

# TREY J. PICHON

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## OBJECTIVE

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Highly personable, motivated polymer engineer with experience in R&D and New Product Development seeking acceptance into a doctoral program in disciplines applicable to the field of Drug Delivery.

## EDUCATION

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**Georgia Institute of Technology** - Atlanta, GA

December 2013

Bachelor of Science (BS) **Polymer and Fiber Engineering** - Overall GPA of 3.67/4.0

Master of Science (MS) **Materials Science & Engineering**, *Focus in Polymer Science* - Overall GPA of 3.66/4.0

## PROFESSIONAL EXPERIENCE

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**W. L. Gore & Associates, Inc. - PharmBio** - Elkton, MD

February 2014 - Present

*New Product Development (NPD) Associate - Drug Delivery Business*

- **Research** - Led technology research project to understand tribology of fluoropolymer thin-film composites; developed methods to induce, quantify and relate abrasive and adhesive wear to process-structure-properties; validated relationships in performance tests for current products; mapped design spaces and identified potential issues for future concepts in Drug Delivery pipeline; optimized material properties to mitigate product failures and capture larger market share
- **Leadership** - Led team of five NPD engineers to achieve Technical Feasibility milestone on multiple new products by evaluating prototype performance, assessing manufacturability, and reviewing IP landscape. Successfully demonstrated feasibility to leadership resulting in investment of resources and progression to next design phase
- **Early-Stage NPD** - Investigated concepts in Drug Delivery pipeline through literature review and IP landscape evaluation; developed first prototypes and test methods to performed competitive analysis to understand competitive advantage of Gore technology; identified and presented concepts with highest potential value to leadership and supported conversations with customers by providing a technical package and participating in customer-facing meetings
- **Product & Process Development** - Designed molds and pilot manufacturing processes to create fluoropolymer/elastomer composites for use in Drug Delivery devices; Trained associates to manufacture prototypes; Developed test methods; Coordinated with external labs and in-house lab technicians to perform testing; Performed root-cause analysis of failures and engaged with customer to iterate through and improve upon design and process; Created design history files; Planned, performed and documented process validation (OQ and PQ) in compliance with Quality Management System
- **University Relations** - Championed Georgia Tech recruiting team and managed \$3,000 annual budget; coordinated participation in career fairs, on-campus interviews and information sessions; established and maintained relationships with faculty and student organizations to find new and unique opportunities to engage students and effectively convey Gore culture; analyzed historical applicant pool data to improve recruiting strategy and select GT alumni with specific backgrounds to provide a meaningful experience for students

**W. L. Gore & Associates, Inc. - PharmBio** - Elkton, MD

May 2013 - August 2013

*New Product Development (NPD) Intern - Fluid Transfer & Containment Business*

- Developed test to replicate product impact failure at -80°C to understand the dynamics of brittle film failure
- Utilized optical microscopy and scanning electron microscopy (SEM) techniques, Design of Experiments (DOE), liquid nitrogen testing and knowledge of polymer physics to conduct product failure analysis for NPD team
- Analyzed effects of steam sterilization on product integrity and evaluated different film recipes through standard ASTM methods (Tensile, Puncture, Dart Drop, and Dynamic Mechanical Analysis)

**McCormick & Company, Inc.** - Atlanta, GA

May 2012 – August 2012

*Process Engineer Intern*

- Submitted \$10,000 capital project plan to corporate; once approved, supervised contractor during fabrication and installation of custom conveyor system; the project eliminated over 50 hours of downtime a month
- Led three-day workshop involving vendor and operators to troubleshoot and centerline the robotic filling and sealing station; increased Process Reliability (PR) from 49% to 62%
- Utilized conversational Spanish to translate documents and train Spanish-speaking production line operators

**General Electric, GE NovaSensor** - Fremont, CA

May 2011 – August 2011

*Production Control Leader Intern*

- Developed and implemented runcard generating programs and barcode system with Visual Basic in Access to track parts moving through production line; identified and reduced amount of idle Work In Progress (WIP)
- Supported production team with day-to-day operations, Kaizen workouts, and Six Sigma projects

**General Electric, Gas Turbine Manufacturing Plant** - Greenville, SC

August 2010 – December 2010

*Process Quality Engineer Intern*

- Created a program that analyzes flow data and outputs a visual report indicating status of fuel nozzle parts
- Used time studies and value stream maps to effectively reorganize assembly line and increase productivity
- Participated in multiple Six Sigma projects which saved the company \$50,000 annually, combined

