

## RAHIM JINDANI

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### EXECUTIVE SUMMARY

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An experienced, and versatile, project / product development engineer / mentor. Expertise in the development of fibers, hydrogels, coatings, polymers, formulating chemistries for its application, and uses as textiles and as polymeric materials. Focused on the product development of business-critical needs, entrepreneurial challenges, and technologies for diverse customers.

**Product Engineering & Management:** Consulting experience as a product development, fiber extrusion, and coating for Medical Device Company. Served as a Technical expert for a portfolio of Medical Textiles, Surgical, and Cardiovascular products. developed test methods for various medical devices during remediation phase. Reviewing, and updating submission files for FDA, and MDR Europe for various products.

**Formulation Chemist:** Designing fiber, and polymeric based chemistries / dye chemistries which can allow in sustainable ways of integrating materials, and biopolymers to address challenges related to skin, nerve, and other human tissues, polymeric materials for personal hygiene, construction, and daily household, and wear products development.

**Quality / Process Engineer:** Identify the root cause for process variation, design corrective action plan, establish lean processes which are designed to better meet client needs. Leverages lean six sigma methodologies to develop strategic plans for the improvement, cost savings, increased productivity, and product performance. Performed Quality Audits, inspection as per the ISO 9001, 13485, 7198 Standard requirements, and quality control protocols.

*Fiber & Polymer Science ~ Textile Engineer ~ Textile Chemistry ~ Lean Six Sigma~ Biotechnology ~ Biomedical Engineering ~ Nonwovens ~ Product Development ~ Data Analysis ~ JMP ~ Orange ~ Bionomadix ~ Biomaterials ~ Tissue Engineering ~ Test Method Development ~ Material Science ~ Surface Modification Chemistries ~ Textiles ~ Project Management ~ Analytical techniques ~ Polymeric Coatings / Polymers ~ ECG / EKG Smart textile materials, and interface.*

### PROFESSIONAL EXPERIENCE

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#### University of Massachusetts, Lowell, Massachusetts, USA

2021 - 2022

##### *Post-Doctoral Researcher*

- Researching, and Managing projects related to the use of polymers, and providing expertise with regards to designing, textile materials for personal protective equipment's, and technical textiles such as wearables for ECG / EKG monitoring.
- Product development / prototypes for antiviral filtration masks, and advanced materials exploration.
- Wrote protocols for the use of different equipment's used in lab, and mentoring graduate students.

#### AKU, Center for Regenerative Medicine, Karachi, Pakistan

2020-2021

##### *Consultant*

- Consulted, and assisted researchers on use of biopolymers, biomaterials, and biological techniques for biomedical applications.
- Learned techniques with regards to molecular biology and tissue engineering.
- Participated in weekly journal club meetings.

#### Becton, Dickinson, and Company, formerly (BARD), Tempe, Arizona, USA

2019 - 2020

##### *Research and Development Engineer II*

- Managed, and remediated peripheral and arteriovenous grafts and fabrics, felts, pledgets and tapes as per EU Medical Device Regulations (MDR).
- Co-ordinated biocompatibility, toxicology, ship testing's, particulate, accelerated aging and real time testing and lifetime assessment for various polymeric surgical products.
- Provide Research and Development technical support for the Textile fabric business and designed the mock mentorship program which enabled 15 peripheral intervention associates during soft launch.

#### Ascend Performance Material, Pensacola, Florida, USA

2017 - 2018

##### *Functional Fiber Engineer*

- Developed use of antistatic fibers and yarns in construction of fabrics for home furnishing, apparel, and sportswear to reduce.
- Managed ENDUR® Fiber by Ascend lab testing, test method development, report writing, quality inspection, performed gauge testing.
- Patented test method to measure static decay for various fabric constructions which were developed along with customers.

**North Carolina State University, Non-Woven Institute, Raleigh, North Carolina, USA** 2012 - 2017  
*Research and Teaching Assistant*

- Researched on use of Melt blown nonwovens, chitin, and chitosan to create hydrogels for burn wound care applications and various polyesters and biopolymers in creation of yarn structures, fabrics, and medical textile products such as Nerve grafts, 3D Spacer Fabric Structures, Knitted, and. Woven Medical Compression Wraps.
- Developed a sustainable leather with grain like commercial products utilizing technical textile structures as part of Nonwoven certification.
- Taught 2 different courses as part of program titled ‘Mentoring and Teaching Practicum (MATP) at Duke University, North Carolina. Received a certificate of accomplishment in teaching practicum (COAT) at NCSU, and taught coursework related to textiles materials, fiber science, fiber evaluation, textile structures, linear assemblies, and evaluation of medical textiles.

**United Registrar and Systems, Karachi, Sindh, Pakistan** 2011  
*Trainee Auditor*

- Audited clients for ISO 9001:2008, quality management system (QMS) implementation.
- Consulted, ICF and ENGRO Pakistan in implementation of (Global Reporting Initiatives) GRi for corporate sustainability and compliance.
- Consulted as technical expert to various textile clients and food industry in implementation of Quality Management System (QMS).

## INTERNSHIP EXPERIENCE

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**Pre-Scouter, Raleigh, North Carolina, USA** 2018 – 2019  
*Global Scholar*

- Researched for various clients in the field of fibers and polymer engineering, product design and evaluation.

