**Keywords:**

Production Engineer, Chemical Engineer, Polymer characterization, FTIR, Rubber, Extrusion, Polyvinyl chloride, Mold design, Extrusion dye design, ISO 9001, Cellulosic materials

# Personal Information

Date of Birth: December 26, 1985

# Academic Qualification

**Master Chemical Science and Engineering** (2009-2012)

KTH Royal Institute of Technology, Stockholm Sweden

**B.E Chemical Engineering (Polymer)** (2003-2007)

University of Engineering and Technology, Lahore

# Projects

**Bachelor:**

Thesis

Suspension Grafting of Natural Rubber with MMA

In this project grafted Methyl Methacrylate (MMA) on the Natural Rubber using glass reactor and then performed the characterization of the grafted NR using **Fourier transformation infrared spectroscopy (FTIR).**

# Bachelor Project

Plant Design for the Production of Styrene Butadiene Rubber (SBR)

Design practices of various industrial equipment sizing according to desired production per annum with a high purity and optimal water contents left in the final Styrene Butadiene Rubber.

**Master:**

Projects

Paper Production from Birch pulp

By using Kraft cooking technique made paper from the basic pulp and maintained various parameters like kappa number, yield and studied their effect on visual appearance and surface properties using ISO brightness and tapping mode Atomic force microscopy.

Adsorption of Charge carrier Polymer on Cellulosic fibers

Cationic Polyvinyl amine was adsorbed onto the cellulosic fibers. Charge determination was carried out using Conductometeric Titration and was tested mechanically by using Universal Tensometer.

Master Thesis

Synthesis and characterization of renewable cellulose based plasticizers for PVC

Worked on the liquefaction of cellulosic material (waste paper) and esterified to produce ester plasticizer, using characterization techniques such as FTIR, SEM to ensure the liquefaction, SEC to determine the molecular weight, TGA and DSC to determine the thermal properties of the extracted ester from the biomass and using this plasticizer with PVC and compared it with commercially used Diisooctyl phthalate plasticizer using standard tensometer for the mechanical properties and performed plasticizer migration study.

# Professional Experience

* Servis Industries Gujrat Ltd. : (24-Sep-2007 Till 27-Aug-2009)

Servis Industries are the pioneer motorcycle rubber tyre and tubes manufacturing industry in Pakistan since 1970. I worked in the motorcycle tube division as a **Production Engineer.** My job was to

* Consume human and financial resources at high efficiency keeping in mind further improvement possibilities.
* Managed workforce of 120 of three shifts for production.
* Achieving high production targets by advance production planning while maintaining the quality of the motorcycle tubes.
* Implementation of ISO 9001 standards.
* Taking necessary operational research to optimize the hourly production which reflects on monthly targets and minimize the demand of human labor.
* Worked extensively on mold design to avoid final product discrepancies.
* Applied lean manufacturing technique to increase the productivity.
* Managing monthly inventory of the raw material and the end product.
* Scheduling for monthly maintenance.
* Worked on polymer extrusion and die design to improve the extrusion efficiency, extrusion weight consistency.
* Worked closely with other departments related in implementing plant improvements.
* Provided process support for safe and trouble free operations of the units.
* Key contributor for reducing operating costs through innovative techniques.



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