**KERIM B. KAYLAN, M.D., PH.D.**

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Department of Medicine

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# ACADEMIC TRAINING

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| --- | --- |
| 2012 | B.S.E., Biomedical Engineering, University of Michigan, Ann Arbor, MI. |
| 2016 | M.S., Bioengineering, University of Illinois at Urbana–Champaign, Urbana, IL. |
| 2017 | Ph.D., Bioengineering, University of Illinois at Urbana–Champaign, Urbana, IL. |
| 2021 | M.D., University of Illinois College of Medicine, Chicago, IL. |
| 2021–2023 | Internal Medicine Residency Program, Department of Medicine, University of Chicago, Chicago, IL. |
| 2021–present | Physician Scientist Development Program, Department of Medicine, University of Chicago, Chicago, IL. |
| 2023–2025 | Endocrinology Fellowship Program, Section of Endocrinology, Diabetes, and Metabolism, Department of Medicine, University of Chicago, Chicago, IL. |
| 2024–2025 | T32 Postdoctoral Fellow, Mirmira Laboratory, Section of Endocrinology, Diabetes, and Metabolism, Department of Medicine, University of Chicago, Chicago, IL. |
| 2025–present | Advanced Endocrinology Fellowship, Section of Endocrinology, Diabetes, and Metabolism, Department of Medicine, University of Chicago, Chicago, IL. |

# BOARD CERTIFICATION AND LICENSURE

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| 2019 | USMLE Step 1 (passed). |
| 2020 | USMLE Step 2 CK (passed). |
| 2020 | USMLE Step 2 CS (waived due to COVID-19). |
| 2021–2024 | Temporary Medical Permit, State of Illinois. |
| 2022 | USMLE Step 3 (passed). |
| 2024–present | Licensed Physician and Surgeon, State of Illinois. |
| 2024–present | ABIM Internal Medicine Certification. |

# FUNDING

## (a) Past:

1. Summer Biomedical and Life Science Fellowship, University of Michigan Undergraduate Research Opportunity Program. My role: trainee. Title: “Patterning of Aqueous Two-Phase Systems of Dextran and Polyethylene Glycol for the Study of Cell Migration.” Project period: 2010. Supported research with Prof. Shuichi Takayama.
2. NSF I-Corps, University of Illinois at Urbana–Champaign Site Cohort 11, Total direct costs: $2,000. My role: trainee. Project: Use of lean methodologies to develop new, clinically-relevant technologies in liver tissue engineering. Project period: 2016.
3. NIDDK T32: Integrated Clinical and Basic Endocrinology Research Training Grant, T32 DK007011, University of Chicago. My role: trainee. Supporting postdoctoral research with Prof. Raghavendra Mirmira. Project period: 7/2024–6/2025.

## (b) Current:

1. NIDDK K12 Diabetes Docs: Physician-Scientist Career Development Program (DiabDocs), K12 DK133995. Multi-Center Program Directors: Profs. David Maahs (Stanford University) and Linda DiMeglio (Indiana University). My role: scholar. Title: “Viral nucleotide sensing by β-cell MDA5 in T1D”. Total direct costs: $150,000. Project period: 7/2025–6/2026.
2. Endocrine Fellows Foundation Research Grant Program, Total direct costs: $10,000. My role: PI. Title: “Viral nucleotide sensing by β-cell MDA5 in type 1 diabetes”. Project period: 6/2025–6/2026.
3. Pollak Family Fellow, Kovler Diabetes Center, University of Chicago, Total direct costs: $200,000. My role: PI. Supporting research for an early career investigator in type 1 diabetes. Project period: 6/2025–6/2027.

## (c) Pending:

None.

