

# **BERKELEY TECHNOLOGY LAW JOURNAL**

VOLUME 39, SPECIAL ISSUE

LIFE SCIENCES INNOVATION CASE STUDY PROJECT

2024

**Pages**

**345–680**

**Production:** Produced by members of the *Berkeley Technology Law Journal*.  
All editing and layout done using Microsoft Word.

**Printer:** Joe Christensen, Inc., Lincoln, Nebraska.  
Printed in the U.S.A.  
The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Library Materials, ANSI Z39.48—1984.

**Copyright © 2024. Regents of the University of California.**  
All Rights Reserved.



Berkeley Technology Law Journal  
University of California  
School of Law  
3 Law Building  
Berkeley, California 94720-7200  
editor@btlj.org  
<https://www.btlj.org>

# BERKELEY TECHNOLOGY LAW JOURNAL

VOLUME 39

SPECIAL ISSUE

2024

## ARTICLES

INTRODUCING THE LIFE SCIENCES INNOVATION CASE STUDY PROJECT .....	345
<i>Allison A. Schmitt</i>	
SERENDIPITOUS LAB DISCOVERY TO COMMERCIAL BLOCKBUSTER: THE INVENTION OF LYRICA.....	393
<i>Kaidi (Ted) Zhang</i>	
INNOVATION TO CONTAIN THE HIV/AIDS CRISIS: A TRUVADA CASE STUDY.....	425
<i>William P. Kasper</i>	
HOW KETAMINE BECAME AN ANTIDEPRESSANT .....	497
<i>Vincent Joralemon</i>	
THE CAR-T CELL THERAPY INNOVATION DRIVERS: A YESCARTA CASE STUDY.....	553
<i>Christine R. O'Brien Laramy</i>	
THE INVENTION OF NEXT-GENERATION SEQUENCING.....	613
<i>Caressa N. Tsai</i>	

## SUBSCRIBER INFORMATION

The *Berkeley Technology Law Journal* (ISSN1086-3818), a continuation of the *High Technology Law Journal* effective Volume 11, is edited by the students of the University of California, Berkeley, School of Law and is published in print three times each year (March, September, December), with a fourth issue published online only (July), by the Regents of the University of California, Berkeley. Periodicals Postage Rate Paid at Berkeley, CA 94704-9998, and at additional mailing offices. POSTMASTER: Send address changes to Journal Publications, Law Library, LL123 South Addition, Berkeley Law, University of California, Berkeley, Berkeley, CA 94720-7210.

**Correspondence.** Address all correspondence regarding subscriptions, address changes, claims for non-receipt, single copies, advertising, and permission to reprint to Journal Publications, Law Library, LL123 South Addition, Berkeley Law, University of California, Berkeley, Berkeley, CA 94720-7210; (510) 643-6600; [JournalPublications@law.berkeley.edu](mailto:JournalPublications@law.berkeley.edu). *Authors:* see section titled Information for Authors.

**Subscriptions.** Annual subscriptions are \$65.00 for individuals and \$85.00 for organizations. Single issues are \$30.00. Please allow two months for receipt of the first issue. Payment may be made by check, international money order, or credit card (MasterCard/Visa). Domestic claims for non-receipt of issues should be made within 90 days of the month of publication; overseas claims should be made within 180 days. Thereafter, the regular back issue rate (\$30.00) will be charged for replacement. Overseas delivery is not guaranteed.

**Form.** The text and citations in the *Journal* conform generally to THE CHICAGO MANUAL OF STYLE (16th ed. 2010) and to THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass'n et al. eds., 21st ed. 2020). Please cite this issue of the *Berkeley Technology Law Journal* as 39 BERKELEY TECH. L.J. \_\_\_\_ (2024).

# BTLJ ONLINE

The full text and abstracts of many previously published *Berkeley Technology Law Journal* articles can be found at <https://www.btlj.org>. Our site also contains a cumulative index; general information about the *Journal*; the *BTLJ Blog*, a collection of short comments and updates about new developments in law and technology written by BTLJ members; and *BTLJ Commentaries*, an exclusively online publication for pieces that are especially time-sensitive and shorter than typical law review articles.