## SKILLS & RELEVANT COURSEWORK

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- **Prototyping:** 3-D printing, Test Method Validation (TMV), fluoropolymer manipulation, mold design, test fixture design, compression molding, thermoforming, blow molding, injection molding
- **Tribology:** Pin-on-disk, Nano-tribometer, Tribo-rheometry, UMT TriboLab, Optical Profilometry (Laser Scanning and White Light Interferometry)
- **Material/Polymer Characterization:** Rheology (TA instruments), XPS, DSC, DMA, TGA, nano-mechanical testing (Hysitron), Mechanical testing (biaxial, uniaxial and fracture)
- **Microscopy:** Scanning Electron (SEM), Laser Scanning Confocal (LSCM), Fluorescence, Atomic Force (AFM)
- **Software:** SolidWorks, JMP Statistical Analysis, Visual Basic, MATLAB, Surface Texture Analysis
- **Industrial Engineering:** Kaizen, Six Sigma (DMAIC, Pareto, 5 Whys, Root Cause, MTBF), Lean Manufacturing
- Experience working in Good Manufacturing Practices (cGMP) FDA regulated settings and clean rooms
- Spanish (Conversational)
- **Cell Engineering Course (University of Delaware)** – Introduction to the fundamentals of cell engineering including intracellular signaling events that regulate cell fate, current fabrication strategies to engineer a cell's environment, and current results in the literature. Two NSF Graduate Research Fellowship Program (GRFP) proposals were written on cell engineering topics.
- **Design of Experiments Course (W.L. Gore & Associates, Inc.)** – Design, execution, and analysis of multi-factor experiments using modern design methods and analytical tools. Application of DOE to process validation and improvement and new product development. All experiments are created and analyzed in JMP, in the Custom Design and Fit Model platforms. Learned to design tailor-fit experiments, execute the experiment using best practices, and perform an appropriate analysis of the results. (Experimental designs covered: Custom Designed in JMP, Screening, Response Surface, Blocked, Split-Plot and Variance Component Studies)

## RESEARCH EXPERIENCE & INTEREST

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- Industry Research: W.L. Gore & Associates, Inc. – PharmBio: Drug Delivery Business (research mentor: Eric Van Voorhees)
  - Understanding tribology of fluoropolymer surfaces against glass and stainless steel and their relationship to sealing, friction and wear

- Development of process-structure-property relationships that link adhesive and abrasive wear performance of fluoropolymer thin-film composites to material properties
- Nano-indentation to understand thin-film fluoropolymer deformation mechanics
- Surface texture of fluoropolymer thin-film composites and relationship to sealing, friction and wear
- Wetting kinetics of fluoropolymer and glass interfaces
- Manufacturing and processing techniques of 3-D fluoropolymer/elastomer shapes
- Graduate Research: Department of Biomedical Engineering, Georgia Institute of Technology, (research adviser: Dr. Ross C. Ethier)
  - 3-D rotation stage to map collagen orientation of the sclera
- Drug Delivery, Mechanobiology, Polymer Process-Structure-Property (PSP) relationships, Cell Engineering, use-inspired basic research

## PRESENTATIONS

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- Gore Eastern Cluster Technical Meeting (ECTM), December 2015 - 1 of 5 presenters; gave talk on drug delivery new product development effort to 400+ associates including Gore Board of Directors, Divisional Leaders, NPD engineers and technologist/scientists
- Gore ECTM Poster Session, April 2017 - 1 of 12 posters; presented on drug delivery new product development effort to 400+ associates including Gore Board of Directors, Divisional Leaders, NPD engineers and technologist/scientists
- Gore PharmBio Technical Meeting, July 2015 - 1 of 3 presenters; gave talk on drug delivery new product development effort to 100+ associates including PharmBio leaders, NPD engineers and technologist/scientists
- Gore PharmBio Technical Meeting, September 2015- 1 of 3 presenters; gave talk on InnoCentive and the use of crowd-sourcing in new product development effort to 100+ associates including PharmBio leaders, NPD engineers and technologist/scientists
- Gore PharmBio Technical Meeting, July 2017 - 1 of 3 presenters; gave talk on completion of technical feasibility of drug delivery new product development effort to 100+ associates including PharmBio leaders, NPD engineers and technologist/scientists

## ACTIVITIES & VOLUNTEER - Passionate about mentoring and teaching students and young professionals

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- Delaware INBRE Summer Scholars Industry Panel
- Delaware BioScience Association
- Georgia Tech STAMI (The Center for the Science and Technology of Advanced Materials and Interfaces) Industry Partners Day
- Ambassador to prospective students - Georgia Tech School of Polymer and Fiber Engineering
- Presented Co-op experience to Freshman Seminar - Georgia Tech Division of Professional Practice
- Presented on NPD at Gore - Georgia Tech Student-Industry Luncheons hosted by Materials Advantage and ASME
- Poster Session Judge and Panelist - 12th annual [GT]^2 Technical Symposium at Georgia Tech
- Hosted high school students - Georgia Tech Connect With Tech
- ESOL tutor - Gore Latino Hispanic Business Network
- Volunteer -- Longwood Gardens (Kennett Square, PA)
- Volunteer - Latin American Association (Atlanta, GA)