**BSN Medical Inc. Rutherford College, North Carolina, USA** 2015  
*Testing Analyst*

- Upgraded testing methods, tensile testing of compression dressings & co-relation of analysis.

**Johnston UNC Health Care, Smithfield, North Carolina, USA** 2014  
*Lean Consultant – Six Sigma*

- Reduced delays in pre-admission testing process and cut down waste by using lean six-sigma tools which allowed in increased savings of \$60,000 / 72 man-hours annually improving overall productivity of nursing staff.

## EDUCATION

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**Project Management Specialization, Google-Coursera** 2021  
*Completed Project Management Specialization 6 courses offered through Coursera*

**North Carolina State University, North Carolina, USA** 2014 - 2017  
*Doctor of Philosophy in Fiber & Polymer Science and Biomedical Engineering*  
 Dissertation Supervisor: Behnam Pourdeyhimi and Dr. William Oxenham  
 Dissertation Title: Structures, Yarns & Fabrics for Biomedical Applications

**North Carolina State University, North Carolina, USA** 2011 – 2013  
*Master of Science in Textiles*  
*Graduate Certificate in Nonwovens Science and Technology*  
 Thesis Supervisor: Dr. Martin King and Dr. Abdul Fateh Seyam  
 Thesis Title: Requirements of Donor Site Wound Dressings and an Investigation on the Use of Chitin/Chitosan as Dressing Materials.

**Textile Institute of Pakistan, Karachi, Pakistan** 2006 -2010  
*Bachelor of Science in Textile Sciences*  
 Senior Design Project: Surface Modification of Cotton substrates using Organic Solvents

## PATENTS GRANTED / INVENTION DISCLOSURE

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- “Provisional Invention Disclosure filed: “Smart Stent to avoid Restenosis”; March 2022

- Casiro Matt, Jindani, Rahim; WO 2022/066831 A1 Patent Application “Medical Balloon with Cellulose-Based Fibers and Related Methods” Published: March 31, 2022
- Wai-Shing Yung, Harrie Schoots, Rahim Jindani, Victor G Kholodkov and Jeffery L Walker; TW 202115416 A, WO 2021/034820 A1, US 2021/0055261; “Method for measuring static attraction propensity” Published: Feb 25<sup>th</sup>, 2021

## RESEARCH PUBLICATIONS

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- Lamba, N. M., Diane, S. H., Jindani, R., & King M. W. (2017). Evaluation of Antimicrobial-Treated Fabric Properties. AATCC Journal of Research 4, no. 1: 14-21.
- Jindani R, Lamba N, Herson D and King MW (2016). Assessment of quaternary ammonium compound dendrimer surface treatment on textile materials. Front. Bioeng. Biotechnol. Conference Abstract: 10th World Biomaterials Congress. doi: 10.3389/conf.FBIOE.2016.01.00813
- Jindani, Rahim, et al. Surface Modification of Cotton Substrates Using Organic Solvents. LAP LAMBERT Academic Publishing, <https://www.amazon.com/Surface-Modification-Substrates-Organic-Solvents>
- Other Publication record: <https://scholar.google.com/citations?user=SPBivLcAAAAJ&hl=en&oi=ao>

## EXTRA CURRICULAR ACTIVITIES

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- INDA, Association of the Nonwoven Fabrics Industry, Member, 2014 – July 2018
- Society for Biomaterials, Student Chapter, Member; 2016 – 2018, Member of Society for Biomaterials, 2012 - 2018
- Textile Association of Graduate Students (TAGs) NCSU, Vice President, 2013 – 2014
- Organized MedTex Conference – 2018
- Reviewed for Journal of Textile Institute (JOTI): 3 Articles, Journal of Industrial Textiles (JIT): 22 Articles, and
- Textile Research Journal (TRJ): 22 articles, ORCID ID: <https://orcid.org/0000-0001-7458-2080>
- Graduate Field Assistant / Mentor - Habitat for Humanity, NCSU Chapter, 2012 - 2014

## TEACHING EXPERIENCE

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- Teaching Assistant, Instructor, Textile Engineering Sciences Lab Section, – TE 201-203, **2016**
- Teaching labs independently, assign course assignments, lectures, presentations, grading exams, meeting with students to ensure understanding of concepts and helping them in learning lab objectives.
- Teaching Assistant, Instructor, – Linear Textile Assemblies, TE 301, **2015**
- Developed and plan overall course assignments, lectures, and presentations, grading exams, Meeting with students in understanding concepts and helping them in learning lab objectives.
- Instructor – Textile Fibrous Materials Lab, TMS 211,
- Evaluation of Textiles Lab, TT 331 as part of Graduate Certificate in Teaching
- Developed syllabus and overall course structure, including weekly lab practicum, grading exams, **2013-2014**
- Meeting with students in understanding concepts and helping them in learning lab objectives.
- Teaching Assistant for Courses related to textile technology TT-331, TT-532, TT-407
- Reviewed students Senior Design Project Class and mentored for DOE, met with students **2012-2013**
- upon request, and graded all written work, including assignments and exams. Completed Mentoring and Teaching Practicum at NCSU, and DUKE University.