## INFORMATION FOR AUTHORS

The Editorial Board of the *Berkeley Technology Law Journal* invites the submission of unsolicited manuscripts. Submissions may include previously unpublished articles, essays, book reviews, case notes, or comments concerning any aspect of the relationship between technology and the law. If any portion of a manuscript has been previously published, the author should so indicate.

**Format.** Submissions are accepted in electronic format through Scholastica online submission system. Authors should include a curriculum vitae and resume when submitting articles, including his or her full name, credentials, degrees earned, academic or professional affiliations, and citations to all previously published legal articles. The Scholastica submission website can be found at <https://btlj.scholasticahq.com/for-authors>.

**Citations.** All citations should conform to THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass'n et al. eds., 21st ed. 2020).

**Copyrighted Material.** If a manuscript contains any copyrighted table, chart, graph, illustration, photograph, or more than eight lines of text, the author must obtain written permission from the copyright holder for use of the material.

## SPONSORS

### 2023–24

The *Berkeley Technology Law Journal* and the Berkeley Center for Law & Technology acknowledge the following generous sponsors of Berkeley Law's Law and Technology Program:

ALLEN & OVERY LLP	ARENTFOX SCHIFF LLP
AXINN, VELTROP & HARKRIDER LLP	BAKER BOTTS L.L.P.
CHARLES RIVER ASSOCIATES	COOLEY LLP
CORNERSTONE RESEARCH	COVINGTON & BURLING LLP
CROWELL & MORING LLP	DESMARAIS LLP
DLA PIPER	DURIE TANGRI LLP
FENWICK & WEST LLP	FISH & RICHARDSON P.C.
GENENTECH, INC.	GEN LAW FIRM
GIBSON, DUNN & CRUTCHER LLP	GILEAD SCIENCES, INC.
GOODWIN PROCTER LLP	GREENBERG TRAURIG, LLP
GTC LAW GROUP PC	HAYNES AND BOONE, LLP
HOGAN LOVELLS	IRELL & MANELLA LLP
JINGTIAN & GONGCHENG	JONES DAY
KEKER, VAN NEST & PETERS LLP	KILPATRICK TOWNSEND & STOCKTON LLP
KING & SPALDING LLP	KING & WOOD MALLESONS

# SPONSORS

## 2023–24

KIRKLAND & ELLIS LLP

KNOBBE MARTENS

LATHAM & WATKINS LLP

MARKS & CLERK

MCDERMOTT WILL & EMERY

MICROSOFT

MORGAN, LEWIS & BOCKIUS LLP

MORRISON & FOERSTER LLP

MUNGER, TOLLES & OLSEN LLP

OCEAN TOMO

ORRICK HERRINGTON &  
SUTCLIFFE LLP

PAUL HASTINGS, LLP

QUALCOMM TECHNOLOGIES, INC.

