

KERIM B. KAYLAN  
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Department of Bioengineering ♦ Medical Scholars Program  
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#### EDUCATION

- 08/2012-Present     **MD, PhD in Bioengineering**, University of Illinois at Urbana-Champaign, Urbana, IL (*UIUC*)  
*Medical Scholars Program*  
*Adviser*: Prof. Gregory H. Underhill  
*Cumulative GPA*: N/A
- 08/2008-05/2012     **BSE in Biomedical Engineering**, University of Michigan, Ann Arbor, MI (*UM*)  
*Magna Cum Laude*  
*Cumulative GPA*: 3.57/4.00

#### HONORS, AWARDS, AND FELLOWSHIPS

- 05/2010-08/2010     Summer Biomedical and Life Sciences Fellowship, UM Undergraduate Research Opportunity Program  
(*Sponsored by the Howard Hughes Medical Institute and the Genentech Foundation*)
- 09/2008-05/2009     Michigan Promise Scholarship
- 09/2008-05/2009     Michigan Competitive Scholarship

#### RESEARCH EXPERIENCE

- 08/2012-Present     **Research Assistant**, Underhill Lab, Department of Bioengineering, UIUC  
*Adviser*: Prof. Gregory H. Underhill
- Exploring microtechnological and biomaterials methods to control microenvironmental cues *in vitro*
  - Studying the role of microenvironmental regulation in disease pathophysiology
- 10/2009-05/2011     **Research Assistant**, Takayama Lab, Department of Biomedical Engineering, UM  
*Advisers*: Prof. Shuichi Takayama, Prof. Hossein Tavana
- Investigated the applications of polymeric aqueous two-phase systems (ATPS) to the patterning of lipids, proteins, cells, and other biologically significant molecules and particles
  - Designed and validated a high throughput ATPS cell migration assay
  - Formulated standard operating procedures for automated lab equipment

#### INDUSTRY EXPERIENCE

- 06/2011-12/2011     **Co-op**, Biological Technologies, Genentech, Inc., South San Francisco, CA  
*Manager*: Dr. Guoying Jiang
- Designed and optimized a functional cell-based assay for a therapeutic monoclonal antibody (MAb<sub>1</sub>)
  - Confirmed the function and identity of a key protein lot for commercial use with MAb<sub>1</sub>
  - Investigated alternative assay formats reflective of the mechanism of action of MAb<sub>1</sub>
  - Screened and explored alternative cell lines for response and efficacy in the assay
- 09/2010-05/2011     **Student Engineer**, NeuroNexus Technologies, Inc., Ann Arbor, MI  
*Managers*: Dr. John Seymour, Dr. Gregory Gage
- Conducted research on the needs of neuroscientists engaged in optogenetic studies with respect to desirable characteristics of optical neural stimulation systems for use with mice
  - Designed and prototyped an advanced portable optical neural stimulation system
  - Optimized optoelectrode/diode coupling efficiency using simulations and empirical methods

#### TEACHING AND MENTORING EXPERIENCE

- 08/2012-Present     **Graduate Student Mentor**, Underhill Lab, Department of Bioengineering, UIUC
- Trained and mentored two new undergraduate assistants regarding common wet lab techniques
  - Guided mentees through the process of conducting research and helped them understand the broader importance and justification for each experiment and project

## TEACHING AND MENTORING EXPERIENCE (CONTINUED)

- 01/2012-04/2012     **Teaching Assistant**, BIOMEDE 418-001 (*Quantitative Cell Biology*), Department of Biomedical Engineering, UM  
*Primary Instructor*: Prof. Shuichi Takayama
- Held office hours 2-3 hours a week in addition to grading and administering homework and exams
  - Met with students one-on-one as needed to answer questions about key concepts and to ameliorate any knowledge gaps, basic (e.g., combinations and permutations) or otherwise
  - Organized and carried out high-content review sessions for exams
- 08/2010-05/2011     **Peer Mentor**, Engineering Advising Center, UM
- Counseled mentee on how to gain research and industry experience as an undergraduate
  - Served as a general resource for information regarding academics and course scheduling at UM

## PUBLICATIONS

- 05/2011     Tavana, H., **Kaylan, K.**, Bersano-Begey, T., Luker, K.E., Luker, G.D. and Takayama, S. **2011.** *Rehydration of Polymeric, Aqueous, Biphasic System Facilitates High Throughput Cell Exclusion Patterning for Cell Migration Studies.* Advanced Functional Materials, 21(15): 2920-2926. DOI: 10.1002/adfm.201002559. (Highlighted as frontispiece; DOI: 10.1002/adfm.201190062.)

## POSTERS AND PRESENTATIONS

- 10/2011     **Kaylan K.**, Lesaca, I., Jiang, G., Gazzano-Santoro, H. *Development of a Functional Assay for MAb<sub>1</sub> Utilizing Peptide Uptake.* Poster. Genentech Analytical Development and Quality Control Poster Mixer, South San Francisco, CA. 3 Oct 2011.
- 08/2011     **Kaylan, K.**, Lesaca, I., Jiang, G., Gazzano-Santoro, H. *Development of a Functional Assay for MAb<sub>1</sub>.* Poster. Genentech Intern Poster Day, South San Francisco, CA. 11 Aug 2011.
- 11/2010     **Kaylan, K.**, Tavana, H., Takayama, S. *A Novel Cell Migration Assay Utilizing Polymeric Aqueous Two-Phase Systems.* Poster. Student Biomedical Research Forum, Ann Arbor, MI. 4 Nov 2010.

## SERVICE

- 11/2012-12/2012     **Climate Survey Steering Committee Member**, College of Engineering, UIUC
- 09/2012-Present     **Engineering Graduate Student Advisory Committee Member**, College of Engineering, UIUC  
*Secretary, Seminars Sub-Committee Member*
- 08/2012-Present     **Medical Scholars Program Advisory Committee Member**, College of Medicine, UIUC  
*Secretary, Entering Class Representative*
- 09/2010-05/2011     **Executive Board Member**, Biomedical Engineering Society, College of Engineering, UM  
*Webmaster*

## PROFESSIONAL MEMBERSHIPS

- 09/2012-Present     Graduate Cancer Community @ Illinois
- 08/2012-Present     American Medical Student Association
- 09/2009-05/2012     Biomedical Engineering Society (*UM Student Chapter*)

## COMPUTER SKILLS

Platforms: Mac OS X, Windows, GNU/Linux  
Languages: R, MATLAB, L<sup>A</sup>T<sub>E</sub>X, C++, HTML/CSS  
Applications: Emacs, LabVIEW, ImageJ, ZEMAX, SolidWorks, GIMP, Inkscape, ipe

## CIVIC AND COMMUNITY ACTIVITIES

- 07/2011-11/2011     Bay Area Rainbow Symphony Orchestra
- 09/2010-05/2011     UM Life Sciences Orchestra
- 09/2008-12/2010     UM Pops Orchestra
- 09/2008-01/2009     UM Club Tennis