

# Khaldoun Hamade, PhD

## Education

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Drexel University - Philadelphia, PA Expected 2017  
**Master of Business Administration**  
Concentration: Healthcare Management

Drexel University - Philadelphia, PA September 2013  
**Post-Master's Advanced Business Certificate**, GPA: 4.0/4.0  
Concentration: Business Analytics

Drexel University - Philadelphia, PA September 2010  
**Doctor of Philosophy, Biomedical Engineering**, GPA: 3.94/4.0  
Concentration: Neuroengineering, thesis in computational neuroscience and mathematical modeling

American University of Beirut - Beirut, Lebanon September 2002 - June 2004  
**Computer Science**  
Courses in: Computer Programming (Java & C/C++), Computer Architecture, Differential Equations, Linear Algebra

American University of Beirut - Beirut, Lebanon July 2002  
**Bachelor of Science, Biology** (Premedical),  
Graduated with High Distinction

## Professional Experience

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Drexel University College of Medicine, Dept. of Neurobiology - Philadelphia, PA October 2014 - Present  
**Research Associate**  
Studying motor learning and control in the basal ganglia and motor cortex.  
Developing mathematical neural and biomechanical models of reaching under normal conditions and in neurodegenerative disease conditions of Huntington's.

University City Science Center, QED Proof-of-Concept Program - August 2014 - October 2014  
Philadelphia, PA  
**Project Fellow**  
Assisted a team of academic researchers and business mentors in the development of a business plan for an early-stage portable diagnostic medical device to be used for quantifying and analyzing patient physical therapy progress.

Drexel University, Coulter Translational Research - Philadelphia, PA April 2013 - November 2013  
**Intern**  
Prepared market research reports for innovative biomedical technologies developed at Drexel University.  
Recommended projects with high commercialization potential to receive further strategic support and funding.

University City Science Center, QED Proof-of-Concept Program - July 2013 - October 2013  
Philadelphia, PA  
**Project Fellow**  
Successfully supported researchers in securing commercialization funding for a medical data analytics technology.

University of Pennsylvania, PBG Healthcare Consulting - Philadelphia, PA February 2012 - May 2013  
**Consultant**  
Performed primary and secondary research and interviewed key stake holders.  
Worked in teams on several consulting projects for healthcare industry biotechnology and medical devices clients.

University of Pennsylvania, School of Medicine - Philadelphia, PA

January 2012 - April 2013

**Postdoctoral Researcher**

Studied visual signal processing in the retina.

Developed mathematical models of the retina to study the role of biophysical properties in neural functionality.

Drexel University College of Medicine, Dept. of Neurobiology - Philadelphia, PA April 2006 - August 2010

**Graduate Research Fellow**

Analyzed datasets of neural recordings, and developed biophysical mathematical models of locomotor systems.

Collaborated with an interdisciplinary team of researchers to model spinal cord injury and propose novel therapeutics.

American University of Beirut, School of Medicine - Beirut, Lebanon

September 2003 - June 2004

**Research Assistant**

Conducted experiments to discover the benefits of exposed moisture therapy for wound healing.

Logged and organized scientific data.

**Selected Publications**

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Abbas SY, **Hamade K**, Yang EJ, Nawy S, Smith RG, Pettit DL. *Directional Summation in non-Direction Selective Retinal Ganglion Cells*. PLoS Comput Biol. (2013)

**Hamade K**. *Activity of bifunctional motoneurons during fictive locomotion: a computational modeling study*. PhD Thesis, Drexel University (2010)

Shevtsova NA, **Hamade K**, Markin SN, Chakrabarty S, McCrea DA and Rybak IA. *Control of bifunctional motoneurons and locomotor rhythm generation*. Cellular and Network Functions in the Spinal Cord 2009

**Hamade K**, Shevtsova NA, Markin SN, Chakrabarty S, McCrea DA and Rybak IA. *How a bipartite CPG can control the activity of bifunctional motoneurons: a modeling study with insights from deletions during fictive locomotion*. Neuroscience 2008

Atiyeh B, Hayek S, Atiyeh R, Abdallah I, **Hamade K** and Jurjus A. *Wound healing and moist exposed burn ointment (MEBO)*. Journal des Plaies et Cicatrisation. (2005)