QUINN EMANUEL URQUHART &  
SULLIVAN, LLP

ROBINS KAPLAN LLP

ROPES & GRAY LLP

SIDLEY AUSTIN LLP

TENSEGRITY LAW GROUP LLP

VAN PELT, YI & JAMES LLP

VIA LICENSING CORPORATION

WANHUIDA  
INTELLECTUAL PROPERTY

WEIL, GOTSHAL & MANGES LLP

WESTERN DIGITAL CORPORATION

WHITE & CASE LLP

WILMER CUTLER PICKERING  
HALE AND DORR LLP

WILSON SONSINI  
GOODRICH & ROSATI

WINSTON & STRAWN LLP

WOMBLE BOND DICKINSON

# BOARD OF EDITORS

## 2023–24

---

*Executive Board*

---

*Editors-in-Chief*

WILL KASPER

YUHAN WU

*Managing Editor*

RYAN CAMPBELL

*Senior Executive Editor*

AL MALECHA

*Senior Articles Editors*

KEATON BLAZER

BRIGITTE DESNOES

*Senior Online Content Editor*

LINDA CHANG

ELIZABETH OH

*Senior Scholarship Editor*

KERMIT RODRIGUEZ

*Senior Student Publication Editors*

ZHUDI HUANG

JELENA LAKETIC

*Senior Production Editors*

SEUNGHAN BAE

ALEX LE

*Senior Life Sciences Editors*

CHRISTINE O'BRIEN LARAMY

CARESSA TSAI



# BOARD OF EDITORS

## 2023–24

---

### *Editorial Board*

#### *Articles Editors*

GULNUR BEKMUKHANBETOVA  
 XUEJIAO CAO  
 ALEX CHOI  
 MICHELLE D'SOUZA  
 GARIMA KEDIA  
 JOSHUA KUHN

SARAH LUNT  
 MARLEY MACAREWICH  
 JOSH MIMURA  
 BANI SAPRA  
 SANDEEP STANLEY  
 NICOLE ZEINSTR

#### *Notes & Comments Editor*

NINA ZHANG

#### *Student Publication Editors*

MAYA DARROW  
 JOHN MOORE

#### *Submissions Editors*

WILLY ANDERSON  
 JENNIFER CHENG  
 VERNON ESPINOZA VALENZUELA  
 HYEMI PARK

#### *Technical Editors*

ASHLEY FAN  
 EDLENE MIGUEL  
 BEN PEARCE  
 ANDREW STONE  
 CARESSA TSAI

#### *Alumni Relations Editor*

EMMA BURKE

#### *External Relations Editor*

HUNTER KOLON

#### *Member Relations Editors*

JAEYOUNG CHOI  
 CYRUS KUSHA

#### *Podcast Editors*

ERIC AHERN  
 JULIETTE DRAPER  
 MEGHAN O'NEILL

#### *Symposium Editors*

MARIT BJÖRNLUND  
 NICOLE BOUCHER

#### *Life Sciences Articles Editors*

TIM DABROWSKI  
 DUANE YOO

#### *Web & Technology Editors*

EMILY WELSCH  
 LISA YOUNES

#### *Production Editors*

BEN CLIFNER  
 SARAH DAVIDSON  
 KELSEY EDWARDS  
 LAUREL MCGRANE

#### *LLM Editor*

FERNANDA GONZAGA

# MEMBERSHIP

## 2023–24

### *Members*

---

SANSKRITI AGARWAL	AYESHA AHUJA	NOOSHA ALIABADI
REEM ALMUATHHER	AYESHA ASAD	AISHWARYA ATHAVALÉ
CEREN AYTEKIN	DAVID BERNSTEIN	HANNAH BORROWS
OSMANE CALLEMER	ALYSON CHIE	ANGELA CHUNG
WILLIAM CIEL	SKYLAR CUSHING	EVELINA DASH
HALA EL SOLH	IMAN ESLAMI	PAYTON FONG
MAX FRIEND	DAN GRUSHKEVICH	ANANT GUPTA
RUI HAN	ANNIKA HANSEN	MARIA HARRAST
ANGELA HERBOSA	MENGRUO HUANG	ROGER HUANG
NAMAMI JAIN	MONICA JEUNG	CORINNE JOHNSTON
YASAMEEN JOULAEÉ	AARON KAMATH	NAT KAVALER
SRISHTI KHEMKA	TYLER KOTCHMAN	DHANYA SETLUR KRISHNAN
JOSEPH KYBURZ	JOSHUA LEE	KARISSA LIN
WANYI LIN	WENHUI LIU	LILLY MAXFIELD
MAXWELL MELNIK	MARIA MILEKHINA	AUDREY MITCHELL

