

Nga Ho

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EDUCATION

Boston University

Doctor of Philosophy, Biomedical engineering GPA: 3.69

Boston, MA

August 2010 – Present

University of California at Berkeley

Bachelor, Bioengineering GPA: 3.47

Berkeley, CA

August 2008 – May 2010

RESEARCH INTEREST

Using microfluidic/nanofluidic and biosensors to study the biological/chemical phenomena in substandard medicine's detection and diseases diagnostic.

WORK EXPERIENCE

Research Assistant

Multiplexed, affordable, robust, and portable platform for real-time quantitative detection of substandard pharmaceuticals

Boston University

Boston, MA

June 2013 – Present

Sample concentration and purification for point-of-care diagnostics of HIV, Hepatitis B and C

Boston University

Boston, MA

January 2011 – May 2013

A Dual-Pore Microfluidic Device: A New Method for Leukemia Diagnosis

University of California at Berkeley

Berkeley, CA

October 2008 – May 2010

Graduate Teaching fellow

BE 435 - Transport Phenomena in Living Systems

Boston University

Boston, MA

August 2011 – December 2011

BE 428 - Device Diagnostics and Design

Boston University

Boston, MA

August 2011 – December 2011

Marketing intern

Woodland media project

SBH Sciences Woodlands Pharmaceuticals

Boston, MA

August 2014 – Present

AWARDS

- Boston University - BME Distinguished Fellowship (2010-2011)
 - HHMI International Student Research Fellowship (2012) - Top 7 finalists of Boston University (internal round), invited to submit for final round
 - CIMIT Student Technology Prize For Primary Healthcare (2013) - Top ten finalists with pre-proposal award (\$10,000)
 - Global Health & Engineering Meetup symposium awards (2013) – Second place (\$150)
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PUBLICATIONS

- N. T. Ho, D. Desai, L. M. Roth, M. H. Zaman. "Validation and field testing of a novel prototype for the quantification of antimalarials (artesanate) samples from Ghana". *Plos One* (2014). (In preparation)
 - N. T. Ho, D. Desai, M. H. Zaman. "Rapid, sensitive and specific drug quality testing assay for antimalarials using luminescent reaction and novel microfluidic technology". *The American Journal of Tropical Medicine and Hygiene*, (2014). (Accepted)
 - N. T. Ho, A. Fan, C. M. Klapperich, M. Cabodi. "Sample concentration and purification for point-of-care diagnostic". *Conference Proceedings IEEE Engineering Medicine Biology Society 2012, San Diego, CA, (2012)*.
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ORAL PRESENTATIONS

Rapid, robust, and on-site drug quality testing using novel microfluidic technology

Nga Ho, Darash Desai, Muhammad M. Zaman

5th International Conference on the Development of Biomedical Engineering, Ho Chi Minh City, Vietnam, Jun 16-18-2014

Sample Concentration and Purification for Point-Of-care Diagnostic

Nga Ho, Andy Fan, Catherine Klapperich, Mario Cabodi

The 34th Annual International Conference of the IEEE Engineering in Medicine & Biology Society, San Diego, CA, Aug 28 – Sep 1, 2012.

Enhancing Point-Of-Care Infectious Disease Diagnostics With A Microfluidic Dialysis Device

Nga Ho, Jane Zhang, Mario Cabodi, Catherine Klapperich

*The 2010 Biomedical Engineering Society Annual Fall Meeting
Hartford, CT October 12-15, 2011*

A Dual-Pore Microfluidic Device: A New Method For Leukemia Diagnosis

Nga Ho, Swomitra Mohanty, Lucy Godley, Lydia Sohn

*The 2009 Biomedical Engineering Society Annual Fall Meeting
Pittsburgh, PA October 7-10, 2009*

LEADERSHIP ROLE

Event Coordinator - Boston University Science and Engineering Business group

Search for networking opportunities

Invite Speakers from both business and engineering discipline

Organize seminars on campus

Team Leader – If to the x consulting team for Securus Medical Inc, Office of Technology Development, Boston University

Work in a team of 4 to determine if there is a viable market for a mobile health apps for college student.

Organizer – Global Health and Engineering Meetup, Boston University

Invite speakers and organize the monthly meetup

Fundraise for monthly and annual meetings

Mentor - Undergraduate senior design project, Boston University

Microfluidic System for Sample Concentration and Extraction

Rebecca Marie LaCroix, Michelle D. Wong

NIBIB DEBUT Challenge – second honorable mention

Societal Impact Capstone Project Awards – second place

Development of a microfluidic chip to detect iron deficiency anemia using miniaturized sandwich ELISA

Christopher J. Fitzgibbon, W. Tyler Ketchabaw, Wesley Pate

Activities/volunteers

Mentor - Girl science club

West End House Science boys and girls club

Allston, MA
April 2014 – Present

Mentor – After-school program at elementary school

University of California at Berkeley

Berkeley, CA
Jan 2009 – May 2009

SKILLS

Laboratory

- Clean-room training: soft lithography, thermal evaporator, deep reactive-ion etching (DRIE), mask writer, plasma treatment.
- Imaging training: Fluorescent imaging, phase contrast imaging, differential interference contrast imaging, confocal microscopy, interferometric reflectance imaging sensor.
- Biological training: reverse transcription polymer chain reaction (RT-PCR); nucleic acid extraction; gel electrophoresis of DNA, RNA and proteins; gel extraction; nucleic acid precipitation; chromatin immunoprecipitation; cell/bacteria culture; bacterial cloning.

Computer

- Programming: Matlab, Ampl, R, Comsol, NAMD, ADINA.
 - Software: AutoCAD, Adobe Illustrator, Origin Lab.
 - Offices: Word, Excel, Powerpoint.
 - Environments: Linux (Ubuntu).
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COURSE PROJECTS:

University of California at Berkeley

Berkeley, CA
August 2008 – May 2010

Biomechanics – Eluted stent design using ADINA to study the reason behind restenosis

Biological Transport Phenomena - Finite Element Analysis of Optimal Flow Rate for Muscle Stem Cell Adhesion in Novel Cell Sorting Technique

Computational methods in biology - Comparison of different computational methods in predicting the protein structure and atomic clusters

Optics - The ability of one cell phone imaging system to diagnose distinguishing features of two plant diseases

Molecular Cell Biomechanics – Free Energy Comparison of Auto-inhibited and Open Conformations of Vinculin.

BioMEMS - 4WD: Novel Multiplexed Microfluidic Loop-mediated Isothermal

Amplification Device for Point of Care Tuberculosis Diagnostic Tool in the Third World Countries

COURSEWORK

Boston University

Boston, MA

August 2010 – Present

Graduate Courses: Molecular Bioengineering, Practical Optical Microscopy of Biological Materials, Fundamentals of biomaterials, Engineering Mathematics, Quantitative Physiology for Engineerings, Mechanics of Biomaterials, Polymers and Soft Materials, Nanomedicine: Principles and applications.

University of California at Berkeley

Berkeley, CA

August 2008 – May 2010

Undergraduate Upper Division Courses: Computational methods in Biology, Biomechanics, Biomedical Physiology for Engineers, Introduction to Micro and Nanobiotechnology: BioMEMS, Optics and Microscopy, Biological Transport Phenomena, Molecular Cell Biomechanics, Electronic Techniques for Engineering, Physical Chemistry, Concepts in Computing with Data – R Language, Linear Programming Properties of Materials.

LANGUAGES

Vietnamese: native language

English: full professional proficiency