# HONORS, PRIZES, AND AWARDS

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| 2008 | Michigan Promise Scholarship, State of Michigan, $1,000. |
| 2008 | Michigan Competitive Scholarship, State of Michigan, $1,300. |
| 2012 | Graduated magna cum laude, University of Michigan. |
| 2014 | Tau Beta Pi—Illinois Alpha, Grainger College of Engineering, University of Illinois at Urbana–Champaign. |
| 2014 | O’Morchoe Leadership Fellowship, University of Illinois College of Medicine, $1,500. |
| 2016 | Teacher Ranked as Excellent, Cell and Tissue Biology, University of Illinois College of Medicine. Outstanding; top 10% of teaching assistants ranked by students in Fall 2016 semester. |
| 2017 | Teacher Ranked as Excellent, Cell and Tissue Biology, University of Illinois College of Medicine. Top 25% of teaching assistants ranked by students in Spring 2017 semester. |
| 2019 | Chancellor’s Student Service Award, University of Illinois at Chicago. Honors students who have made an outstanding contribution to the university through service to campus and community. |
| 2024 | Early Career Forum Travel Award, Endocrine Society, $400. |
| 2025 | American Diabetes Association Scholars Award, American Diabetes Association. Career development program for early-career professionals who treat or research diabetes and its complications. |
| 2025 | Chicago Diabetes Day Poster Award, Chicago Diabetes Research and Training Center, $100. |

# INVITED SPEAKING

1. **K. B. Kaylan**. “Combinatorial microenvironmental regulation of liver progenitor differentiation by Notch ligands, TGFβ, and extracellular matrix”. Bioengineering Graduate Student Seminar Series, Urbana, IL. Sept. 2015.
2. **K. B. Kaylan**, V. Ermilova, R. C. Yada, and G. H. Underhill. “Cellular microarrays reveal combinatorial effects of Notch ligands, TGFβ, and extracellular matrix on liver progenitor differentiation”. American Society of Mechanical Engineers NanoEngineering for Medicine and Biology Conference, Houston, TX. Feb. 2016.
3. **K. B. Kaylan**. “Combinatorial microenvironmental regulation of liver progenitor differentiation by Notch ligands, TGFβ, and extracellular matrix”. oSTEM Minority Research Symposium, Urbana, IL. Apr. 2016.
4. **K. B. Kaylan**, S. D. Gentile, L. E. Milling, K. N. Bhinge, F. Kosari, and G. H. Underhill. “Mapping tumor cell drug response as a function of matrix context using combinatorial cell microarrays”. Biomedical Engineering Society Annual Meeting, Minneapolis, MN. Oct. 2016.
5. **K. B. Kaylan**. “Dissecting mechanisms of liver progenitor fate specification using cellular microarrays”. Medical Scholars Program Retreat, Monticello, IL. Aug. 2017.
6. **K. B. Kaylan**. “Immune cell responses in metabolic dysfunction-associated steatotic liver disease”. UChicago Endocrine Research Seminar, Chicago, IL. May 2024.
7. **K. B. Kaylan**. “Inhibition of lipoxygenase signaling in a human gene replacement mouse model of obesity and type 2 diabetes”. UChicago Physician Scientist Development Program retreat, Chicago, IL. Sept. 2024.
8. **K. B. Kaylan**. “63-year-old female with osteoporosis”. Endocrine Fellows Foundation Bone Health ECHO. Jan. 2025.
9. **K. B. Kaylan**. “Inhibition of 12-lipoxygenase signaling in a human gene replacement mouse model of obesity and dysglycemia”. UChicago Endocrine Research Seminar, Chicago, IL. May 2025.
10. **K. B. Kaylan**. “β-cell stress and immune crosstalk in diabetes”. Department of Medicine Grand Rounds, University of Chicago, Chicago, IL. May 2025.
11. **K. B. Kaylan**, T. Nargis, K. Figatner, J. E. Wang, S. Pratuangtham, A. Chakraborty, I. Casimiro, J. L. Nadler, M. B. Boxer, D. J. Maloney, R. M. Anderson, R. G. Mirmira, and S. A. Tersey. “12-Lipoxygenase inhibition improves glucose homeostasis and obesity-associated inflammation in human gene replacement mice”. Endocrinology Society Annual Meeting, San Francisco, CA. July 2025.