# MEMBERSHIP

## 2023–24

*Members (continued)*

---

LEA MOUSTAKAS	GRACE MURPHY	SAIAISWARYA NAGENDARA
NIYATI NARANG	NICHOLAS NAVARRO	TUONG-VI NGUYEN
ANTONY NOVAK	NADIA ORCHID GHAFFARI	ALLEN PARK
YUNFEI QIANG	DEVANGINI RAI	UDAYVIR RANA
SANIDHYA RAO	EMILY REHMET	KARINA SANCHEZ
ABBY SANDERS	JULIAN SANGHVI	PRIYADARSINI SHANMUGAM
GAYATHRI SINDHU	ANKUR SINGHAL	MATT SIOSON
SARAH SISNEY	HAILEY STEWART	LORENZ STRUB
LESLEY SUN	AMANDA SUZUKI	TRISTAN THREATT
ERIC TING	ITAI TISMANZKY	AYA TOYA
SIMON WAGNER	JESSE WANG	SOPHIA WANG
TIANA WANG	XINRUI WANG	DANIEL WARNER
TIANQI WEI	ETHAN WISEMAN	PAUL WOOD
LUCAS WU	TWINKLE YE	LISA YOUNES
VINCENT ZHAI	TERRY ZHAO	FAYE ZOU

**BERKELEY CENTER FOR  
LAW & TECHNOLOGY  
2023–24**

WAYNE STACY  
*Executive Director*

*Staff*

---

ALLISON SCHMITT  
*Director, BCLT Life Sciences  
Law & Policy Center and Senior Fellow*

JANN DUDLEY  
*Associate Director*

RICHARD FISK  
*Assistant Director,  
Events & Communications*

JUSTIN TRI DO  
*Media Coordinator*

ABRIL DELGADO  
*Events Specialist*

ALEXIS GOETT  
*Office Administrator*

*Fellow*

---

RAMYA CHANDRASEKHAR  
*Biometric Regulatory Fellow*

YUAN HAO  
*Senior Fellow*

KATHRYN HASHIMOTO  
*Copyright Law Fellow*

MIRIAM KIM  
*Practitioner Fellow, Generative AI*

ROBERT BARR  
*BCLT Executive Director Emeritus*

# BERKELEY CENTER FOR LAW & TECHNOLOGY

## 2023–24

### *Faculty Directors*

---

KENNETH A. BAMBERGER  
*Rosalinde and Arthur Gilbert  
Foundation Professor of Law*

ELENA CHACHKO  
*Assistant Professor of Law*

COLLEEN CHIEN  
*Professor of Law*

CATHERINE CRUMP  
*Director, Samuelson  
Law, Technology &  
Public Policy Clinic and  
Clinical Professor of Law*

CATHERINE FISK  
*Barbara Nachtrieb Armstrong  
Professor of Law*

CHRIS JAY HOOFNAGLE  
*Professor of Law in Residence*

SONIA KATYAL  
*Roger J. Traynor Distinguished  
Professor of Law*

ORIN S. KERR  
*William G. Simon  
Professor of Law*

PETER S. MENELL  
*Koret Professor of Law*

ROBERT P. MERGES  
*Wilson Sonsini Goodrich &  
Rosati Professor of Law*

DEIRDRE K. MULLIGAN  
*Professor in the School of  
Information and School of Law*

TEJAS N. NARECHANIA  
*Robert and Nanci Corson  
Assistant Professor of Law*

BRANDIE NONNECKE  
*Associate Research Professor  
at the Goldman School of  
Public Policy*

OSAGIE K. OBASOGIE  
*Haas Distinguished Chair and  
Professor of Law*

ANDREA ROTH  
*Professor of Law*

PAMELA SAMUELSON  
*Richard M. Sherman  
Distinguished Professor of  
Law and Information*

PAUL SCHWARTZ  
*Jefferson E. Peyser  
Professor of Law*

ERIK STALLMAN  
*Associate Director, Samuelson  
Law, Technology &  
Public Policy Clinic and  
Assistant Clinical Professor*

JENNIFER M. URBAN  
*Director, Samuelson  
Law, Technology &  
Public Policy Clinic and  
Clinical Professor of Law*

MOLLY SHAFFER  
VAN HOUWELING  
*Harold C. Hobbach  
Distinguished Professor of  
Patent and IP Law*

REBECCA WEXLER  
*Assistant Professor of Law*

