

# Mootaz Eldib

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## EDUCATION

UNIVERSITY OF ROCHESTER ROCHESTER, NY  
**Master of Science in Biomedical Engineering – Biomechanics Concentration** 10/10

- Thesis: “Cyclic Stretch of Alveolar Epithelial Cells Alters Cellular Micromechanics”

LOUISIANA TECH UNIVERSITY RUSTON, LA  
**Bachelors of Science in Biomedical Engineering-Electrical Engineering Concentration** 10/08

- Minor in biophysics
- Thesis: “Nano-Structured Thin Film Ultrasonic Transducer for Flooded Member Detection”

## SELECTED COURSEWORK

Biomedical Optics, Biomedical Systems, Digital Signal and Image processing, Radiation Therapy Physics1 & 2, Computational Methods, Anatomy & Physiology, Statistics, Advanced Physics Lab, Statistical Mechanics, Modern Physics, Fluid Mechanics, Biomaterials, Biomechanics, Tissue Engineering, and technical Writing.

## WORK EXPERIENCE

SIEMENS HEALTHCARE-MOLECULAR IMAGING - MR/PET GROUP KNOXVILLE, TN  
**Engineering Intern/Co-op** 3/11 – Present

- Evaluated the attenuation caused by MR coils and accessories as a part of the Hardware Attenuation Correction group for the MR/PET project
- Developed image processing programs to analyze PET images
- Planned, performed and documented System Integration Tests for the MR/PET scanner

UNIVERSITY OF ROCHESTER - DEAN LABORATORY ROCHESTER, NY  
**Graduate Research Assistant** 9/08 – 3/11

- Designed small animal ventilators and control devices
- Developed image processing programs with graphical user interface (GUI) in MATLAB
- Studied the rheological and mechanical properties of biological tissues

BIOMEDICAL ENGINEERING DEPARTMENT ROCHESTER, NY  
**Teaching Assistant for Biomedical Signals and Systems (Junior level course)** 1/09– 7/09

- Created homework solutions for analytical and computational problems
- Held weekly office hours to answer student’s questions

IMTEC IMAGING, A 3M COMPANY ARDMORE, OK  
**Engineering Intern** 5/07 – 9/07

- Wrote, updated, and verified work instructions and a training manual for the manufacturing group
- Constructed various sub-assembly procedures for CBCT x-ray scanner
- Updated engineering design drawings using AutoCAD

NORTHEASTERN UNIVERSITY – PHYSICS DEPARTMENT – LASER SPECTROSCOPY LAB BOSTON, MA  
**Research Assistant** 5/06 – 8/06

- Studied DNA-protein interactions using optical tweezers
- Aligned the optical components of the optical tweezers for proper data collection

UNIVERSITY OF TEXAS AT BROWNSVILLE – PHYSICS DEPARTMENT BROWNSVILLE, TX  
**Research Assistant** 8/04 – 5/06

- Wrote programs in C++ to solve partial differential equations related to statistical mechanics

## QUALIFICATIONS AND SKILLS

- Software skills: MATLAB, Mathematica, IDL, LabVIEW, PSpice, Quality Center, Adobe Photoshop, Adobe Acrobat, MS Office, Windows, Mac OS, and Linux
- Hardware skills: oscilloscopes, voltmeters, function generators, power sources, and ultrasound transducers

## PUBLICATIONS AND PRESENTATIONS

- Mootaz Eldib and David Dean. Cyclic stretch of alveolar epithelial cells alters cytoskeletal micromechanics. *Biotechnology and Bioengineering*, **108**: 446–453 (2011).
- Leila Shorki, Boriana Marintcheva, Mootaz Eldib, Andreas Hanke, Charles C. Richardson, and Mark C. Williams. Kinetics and Thermodynamics of Salt Dependent T7 Gene 2.5 protein binding to Single- and Double-Stranded DNA. *Nucleic Acids Research* **36**: 5668-5677 (2008).