# INVITED, ELECTED, OR APPOINTED EXTRAMURAL SERVICE

## Reviewer for manuscripts in peer reviewed journals

Journal of Clinical Investigation (JCI)

JCI Insight

Molecular Medicine

Microarrays

## Reviewer for grants

Diabetes Action Research and Education Foundation

# PROFESSIONAL SOCIETIES

## Elected or invited membership:

Tau Beta Pi

## Other:

Endocrine Society

American Diabetes Association

American Association of Clinical Endocrinologists

American Physician Scientists Association

# EDUCATION

## K-12

|  |  |
| --- | --- |
| 2/2013 | Bioengineering the Future, Organizer and Primary Instructor, University Lab High School, Urbana, IL. Contact hours: 4. |
| 7/2015, 7/2016 | Discover Bioengineering Camp, Facilitator, College of Engineering, University of Illinois at Urbana–Champaign. Primary instructors: Prof. Gregory H. Underhill, Prof. Jennifer Amos. Contact hours: 16. |
| 7/2016 | Worldwide Youth in Science and Engineering Camp, Facilitator, College of Engineering, University of Illinois at Urbana–Champaign. Primary instructor: Prof. Gregory H. Underhill. Contact hours: 8. |

## The College (B.A., B.S.):

None.

## Undergraduate education outside of the University of Chicago

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| --- | --- |
| 8/2011–5/2012 | Peer Mentor Program, Peer Mentor, Engineering Advising Center, College of Engineering, University of Michigan. Contact hours: 4. |
| 1/2012–4/2012 | Quantitative Cell Biology, Instructional Aid, Department of Biomedical Engineering, University of Michigan. Primary instructor: Prof. Shuichi Takayama. Semesters: Winter 2012. Contact hours: 2 hours/week, 16 weeks. Student evaluations: 4.5/5.0 (Winter 2012). |
| 1/2014–5/2014 | Stem Cell Bioengineering, Grader, Department of Bioengineering, University of Illinois at Urbana–Champaign. Primary instructor: Prof. Gregory H. Underhill. Semesters: Spring 2014. |
| 8/2015–12/2015 | Introduction to Bioengineering, Mentor, Department of Bioengineering, University of Illinois at Urbana–Champaign. Primary instructor: Prof. Jennifer Amos, Mark Gryka. Contact hours: 12. |

## Graduate programs (Ph.D.):

None.

## Pritzker School of Medicine (M.D.):

### (a) Didactic

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| 1/2024 11–12/2024 | Clinical Skills and Reasoning, Interviewer. Primary instructor: Prof. Tia Kostas, Prof. Joyce Tang, Prof. Jason Poston. Quarters: Winter 2024, Fall 2024. Contact hours: 4. |
| 10/2024 | Clinical Pathophysiology and Therapeutics, Discussant. Primary instructor: Prof. Jason Poston, Prof. Aliya Husain. Quarters: Fall 2024. Contact hours: 2. |
| 1/2025 | Cell and Organ Physiology, Discussant. Primary instructor: Prof. Benjamin Ko. Quarters: Winter 2025. Contact hours: 2. |

### (b) Clinical

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| 11/2022 | Clinical Skills 2, Resident Preceptor. Primary instructor: Prof. Jason Poston. Quarters: Winter 2022. Contact hours: 4. |
| 7/2021–6/2023 | Teaching medical students as an internal medicine intern and resident, 6 months per year. |
| 7/2023–present | Teaching medical students while on the inpatient endocrinology consult service as an endocrinology fellow. Initially 4 months in 2023–2024 and currently 1 month per year of inpatient service with teaching. |

## Undergraduate medical education outside of University of Chicago

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| --- | --- |
| 1/2016–5/2017 | Cell and Tissue Biology, Teaching Assistant. Primary instructor: Prof. Benjamin Williams. University of Illinois College of Medicine. Semesters: Spring 2016, Fall 2016, Spring 2017. Contact hours: 3 hours/week, 48 weeks. Student evaluations: 4.2/5.0 (Spring 2016), 4.8/5.0 (Fall 2016), 4.5/5.0 (Spring 2017). |
| 8/2020–5/2021 | Doctoring and Clinical Skills 1, M4 Tutor. Primary instructor: Prof. Annette Zacharia. University of Illinois College of Medicine. Semesters: Fall 2020, Spring 2021. Contact hours: 16. Student evaluations: 4.9/5.0 (Fall 2020), N/A (Spring 2021). |

## Graduate medical education (residency and clinical fellowships):

### (a) Didactic

None.

