

Taher Kagalwala

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SUMMARY

- Seeking a full time position that utilizes my experience and knowledge in **MEMS and microfabrication**
- Talented young professional, with skills and training in microfabrication with experience of working in **class 100 and 1000 clean rooms**
- Hard worker and a fast learner with **excellent academic standing**

EDUCATION

University of Cincinnati

Master of Science, Electrical Engineering

Expected Graduation: August '10

GPA: 3.84/4.0

University of Mumbai, India

Bachelor of Engineering, Electronics Engineering (First Class with Distinction)

June '03 to June '07

GPA: 3.9/4.0

Relevant Coursework: Silicon Semiconductor Microfabrication (Lab), Bio-chip Lab, Plasma Processing, Microfabrication in Semiconductor Devices, Biomedical MEMS, Fundamentals of MEMS, Introduction to Nanoelectronics, Applications of MEMS, Introduction to Bio-micro Systems, Biosensors and Bioelectronics

WORK EXPERIENCE

Graduate Researcher: Biomedical Microsystems Laboratory, University of Cincinnati

June '08 to present

- Fabricated microchannels in glass using Inductively Coupled Plasma (ICP) for nano-particle filtration
- Designed and fabricated microchannels using soft lithography process
- Performed deep silicon etching using ICP to fabricate microchannels
- Demonstrated separation of two particle mixture using fluorescent microparticles
- Publication: **T. Kagalwala**, J. Zhou and I. Papautsky, "Continuous size based separation of microparticles in straight channels" in Proc. μ TAS2010.

Student Consultant: UCit Blackboard & FTRC Services, University of Cincinnati

March '08 to present

- Provided technical support by phone, email and in person to faculty and students for Blackboard Learning System
- Provided equipment and software training for customers in the FTRC

TECHNICAL SKILLS

Microfabrication: Processes include Photolithography, Reactive Ion Etching (RIE), Profilometry, Etching Chemistries, Wire Bonding, Wafer Bonding, Wafer Dicing, Electroplating and PDMS Casting

Characterization tools: Scanning Electron Microscope (SEM), Fluorescent microscope

Software packages: AutoCAD, CFD-ACE+, MATLAB, LabVIEW, PSpice, C, C++, MS Office, Adobe Acrobat

ACADEMIC PROJECTS

Fabrication of Diaphragm based Piezo-resistive Pressure Sensor

- Fabricated pressure sensor using Silicon bulk micromachining process
- Characterized the sensor and tested it using external pressure

Design, Fabrication and Testing of a Microfluidic Mixer for *Lab on a Chip* application

- Designed and modeled the microfluidic mixer using CFD ACE+ software
- Fabricated and optimized design of the micromixer using soft lithography process
- Characterized the device using optical profilometer
- Tested the device performance using fluorescent dye and compared results with analytical data
- Received the "Best Micro-mixer design" award

Senior Project: University of Mumbai

- Built a six legged robot which used PIC programming to control the infrared sensors and servo motors for walking

Researched and presented topics: Fuel Cells, Dielectrophoresis, Micropumps, Surface enhanced Raman Spectroscopy

AWARDS AND ACHIEVEMENTS

- Recipient of University Graduate Scholarship (full tuition waiver), University of Cincinnati **Sept '07 to June '09**
- Recipient of ERC Clean room access grant (\$1,500), University of Cincinnati **July '09 to Dec '09**
- Elected as Vice chairperson of IEEE student committee **June '06 to June '07**
- Program coordinator for the IEEE technical festivals, FOCUS and 360 Degrees **2007, 2008**