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## KERIM B. KAYLAN

### education

M.D., College of Medicine, University of Illinois at Chicago, 2021 (expected).

Ph.D., Bioengineering, University of Illinois at Urbana–Champaign, 2017.

Dissertation: *Dissecting combinatorial microenvironmental regulation of cell fate and function using a multi-modal arraying platform.*

M.S., Bioengineering, University of Illinois at Urbana–Champaign, 2016.

Thesis: *Engineered microenvironments for studying liver progenitor differentiation.*

B.S.E., Biomedical Engineering, University of Michigan—Ann Arbor, 2012.

Graduated *magna cum laude*.

### industry

Co-op, Biological Technologies, Genentech, Inc., South San Francisco, CA, 2011.

Engineer, NeuroNexus, Inc., Ann Arbor, MI, 2010–2011.

### publications

#### *Journal Articles*

Roberto C. Andresen Eguiluz, Kerim B. Kaylan, Gregory H. Underhill, and Deborah E. Leckband. 2017. “Substrate stiffness and VE-cadherin mechano-transduction coordinate to regulate endothelial monolayer integrity.” *Biomaterials* 140: 45–57.

Kerim B. Kaylan, Andreas P. Kourouklis, and Gregory H. Underhill. 2017. “High-throughput cell microarray platform for correlative analysis of cell differentiation and traction forces.” *Journal of Visualized Experiments* 121: e55362.

Kerim B. Kaylan, Stefan D. Gentile, Lauren E. Milling, Kaustubh N. Bhinge, Farhad Kosari, and Gregory H. Underhill. 2016. “Mapping tumor cell drug responses as a function of matrix context and genotype using combinatorial cell microarrays.” *Integrative Biology* 8(12): 1221–1231.

Andreas P. Kourouklis\*, Kerim B. Kaylan\*, and Gregory H. Underhill. 2016. “Substrate stiffness and matrix composition coordinately control the differentiation of liver progenitor cells.” *Biomaterials* 99: 82–94.

Kerim B. Kaylan\*, Viktoriya Ermilova\*, Ravi Chandra Yada, and Gregory H. Underhill. 2016. “Combinatorial microenvironmental regulation of liver progenitor differentiation by Notch ligands, TGF $\beta$ , and extracellular matrix.” *Scientific Reports* 6(23490).

Ehsan Atefi, Darcy Fyffe, Kerim B. Kaylan, and Hossein Tavana. 2016. “Characterization of aqueous two-phase systems from volume and density measurements.” *Journal of Chemical and Engineering Data* 61(4): 1531–1539.

Hossein Tavana, Kerim Kaylan, Tommaso Bersano-Begey, Kathryn E. Luker, Gary D. Luker, and Shuichi Takayama. 2011. "Rehydration of polymeric, aqueous, biphasic system facilitates high throughput cell exclusion patterning for cell migration studies." *Advanced Functional Materials* 21(15): 2920–2926.

#### *Book Chapter*

Kerim B. Kaylan and Gregory H. Underhill. 2016. "Hydrogels for Hepatic Tissue Engineering," in *Gels Handbook: Fundamentals, Properties and Applications*, vol. 2, edited by Mohammad R. Abidian, Umut A. Gurkan, Faramarz Edalat. Hackensack, NJ: World Scientific. 427–462.

#### **conference presentations**

"Mapping tumor cell drug response as a function of matrix context using combinatorial cell microarrays." Biomedical Engineering Society Annual Meeting, Minneapolis, MN. October 2016.

"Cellular microarrays reveal combinatorial effects of Notch ligands, TGF $\beta$ , and extracellular matrix on liver progenitor differentiation." American Society of Mechanical Engineers NanoEngineering for Medicine and Biology Conference, Houston, TX. February 2016.

"Combinatorial cell microarrays for analyzing ECM regulation of tumor cell drug response." American Physician Scientists Association Annual Meeting, Chicago, IL. April 2015.

"Arrayed microenvironments for probing liver progenitor cell fate decisions." Biomedical Engineering Society Meeting, San Antonio, TX. October 2014.

#### **grants, honors, and awards**

Teacher Ranked as Excellent, University of Illinois at Urbana–Champaign, 2017.

Teacher Ranked as Excellent, University of Illinois at Urbana–Champaign, 2016.

Outstanding ratings; top 10% of teaching assistants as ranked by their students.

Medical Student Interest Group Matching Grant Program, Intersociety Council for Pathology Information, \$500, 2016.

I-Corps, University of Illinois at Urbana–Champaign Site Cohort 11, National Science Foundation, \$2,000, 2016.

Medical Student Interest Group Matching Grant Program, Intersociety Council for Pathology Information, \$750, 2015.

O'Morchoe Leadership Fellowship for Out in Medicine, University of Illinois College of Medicine, \$1,500, 2014.

Summer Biomedical and Life Sciences Fellowship, University of Michigan Undergraduate Research Opportunity Program, \$4,000, 2010.

Michigan Promise Scholarship, State of Michigan, \$1,000, 2008.

Michigan Competitive Scholarship, State of Michigan, \$1,300, 2008.

- teaching** Instructor, Cell and Tissue Biology, University of Illinois College of Medicine, 2016–2017.  
 Facilitator, Discover Bioengineering and WYSE summer camps, University of Illinois at Urbana–Champaign, 2015–2016.  
 Organizer, Bioengineering the Future, University Lab High School, Urbana, IL, 2013.  
 Instructor, Quantitative Cell Biology, University of Michigan—Ann Arbor, 2012.  
 Peer Mentor, Engineering Advising Center, University of Michigan—Ann Arbor, 2010–2011.
- professional service** Member, Medical Scholars Program Steering Committee, University of Illinois College of Medicine, 2017.  
 Selection committee for Teaching Excellence and Innovation in Education awards, University of Illinois College of Medicine, 2017.  
 Organizer, Pathology Interest Group, University of Illinois College of Medicine, 2015–2017.  
 Co-President, Out in Medicine, University of Illinois College of Medicine, 2014–2017.  
 Organizer, Graduate Cancer Community @ Illinois, University of Illinois at Urbana–Champaign, 2013–2016.  
 Member, Climate Survey Steering Committee, University of Illinois at Urbana–Champaign, 2012.  
 Member and Co-Chair, Medical Scholars Program Retreat Committee, University of Illinois College of Medicine, 2012–2014.  
 Member, Engineering Graduate Student Advisory Committee, University of Illinois at Urbana–Champaign, 2012–2013.  
 Member and Co-Chair, Medical Scholars Program Advisory Committee, University of Illinois College of Medicine, 2012–2017.  
 Executive Board Member, Biomedical Engineering Society, University of Michigan—Ann Arbor, 2010–2011.
- professional affiliations** Tau Beta Pi—The Engineering Honor Society, 2014–present.  
 Biomedical Engineering Society, 2014–present.  
 American Physician Scientists Association, 2013–present.