### (b) Clinical

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| --- | --- |
| 7/2022–6/2023 | Teaching and supervising interns as an internal medicine resident, 6 months per year. |
| 7/2023–present | Teaching residents while on the inpatient endocrinology consult service as an endocrinology fellow. Initially 4 months in 2023–2024 and currently 1 month per year of inpatient service with teaching. |

### (c) Continuing medical education:

None.

### (d) Other:

None.

## Research trainees:

### (a) High school students and teachers

None.

### (b) Undergraduate (B.A., B.S.)

As a graduate student in the Underhill Laboratory at University of Illinois at Urbana–Champaign, I supervised the following undergraduate mentees:

1. Ravi Chandra Yada (2012–2015).
2. Lauren Milling (2012–2015).
3. Alexander Loiben (2013–2014).
4. Aneysha Bhat (2013–2014).
5. David Kukla (2014–2015).
6. Megan Griebel (2014–2016).
7. Erik Anderson (2014–2016).
8. Benjamin Streeter (2014–2016).
9. Nicholas Cornell (2014–2017).
10. Divya Joshi (2015).
11. Anna Whelan (2015–2016).
12. Lauren Sargeant (2015–2017).
13. Sameed Jamil (2015–2017).
14. Ravi Malpani (2015–2016).
15. Ashley Dettlaff (2016).
16. M. Elizabeth Rhode (2016).

As a postdoctoral fellow in the Mirmira Laboratory at University of Chicago, I supervised the following undergraduate mentees:

1. Hailey Boyle (2025).

### (c) Medical (M.D.)

None.

### (d) Graduate (Ph.D.)

None.

### (e) Postdoctoral

None.

### (f) Other

None.

# CLINICAL

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| 2023–present | Endocrinology Consult Service  (as fellow; 4 months in 2023–2024, subsequently 1 month per year). |
| 2023–present | Endocrinology Clinic (as fellow; 1 half-day per week, 11 months per year). |

# SERVICE

**University of Chicago**

## Committee membership:

None.

## Leadership:

None.

## Other:

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| 2024–present | Underrepresented in Medicine Mentorship Program, Mentor. |

**University of Illinois College of Medicine**

## Committee membership:

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| --- | --- |
| 2012–2014 | Medical Scholars Program Retreat Committee. |
| 2016–2017 | Medical Scholars Program Advisory Committee. |
| 2017 | Medical Scholars Program Steering Committee. |
| 2017–2018 | USMLE Preparedness Committee. |
| 2017–2021 | Student Curricular Board. |
| 2017 | Teaching Excellence and Innovation in Education Award Selection Committee. |
| 2018–2019 | Search Committee for Associate Dean of Curriculum. |

## Leadership:

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| --- | --- |
| 2013–2014 | Co-Chair, Medical Scholars Program Retreat Committee. |
| 2014–2017 | Co-President, Out in Medicine at Illinois. |
| 2016–2017 | Co-Chair, Medical Scholars Program Advisory Committee. |
| 2018–2019 | Special Projects Chair, Student Curricular Board. |

## Other:

None.

**University of Illinois at Urbana–Champaign**

## Committee membership:

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| 2012 | Climate Survey Steering Committee. |

## Leadership:

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| 2013–2016 | Graduate Cancer Community Illinois, Organizer. |

## Other:

None.

**University of Michigan**

## Committee membership:

None.

