

"Material-Process Interactions During False-Twist Texturing," with Backer, S., Journal of Applied Polymer Science: Applied Polymer Symposium, 31, p. 63-82, 1977.

"Mechanics of Texturing Thermoplastic Yarns: Part VI. Transient Mechanics of Draw Texturing," with Backer, S., Textile Research Journal, 48, p. 198-218, 1978.

"On the Mechanics of Draw Texturing," Journal of Applied Polymer Science: Applied Polymer Symposium, 33, p. 197-202, 1978

"Energy Consumption and Conservation: Textile Drying," ACS Symposium Series, 107/17, 1979

"All That Glitters is Not Gold," Textile World, October 1979

"Energy Conservation in the Textile Industry," ERDA - Phase I Report, DOE, April, 1977, Quarterly Reports, 1976 to 1977, Final Report.

"Processing of Pitch-Based Staple Carbon Fiber," Union Carbide Corporation, November 1977, Final Report.

"Low Thermal Conductivity of PAN-Based Carbon Fiber, Hercules, Inc., Monthly Reports and Final Report

"Development and Demonstration of Energy-Conserving Drying Modifications to Textile Processes," U.S. DOE Monthly Reports.

"Optimization of Sucker Rod Pumping Using Novel Material-Systems Concepts," with Skelton, J. and Dent, R., Proceedings of the Sixth Symposium of Engineering Applications of Mechanics, Petroleum Society of CIM, 1982

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