

Hossam Elkhail

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Saint Paul, MN 55108
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Education:

PhD in Biomedical Engineering, 2010

“The Role and Optimization of High Power Visible KTP Laser in BPH Treatment: Numerical and Experimental Study in Native and Engineered Tissues”.

University of Minnesota, Minneapolis, Minnesota
Advisor: Professor John Bischof

MS in Biomedical Engineering, 2007

“An *In vitro* Contractile-Cell Populated Cryoinjury Model”

University of Minnesota, Minneapolis, Minnesota
Advisor: Professor Victor Barocas

BS in Biomedical Engineering, 2004

Jordan University of Science and Technology, Irbid, Jordan
Ranked first in the class

Experience:

Research Assistant, Biomedical Engineering, University of Minnesota

- Developed and designed an experimental set-up to investigate cultured bioartificial artery response to mechanical stimuli
- Developed and designed an experimental model to mimic cryosurgery in order to characterize wound healing and cell viability
- Designed and synthesized recombinant proteins to mediate and induce vasculogenesis
- Simulated SEM images to study fiber alignment in engineered tissue

- Developed and designed experimental and computational models to investigate the interactions between KTP laser and soft tissues

Teaching Assistant Biomedical Engineering, University of Minnesota

- Graded homework and exam problems, administrated labs, and lead discussion sessions for in Cell Biology, Biomaterials, Human Physiology, and Molecular Thermodynamics courses.

Skills: **Software and Programming:** C/C++, Matlab, ANSYS, COMSOL

Computational Methods: Finite Element, Finite Difference, and Control Volume Finite Element.

Experimental and Laboratory

- Recombinant protein synthesis
- Cell culture and tissue equivalent preparation
- Rodent handling and surgical operation
- Laser surgery/ablation

**Publications/
Presentations:**

- H. Elkhilil, J. C. Bischof, and V. H. Barocas. **Cryoinjury of a Tissue-Equivalent: *In Vitro* Experiments and *In Silico* Analysis** (In progress)
- H. Elkhilil, T.Akkin, J. Bischof. **KTP Laser Tissue Ablation: Experimental and Computational Study** (In progress)
- H. Elkhilil, J. C. Bischof , V. H. Barocas. “**Cryoinjury of a contractile Tissue-Equivalent: *In Vitro* Experiments**”. Proceedings of ASME Summer Bioengineering Conference 2008.
- H. Elkhilil, T.Akkin , V. Barocas , J. Bischof. “**Tissue Effects of Q-Switched High Power, Visible Laser Irradiation: *In Vitro* Experiments and Simulation**”. Proceedings of ASME Summer Bioengineering Conference 2009.

Awards:

- The award for Academic Undergraduate Excellence 2001, awarded by Prime Minister of Jordan.
- The award for Academic Undergraduate Excellence 2003, awarded by Prince Faisal of Jordan.
- Jordan University of Science and Technology High Education Scholarship, 2005
- USAF Grant for Graduate Students and Post-Doctoral Fellows Currently Involved Full-Time in Biomedical Laser Research, 2010

References: Available upon request