## Leadership:

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| 2010–2011 | Biomedical Engineering Society, Executive Board Member. |

## Other:

None.

**Extramural (not indicated above)**

## Leadership roles:

None.

## Other:

None.

# Scholarship

## Journal Articles

*Asterisk (\*) indicates equal authorship.*

1. H. Tavana, **K. Kaylan**, T. Bersano-Begey, K. E. Luker, G. D. Luker, and S. Takayama. “Rehydration of polymeric, aqueous, biphasic system facilitates high throughput cell exclusion patterning for cell migration studies”. In: Advanced Functional Materials 21.15 (Aug. 2011), pp. 2920–2926. DOI: 10.1002/adfm.201002559.
2. **K. B. Kaylan\***, V. Ermilova\*, R. C. Yada, and G. H. Underhill. “Combinatorial microenvironmental regulation of liver progenitor differentiation by Notch ligands, TGFβ, and extracellular matrix”. In: Scientific Reports 6.23490 (Mar. 2016). DOI: 10.1038/srep23490.
3. E. Atefi, D. Fyffe, **K. B. Kaylan**, and H. Tavana. “Characterization of aqueous two-phase systems from volume and density measurements”. In: Journal of Chemical & Engineering Data 61.4 (Mar. 2016), pp. 1531–1539. DOI: 10.1021/acs.jced.5b00901.
4. A. P. Kourouklis\*, **K. B. Kaylan\***, and G. H. Underhill. “Substrate stiffness and matrix composition coordinately control the differentiation of liver progenitor cells”. In: Biomaterials 99 (Aug. 2016), pp. 82–94. DOI: 10.1016/j.biomaterials.2016.05.016.
5. **K. B. Kaylan**, S. D. Gentile, L. E. Milling, K. N. Bhinge, F. Kosari, and G. H. Underhill. “Mapping lung tumor cell drug responses as a function of matrix context and genotype using cell microarrays”. In: Integrative Biology 8.12 (Oct. 2016), pp. 1221–1231. DOI: 10.1039/c6ib00179c.
6. **K. B. Kaylan**, A. P. Kourouklis, and G. H. Underhill. “A high-throughput cell microarray platform for correlative analysis of cell differentiation and traction forces”. In: Journal of Visualized Experiments: JoVE 121 (Mar. 2017). DOI: 10.3791/55362.
7. R. C. A. Eguiluz, **K. B. Kaylan**, G. H. Underhill, and D. E. Leckband. “Substrate stiffness and VE-cadherin mechano-transduction coordinate to regulate endothelial monolayer integrity”. In: Biomaterials 140 (Sept. 2017), pp. 45–57. DOI: 10.1016/j.biomaterials.2017.06.010.
8. M. J. Biehl, **K. B. Kaylan**, R. J. Thompson, R. V. Gonzalez, K. E. Weis, G. H. Underhill, and L. T. Raetzman. “Cellular fate decisions in the developing female anteroventral periventricular nucleus are regulated by canonical Notch signaling”. In: Developmental Biology 442.1 (June 2018), pp. 87–100. DOI: 10.1016/j.ydbio.2018.06.005.
9. **K. B. Kaylan**, I. C. Berg, M. J. Biehl, A. Brougham-Cook, I. Jain, S. M. Jamil, L. H. Sargeant, N. J. Cornell, L. T. Raetzman, and G. H. Underhill. “Spatial patterning of liver progenitor cell differentiation mediated by cellular contractility and Notch signaling”. In: eLife 7 (Dec. 2018). DOI: 10.7554/elife.38536.
10. M. Spaggiari, P. D. Cocco, K. Tulla, **K. B. Kaylan**, M. A. Masrur, C. Hassan, J. A. Alvarez, E. Benedetti, and I. Tzvetanov. “Simultaneous robotic kidney transplantation and bariatric surgery for morbidly obese patients with end-stage renal failure”. In: American Journal of Transplantation 21.4 (Apr. 2021), pp. 1525–34. DOI: 10.1111/ajt.16322.
11. **K. B. Kaylan**, S. M. Russel, C. N. Justice, M. K. Sheena, L. E. Hirshfield, H. L. Heiman, and R. H. Curry. “Applying the lean startup methodology to structure project-based, student-driven curricular enhancements”. In: Teaching and Learning in Medicine 34.4 (June 2021), pp. 434–443. DOI: 10.1080/10401334.2021.1928501.
12. C. P. Monckton, A. Brougham-Cook, **K. B. Kaylan**, G. H. Underhill, and S. R. Khetani. “Elucidating extracellular matrix and stiffness control of primary human hepatocyte phenotype via cell microarrays”. In: Advanced Materials Interfaces 8.2101284 (Oct. 2021). DOI: 10.1002/admi.202101284.
13. T. Nargis, C. Muralidharan, J. R. Enriquez, J. E. Wang, **K. B. Kaylan**, A. Chakraborty, S. Pratuangtham, K. Figatner, J. B. Nelson, S. C. May, J. L. Nadler, M. B. Boxer, D. J. Maloney, S. A. Tersey, and R. G. Mirmira. “12-Lipoxygenase inhibition delays onset of autoimmune diabetes in human gene replacement mice”. In: JCI Insight 9.24 (Nov. 2024), e185299. DOI: 10.1172/jci.insight.185299.
14. **K. B. Kaylan\***, T. Nargis\*, K. Figatner, J. E. Wang, S. Pratuangtham, A. Chakraborty, I. Casimiro, J. L. Nadler, M. B. Boxer, D. J. Maloney, R. M. Anderson, R. G. Mirmira, and S. A. Tersey. “12-Lipoxygenase inhibition improves glycemia and obesity-associated inflammation in male human gene replacement mice”. In: Endocrinology 166.6 (June 2025), bqaf069. DOI: 10.1210/endocr/bqaf069.

