

# RAHUL SANJAY KHER

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## Summary

A Hard working and detail oriented Chemical Engineer, able to multi-task with outstanding verbal and written communication skills. Skilled in all aspects of Chemical Engineering such as Equipment design and sizing, Heat and Material Balance calculations and process safety. Well versed with OSHA Standards, NIOSH, ANSI standards and Ergonomic design principles.

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## Education

**Auburn University, Auburn AL** | | Expected Graduation: May 2017  
MCHE Masters of Chemical Engineering (Non-Thesis)

**Thadomal Shahani Engineering College, Mumbai-India** | | Graduated in: May 2015  
Bachelor of Engineering – Chemical Engineering

## Project Experience

### **Applications of Protein Engineering**

- ❖ Prepared presentations and project using various techniques that can be applied to engineer proteins such as Molecular Biological Methods, Recombinant DNA techniques and computations packages.
- ❖ Studied practical applications of Protein engineering, structure and function of proteins, current state of protein engineering and various topical issues regarding bioengineering.
- ❖ Proficient in using Software Like **ApE, Gene Editor** for manipulating and altering gene sequences.

### **Performance Analysis in Energy Management**

- ❖ Performed detailed analysis on various plants and Facilities and prepared reports focusing on their Energy management, Safety of Operating Equipment and Economics of Improving performance.
- ❖ Prepared reports on **Auburn District Energy Plant, Plant Franklin- Alabama Power, Ross Hall- Auburn University, Briggs & Stratton Corporation-Auburn-Alabama.**
- ❖ Reports included specification on performance of components such as Boilers, Steam Traps, Heat Exchangers, Pumps, Valves, Cooling towers, water quality, Indoor air quality and end Use of Steam.
- ❖ Studied in detail Performance of equipment and systems such as Air handling units, Boilers, Chillers and HVAC.

### **Safety Engineering I**

- ❖ Prepared report on **Mobile Home Factory** by completing hazard assessments to ensure safe process design, implementation and worker safety.
- ❖ Analysis included Walking working surfaces, Personal Protective Equipment, Machine guarding, Hazard Communication, Platforms and Egress.
- ❖ **OSHA, NFPA, ANSI, ASME and Ergonomic Work principles** were the applicable standards mentioned for the unsafe acts and unsafe conditions seen in the factory.
- ❖ Studied topics included in the analysis and Calculations regarding Noise and Radiation levels.

### **Smart Materials and Structures**

- ❖ Prepared a presentation on Quartz crystal and it's applications in the current developing markets and it's new and future uses.
- ❖ Studied about Actuators, Sensors, Shape memory alloys & Polymers and properties such as Thermal, Electrical and Mechanical.

### **Chemical Engineering Thermodynamics**

- ❖ Studied Properties of multicomponent real gases, liquids, and solids and property relationship. In addition to Criteria for thermodynamic equilibrium and stability, molecular thermodynamics with calculations for compositions and coefficients of Fugacity and Activity.

### **Transport Phenomena**

- ❖ Applied concepts of Balances and equations of Heat, Mass and Momentum to solve for complicated systems to attain their respective profiles.

### **Chemical Reaction Engineering**

- ❖ Performed calculations for equipment sizing, conversion and concentrations of different systems in CSTR's, PFR's and Batch Reactor with their appropriate reaction rate and mechanisms.
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## **Academic Project**

### **Ergonomics Design Competition | | October 2016-November 2016**

#### **Team WD Ergo**

- ❖ Observed and analysed critically the workers at various Car washes to examine the various stresses and Ergonomic risk factors they are exposed to.
- ❖ Calculated such risks and implemented safe guards to avoid unsafe practices with the software etools by Auburn Engineers. Inc. and formed a detailed report on it.

### **Manufacturing of Formaldehyde from Methanol | | 2014-2015**

Final year project in Bachelors of Chemical Engineering

- ❖ Designed a Formaldehyde manufacturing plant from initial design and cost estimation to equipment sizing and output by conducting Market survey.
- ❖ Calculated Thermodynamic feasibility, Designed equipment (Heat Exchanger) and conducted HAZOP analysis.
- ❖ Prepared the Plant layout and P&ID.

### **Heat Exchanger Design Competition | | 2014**

- ❖ Designed and fabricated a Shell and tube Heat Exchanger with baffles from a used Oil tin can. Achieved a considerable log mean temperature difference when used.

### **IEEE- Institute of Electrical and Electronics Engineers | | 2010-2011**

- ❖ Member of IEEE (Institute of Electrical and Electronics Engineers) Communications Society for a period of 1 year.
- ❖ Built a Two Way Intercom in a Workshop conducted by IEEE in technical festival NOVA.

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## **Leadership Experience**

### **American Society of Safety Engineers (ASSE) | | August 2016 – Present**

#### **Treasurer – Auburn University Student Chapter**

- ❖ Wrote an article for the Student Section Newsletter on Tesla's Auto-pilot Implications.
- ❖ Actively involved in the Student and Parent chapter meetings in Auburn & Birmingham. Attended the Future Safety Leaders Conference in Oak Brook, Chicago.

### **Indian Institute of Chemical Engineers(IICHE) | | September 2014**

#### **Event Head**

- ❖ Planned and conceptualized a Treasure Hunt for the Annual National level Technical festival ChEMERGENCE of Thadomal Shahani Engineering College.
- ❖ Designed event which included Chemical compound names, Laboratory Titration Experiments and overall knowledge of Chemistry.

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## **Skills/Certifications:**

- ❖ CITI Collaborative Institutional Training Initiative
- ❖ MS Office, Java, SPSS Survey software, AutoCAD, ApE, Swiss PDB.

## **Volunteering Experience**

- ❖ Auburn Mathematical Puzzle Challenge – Team Captain for High School Students
- ❖ Big Event at Auburn University – Worked as a Volunteer to fix and paint Houses.
- ❖ Food Bank of East Alabama – Sorted and Packaged Food.