# Richard M. Levenson, M.D.

**Clinical Interests**
Dr. Levenson's clinical interests include: informatics, anatomic pathology, microscopy, imaging, autopsy, personalized medicine, and computer-assisted diagnosis.

**Research/Academic Interests**
Richard Levenson, MD, FCAP, has helped develop multispectral microscopy and small-animal imaging systems and software, birefringence microscopy, multiplexed ion-beam imaging (MIBI), and most recently, slide-free as well as enhanced-content microscopy approaches. He is section editor for Archives of Pathology and is on the editorial board of Lab. Invest. and AJP. Regrettably, he also taught pigeons histopathology and radiology. He is a recipient of the 2018 UC Davis Chancellor's Innovator of the Year award and is a Fellow of SPIE.

**Title**
Vice Chair for Strategic Technologies, Department of Pathology and Laboratory Medicine
Professor, Department of Pathology and Laboratory Medicine

**Specialty**
Pathology - Anatomic

**Department**
Pathology and Laboratory Medicine

**Division**
Pathology

**Center/Program Affiliation**
UC Davis Comprehensive Cancer Center

**Address/Phone**
Pathology Building, 4400 V St. Sacramento, CA 95817
**Phone:** 916-734-2525

**Email**
levenson@ucdavis.edu

**Education**
M.D., University of Michigan Medical School, Ann Arbor MI 1979
B.A., History and Literature, Harvard University, Cambridge MA 1974

**Internships**
Pathology, Washington University, St. Louis MO 1979-1982

**Fellowships**
Wilmot Cancer Research Fellowship, University of Rochester, Rochester NY 1982-1986

**Board Certifications**
American Board of Pathology, Anatomic Pathology

**Professional Memberships**
Association for Pathology Informatics
College of American Pathologists
Optica
SPIE (International Society for Optical Engineering)

UCDAVIS HEALTH

# Richard M. Levenson, M.D.

## Honors and Awards

Fellow, SPIE, 2020
The Pathologists 2019 Power List (top 100 leading innovators), 2019
Astellas C3 Award, First Prize, Technology, 2018
UC Davis Chancellors Innovator of the Year, 2018
Innovation of the Year, Microscopy Today, 2018

## Select Recent Publications


Laurinavicius A, Rasmusson A, Plancoulaine B, Shribak M, Levenson R. Machine-Learning-Based Evaluation of Intratumoral Heterogeneity and Tumor-Stroma Interface for Clinical Guidance. Am J Pathol. 2021 Oct;191(10):1724-1731. doi:10.1016/j.ajpath.2021.04.008. Epub 2021 Apr 22. PMID:33895120.

Liu Y, Rollins AM, Levenson RM, Fereidouni F, Jenkins MW. Pocket MUSE: an affordable, versatile and high-performance fluorescence microscope using a smartphone. Commun Biol. 2021 Mar 12;4 (1):334. doi:10.1038/s42003-021-01860-5. PMID:33712728.

Fereidouni F, Levenson R. Beyond brightfield: a possible future of slide scanners. Biotechniques. 2021 Jan;70(1):5-6. doi:10.2144/btn-2020-0125. Epub 2020 Nov 24. PMID:33228402.

Fereidouni F, Todd A, Li Y, Chang CW, Luong K, Rosenberg A, Lee YJ, Chan JW, Borowsky A, Matsukuma K, Jen KY, Levenson R. Dual-mode emission and transmission microscopy for virtual histochemistry using hematoxylin- and eosin-stained tissue sections. Biomed Opt Express. 2019 Nov 26;10(12):6516-6530. doi:10.1364/BOE.10.006516. PMID:31853414.

Krishnamurthy S, Brown JQ, Iftimia N, Levenson RM, Rajadhyaksha M. Ex Vivo Microscopy: A Promising Next-Generation Digital Microscopy Tool for Surgical Pathology Practice. Arch Pathol Lab Med. 2019 Sep;143(9):1058-1068. doi:10.5858/arpa.2019-0058-RA. Epub 2019 Jul 11. PMID:31295016.

Napoli E, Song G, Panoutsopoulos A, Riyadh MA, Kaushik G, Halmai J, Levenson R, Zarbalis KS, Giulivi G. Beyond autophagy: a novel role for autism-linked Wdfy3 in brain mitophagy. Sci


UCDAVIS HEALTH

# Richard M. Levenson, M.D.

Reports. 2018 Jul 27;8(1):11348. doi:10.1038/s41598-018-29421-7.

Qorbani A, Fereidouni F, Levenson R, Lahoubi SY, Harmany ZT, Todd A, Fung MA. Microscopy with ultraviolet surface excitation (MUSE): A novel approach to real-time inexpensive slide-free dermatopathology. J Cutan Pathol. 2018 Jul;45(7):498-503. doi:10.1111/cup.13255. Epub 2018 May 8. PMID:29660167.

Fereidouni F, Griffin C, Todd A, Levenson R. Multispectral analysis tools can increase utility of RGB color images in histology. J Opt. 2018 Apr;20(4):044007. doi:10.1088/2040-8986/aab0e8. Epub 2018 Mar 15. PMID:30847052.

Fereidouni F, Harmany ZT, Tian M, Todd A, Kintner JA, McPherson JD, Borowsky AD, Bishop J, Lechpammer M, Demos SG, Levenson R. Microscopy with ultraviolet surface excitation for rapid slide-free histology. Nat Biomed Eng. 2017 Dec;1(12):957-966. doi:10.1038/s41551-017-0165-y. Epub 2017 Dec 4. PMID:31015706.

Levenson RM, Krupinski EA, Navarro VM, Wasserman EA. Pigeons (Columba livia) as Trainable Observers of Pathology and Radiology Breast Cancer Images. PLoS One. 2015 Nov 18;10(11): e0141357. doi:10.1371/journal.pone.0141357. PMID:26581091.



UCDAVIS HEALTH