## Review Articles

1. P. D. Cocco, A. Fratti, **K. B. Kaylan**, I. G. Tzvetanov, and E. Benedetti. “Treatment strategies for antibody-mediated rejection in kidney transplantation and its prevention”. In: OBM Transplantation 4.3 (Sept. 2020), p. 16. DOI: 10.21926/obm.transplant.2003119.
2. **K. B. Kaylan** and S. Paul. “NAFLD No More: A Review of Current Guidelines in the Diagnosis and Evaluation of Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)”. In: Current Diabetes Reports 25.1 (Nov. 2024), p. 5. DOI: 10.1007/s11892-024-01558-y.

## Commentaries

1. **K. B. Kaylan** and L. H. Philipson. “Werner Syndrome and Diabetes: Opportunities for Precision Medicine”. In: Diabetes Care 47.5 (May 2024), pp. 785–786.

## Book Chapters

1. **K. B. Kaylan** and G. H. Underhill. “Hydrogels for hepatic tissue engineering”. In: Gels Handbook: Fundamentals, Properties and Applications Volume 2: Applications of Hydrogels in Regenerative Medicine. 2016, pp. 427–462. DOI: 10.1142/9789813140394\_0015.

## Conference Proceedings

1. Kourouklis, **K. Kaylan**, and G. Underhill. “The Role of ECM Biomechanics in Liver Progenitor Differentiation”. In: AIChE Annual Meeting Proceedings. Nov. 2016.
2. Kourouklis, **K. Kaylan**, and G. Underhill. “Combinatorial ECM Arrays Reveal the Role of Biomechanics in Liver Progenitor Differentiation”. In: AIChE Annual Meeting Proceedings. Nov. 2016.
3. R. A. Eguiluz, M. Munim, **K. B. Kaylan**, G. H. Underhill, and D. E. Leckband. “VE-Cadherin Signals and Substrate Stiffness Regulate Force Transduction through Endothelial Monolayers”. In: AIChE Annual Meeting Proceedings. Nov. 2016.
4. M. J. Biehl, **K. B. Kaylan**, G. H. Underhill, and L. T. Raetzman. “Cell Fate Decisions in the Developing Hypothalamic Anteroventral Periventricular Nucleus Are Regulated By Canonical Notch Signaling”. In: Endocrine Reviews. Vol. 38. S3. June 2017, p. i.
5. G. Underhill and **K. B. Kaylan**. “Spatial patterning of liver progenitor cell differentiation mediated by cell contractility and Notch signaling”. In: Nanotechnology in Medicine II: Bridging Translational In Vitro and In Vivo Interfaces. Ed. by M. Sullivan, J. Sznitman, I. L. Eniola-Adefeso, and S. Kidambi. ECI Symposium Series. June 2018.

