

Hemanth Kovivalla
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Career Objective:

To pursue a career to explore the practical aspects of Microelectronics and Optical devices and to contribute to the organization goals in the field of Electronics.

Academic Qualifications:

University at Buffalo, State University of New York, Buffalo

Master of Science, *Electrical Engineering*, Anticipated December 2007

GPA 3.5 / 4.0

Vellore Institute of Technology, Vellore, INDIA

Bachelor of technology, *Electronics and Instrumentation Engineering*, May 2006

CGPA 8.39 / 10.0

Technical skills:

Assembly languages : 8085, 8051, PIC, ATTiny15L

High Level Languages : C, C++

MEMS Design Tools : Coventorware, Ansys, L-edit

Other Tools : Microwave office, LabVIEW, PC1D, MATLAB

Publication:

Frederick Sachs, Jay VanDelden, Art Beyder and Hemanth Kovivalla (2007)

AFM Tip Processing on Hinged Cantilevers

Cornell Nanoscale Science & Technology Facility, 2006-2007 Research Accomplishments

Work Experience:

Research Assistant, University at Buffalo Biophysics Department, Buffalo NY

Under **Dr. Frederick Sachs (Aug 2006 – present)**

Project Title:Design and Fabrication of MEMS based Atomic Force Microscope

- Design and fabrication of MEMS based Atomic Force Microscope for measuring Cell volumes
- Design tools used are Coventorware and L-edit
- The device includes a 2 directional (x and y) mirror stage driven by PZT actuator.
- It has arrangement of grin lens(4mm dia) which directs the laser and redirects the reflected laser on to the detector

Design and Fabrication of a Cell Chamber:

- Design and Fabrication of cell chamber to hold the cells and measure their properties.
- Design tool used is L-edit

PROJECTS:

Study of MEMS RF components (Metamaterials):

- Metamaterials – independent study, Fall 2006 –Spring 2007.
- Design tool used is Microwave office.
- Design and fabrication of micro antennas under Dr.Y.K.Yoon. Using Microwave Office, antennas are designed for operating frequency in the range 6-9 GHz.

Design of Solar Cell (August 2006 – December 2006):

- Designed n+/p solar cell using PCID, taking a special case with thickness of p region 10μ and thickness of n region 1μ .
- Doping concentration of p region was changed and efficiency was optimized. The maximum efficiency obtained in special condition was 12.3% with 14.5% being the maximum efficiency in standard condition.
- Maximum Fill Factor in special condition was found to be 83.68.

Design and fabrication of Micro Pressure sensor (December 2005 –April 2006):

- Participated in the design and fabrication of MEMS-based piezoresistive pressure sensor at Bharat Electronic Limited in India, using Coventorware software.
- This sensor was then integrated with an ASIC for the amplification of signals from the pressure sensor.

Finger Print Detection (June 2005 – November 2005):

- Constructed a fingerprint detector using LabVIEW. The detector is used for banking purposes, where fingerprints are used for identification instead of passwords.

Achievements:

- Recipient of **Dean's Scholarship Award** for the M.S program in Electrical Engineering.

References:

Available upon request.