## Abstracts: Poster Presentations

1. **K. Kaylan**, H. Tavana, and S. Takayama. “A novel cell migration assay utilizing polymeric aqueous two-phase systems.” Student Biomedical Research Forum in Ann Arbor, MI. Nov. 2010.
2. **K. Kaylan**, I. Lesaca, G. Jiang, and H. Gazzano-Santoro. “Development of a functional assay for MAb1.” Genetech Intern Poster Day in South San Francisco, CA. Aug. 2011.
3. **K. Kaylan**, I. Lesaca, G. Jiang, and H. Gazzano-Santoro. “Development of a functional assay for MAb1 utilizing peptide uptake.” Genentech Analytical Development and Quality Control Poster Mixer in South San Francisco, CA. Oct. 2011.
4. **K. Kaylan**, V. Ermilova, and G. Underhill. “Deconstructing combinatorial microenvironmental regulation in hepatoblastoma using cell microarrays.” University of Illinois College of Medicine Research Day in Urbana, IL. Feb. 2014.
5. **K. Kaylan**, V. Ermilova, and G. Underhill. “Deconstructing combinatorial microenvironmental regulation in hepatoblastoma using cell microarrays.” Bioengineering Days in Urbana, IL. Feb. 2014.
6. **K. Kaylan**, V. Ermilova, and G. Underhill. “Deconstructing combinatorial microenvironmental regulation in hepatoblastoma using cell microarrays.” Medical Scholars Program Retreat in Monticello, IL. Aug. 2014.
7. **K. Kaylan**, V. Ermilova, and G. Underhill. “Deconstructing combinatorial microenvironmental regulation in hepatoblastoma using cell microarrays.” Graduate Cancer Community Fall Symposium in Urbana, IL. Sept. 2014.
8. **K. Kaylan**, V. Ermilova, and G. Underhill. “Arrayed microenvironments for probing liver progenitor cell fate decisions.” Biomedical Engineering Society Meeting in San Antonio, TX. Oct. 2014.
9. **K. B. Kaylan**, S. D. Gentile, L. E. Milling, K. N. Bhinge, F. Kosari, and G. H. Underhill. “Combinatorial cell microarrays for analyzing ECM regulation of tumor cell drug response.” AAP/ASCI/APSA Joint Meeting in Chicago, IL. Apr. 2015.
10. **K. B. Kaylan**, S. D. Gentile, L. E. Milling, K. N. Bhinge, F. Kosari, and G. H. Underhill. “Combinatorial cell microarrays for analyzing ECM regulation of tumor cell drug response.” University of Illinois College of Medicine Research Day in Urbana, IL. Apr. 2015.
11. **K. B. Kaylan**, S. D. Gentile, L. E. Milling, K. N. Bhinge, F. Kosari, and G. H. Underhill. “Combinatorial cell microarrays for analyzing ECM regulation of tumor cell drug response.” Medical Scholars Program Retreat in Monticello, IL. Aug. 2015.
12. **K. B. Kaylan**. “Engineering microenvironments for studying liver development.” University of Illinois College of Medicine Research Day in Chicago, IL. Dec. 2017.
13. **K. B. Kaylan**. “Engineering microenvironments for studying liver development.” University of Illinois College of Medicine, Department of Medicine Ideas on Tap Research Mixer in Chicago, IL. July 2018.
14. **K. B. Kaylan**, S. M. Russel, C. Justice, Z. S. Chunara, L. S. McGinn, N. A. Mehta, S. N. Patil, H. R. Seyller, M. K. Sheena, and R. H. Curry. “Applying the lean startup method to structure project-based, student-driven curricular enhancements.” AAMC Central Group on Educational Affairs Spring Conference in Sioux Falls, SD (conference cancelled). Apr. 2020.
15. **K. B. Kaylan**, T. Nargis, K. Figatner, J. E. Wang, S. Pratuangtham, A. Chakraborty, I. Casimiro, J. L. Nadler, M. B. Boxer, D. J. Maloney, R. M. Anderson, R. G. Mirmira, and S. A. Tersey. “12-Lipoxygenase inhibition improves glucose homeostasis and obesity-associated inflammation in human gene replacement mice.” AAP/ASCI/APSA Joint Meeting in Chicago, IL. Apr. 2025.
16. **K. B. Kaylan**, T. Nargis, K. Figatner, J. E. Wang, S. Pratuangtham, A. Chakraborty, I. Casimiro, J. L. Nadler, M. B. Boxer, D. J. Maloney, R. M. Anderson, R. G. Mirmira, and S. A. Tersey. “12-Lipoxygenase inhibition improves glucose homeostasis and obesity-associated inflammation in human gene replacement mice.” Chicago Diabetes Day, Chicago, IL. May 2025.

## Abstracts: Oral Presentations by Co-Authors

1. A. P. Kourouklis, **K. B. Kaylan**, and G. H. Underhill. “Matrix Composition and Biophysical Characteristics Coordinately Influence Liver Progenitor Differentiation”. American Society of Mechanical Engineers NanoEngineering for Medicine and Biology Conference in Houston, TX. Feb. 2016. URL: https://www.asme.org/wwwasmeorg/ media/ResourceFiles/Events/NEMB/NEMB2016FinalProgram.pdf.
2. A. P. Kourouklis, **K. B. Kaylan**, and G. H. Underhill. “Combinatorial ECM Arrays Reveal the Effects of Biomechanics in Liver Progenitor Differentiation”. Biomedical Engineering Society Annual Meeting in Minneapolis, MN. Oct. 2016.
3. **K. Kaylan**, I. Berg, and G. Underhill. “Notch Signaling Coordinates with Cell Contractility to Drive Biliary Differentiation of Liver Progenitor Cells”. Biomedical Engineering Society Annual Meeting in Phoenix, AZ. Oct. 2017.
4. C. P. Monckton, A. Brougham-Cook, **K. B. Kaylan**, G. H. Underhill, and S. R. Khetani. “Engineering robust chemomechanical microenvironments for human hepatocytes using cell microarrays”. Biomedical Engineering Society Annual Meeting in Philadelphia, PA. Oct. 2019.
5. N. A. Mehta, S. N. Patil, H. R. Seyller, Z. S. Chunara, L. S. McGinn, **K. B. Kaylan**, and L. E. Hirshfield. “The Impact of Learning Culture on Student USMLE Step 1 Preparation: A Qualitative study”. AAMC Central Group on Educational Affairs Spring Conference in Sioux Falls, SD (conference cancelled). Apr. 2020.

## Abstracts: Poster Presentations by Co-Authors

1. L. T. Raetzman, M. J. Biehl, **K. B. Kaylan**, and G. H. Underhill. “Uncovering the role of Notch signaling in early hypothalamic fate choices using primary neurospheres and microenvironment arrays”. Gordon Research Conference: Notch Signaling in Development, Regeneration and Disease in Lewiston, ME. June 2016.
2. **K. Kaylan**, I. Berg, and G. Underhill. “Notch signaling coordinates with cell contractility to regulate biliary differentiation of liver progenitor cells”. Biomedical Engineering Society: Cellular and Molecular Bioengineering Conference in Key Largo, FL. Jan. 2018. URL: https://www.bmes.org/files/CMBE\_P58.pdf.