

Stanford



Amit Kaushal

Adjunct Professor, Bioengineering

Bio

BIO

Amit Kaushal, MD, PhD is Clinical Associate Professor of Medicine (Stanford-VA) and Adjunct Professor of Bioengineering at Stanford University. Dr. Kaushal's work spans clinical medicine, teaching, research, and industry.

He helped launch Stanford School of Engineering's undergraduate major in Biomedical Computation (bmc.stanford.edu) and has served as long-time director of the major. The major has graduated over 70 students since inception and was recently featured in Nature (<https://go.nature.com/2P2UnRu>).

His research interests are in utilizing health data in novel and ethical ways to improve the practice of medicine. He is a faculty executive member of Stanford's Partnership for AI-Assisted Care (aicare.stanford.edu). Recently, he has also been working with public health agencies to improve scale and speed of contact tracing for COVID-19.

He has previously held executive and advisory roles at startups working at the interface of technology and healthcare.

He continues to practice as an academic hospitalist.

Dr. Kaushal completed his BS (Biomedical Computation), MD, PhD (Biomedical Informatics), and residency training at Stanford. He is board-certified in Internal Medicine and Clinical Informatics.

ACADEMIC APPOINTMENTS

- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)

ADMINISTRATIVE APPOINTMENTS

- Executive Director, Biomedical Computation Major, (2007- present)
- Associate Director, Biomedical Computation Major, (2003-2007)

HONORS AND AWARDS

- Recipient, Paul and Daisy Soros Fellowship

PROFESSIONAL EDUCATION

- Residency, Stanford University , Internal Medicine
- PhD, Stanford University , Biomedical Informatics

- MD, Stanford University
- BS, Stanford University , Biomedical Computation

Teaching

COURSES

2024-25

- AI-Assisted Care: CS 337, MED 277 (Aut)

2022-23

- AI-Assisted Care: MED 277 (Aut)

2021-22

- AI-Assisted Care: CS 337, MED 277 (Aut)

Publications

PUBLICATIONS

- **Can Contact Tracing Work At COVID Scale?**
Kaushal, A., Altman, R.
Health Affairs Blog.
2020
- **Geographic Distribution of US Cohorts Used to Train Deep Learning Algorithms.** *JAMA*
Kaushal, A. n., Altman, R. n., Langlotz, C. n.
2020; 324 (12): 1212–13
- **Wiring Minds Successfully applying AI to biomedicine requires innovators trained in contrasting cultures** *NATURE*
Kaushal, A., Altman, R. B.
2019; 576 (7787): S62–S63
- **Beyond duty hours: leveraging large-scale paging data to monitor resident workload** *NPJ DIGITAL MEDICINE*
Kaushal, A., Katznelson, L., Harrington, R. A.
2019; 2: 87
- **Repurposing Biomedical Informaticians for COVID-19.** *Journal of biomedical informatics*
Sosa, D. N., Chen, B., Kaushal, A., Lavertu, A., Lever, J., Rensi, S., Altman, R.
2021: 103673
- **Ethical issues in using ambient intelligence in health-care settings.** *The Lancet. Digital health*
Martinez-Martin, N., Luo, Z., Kaushal, A., Adeli, E., Haque, A., Kelly, S. S., Wieten, S., Cho, M. K., Magnus, D., Fei-Fei, L., Schulman, K., Milstein, A.
2020
- **Inference for longitudinal data with nonignorable nonmonotone missing responses** *COMPUTATIONAL STATISTICS & DATA ANALYSIS*
Sinha, S. K., Kaushal, A., Xiao, W.
2014; 72: 77-91
- **Trauma-associated human neutrophil alterations revealed by comparative proteomics profiling** *PROTEOMICS CLINICAL APPLICATIONS*
Zhou, J., Krovvidi, R. K., Gao, Y., Gao, H., Petritis, B. O., De, A. K., Miller-Graziano, C. L., Bankey, P. E., Petyuk, V. A., Nicora, C. D., Clauss, T. R., Moore, R. J., Shi, et al
2013; 7 (7-8): 571-583
- **Determination of Burn Patient Outcome by Large-Scale Quantitative Discovery Proteomics** *CRITICAL CARE MEDICINE*
Finnerty, C. C., Jeschke, M. G., Qian, W., Kaushal, A., Xiao, W., Liu, T., Gritsenko, M. A., Moore, R. J., Camp, D. G., Moldawer, L. L., Elson, C., Schoenfeld, D., Gamelli, et al
2013; 41 (6): 1421-1434

- **Genomic responses in mouse models poorly mimic human inflammatory diseases** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Seok, J., Warren, H. S., Cuenca, A. G., Mindrinos, M. N., Baker, H. V., Xu, W., Richards, D. R., McDonald-Smith, G. P., Gao, H., Hennessy, L., Finnerty, C. C., Lopez, C. M., Honari, et al
2013; 110 (9): 3507-3512
- **The Mouse Blood-Brain Barrier Transcriptome: A New Resource for Understanding the Development and Function of Brain Endothelial Cells** *PLOS ONE*
Daneman, R., Zhou, L., Agalliu, D., Cahoy, J. D., Kaushal, A., Barres, B. A.
2010; 5 (10)
- **A universal carrier test for the long tail of Mendelian disease** *REPRODUCTIVE BIOMEDICINE ONLINE*
Srinivasan, B. S., Evans, E. A., Flannick, J., Patterson, A. S., Chang, C. C., Pham, T., Young, S., Kaushal, A., Lee, J., Jacobson, J. L., Patrizio, P.
2010; 21 (4): 537-551
- **Plasma Proteome Response to Severe Burn Injury Revealed by O-18-Labeled "Universal" Reference-Based Quantitative Proteomics** *JOURNAL OF PROTEOME RESEARCH*
Qian, W., Petritis, B. O., Kaushal, A., Finnerty, C. C., Jeschke, M. G., Monroe, M. E., Moore, R. J., Schepmoes, A. A., Xiao, W., Moldawer, L. L., Davis, R. W., Tompkins, R. G., Herndon, et al
2010; 9 (9): 4779-4789
- **Knowledge-based analysis of microarrays for the discovery of transcriptional regulation relationships** *8th Asia Pacific Bioinformatics Conference*
Seok, J., Kaushal, A., Davis, R. W., Xiao, W.
BIOMED CENTRAL LTD.2010
- **Shotgun proteomics identifies proteins specific for acute renal transplant rejection** *PROTEOMICS CLINICAL APPLICATIONS*
Sigdel, T. K., Kaushal, A., Gritsenko, M., Norbeck, A. D., Qian, W., Xiao, W., Camp, D. G., Smith, R. D., Sarwal, M. M.
2010; 4 (1): 32-47
- **Large-Scale Multiplexed Quantitative Discovery Proteomics Enabled by the Use of an O-18-Labeled "Universal" Reference Sample** *JOURNAL OF PROTEOME RESEARCH*
Qian, W., Liu, T., Petyuk, V. A., Gritsenko, M. A., Petritis, B. O., Polpitiya, A. D., Kaushal, A., Xiao, W., Finnerty, C. C., Jeschke, M. G., Jaitly, N., Monroe, M. E., Moore, et al
2009; 8 (1): 290-299
- **A transcriptome database for astrocytes, neurons, and oligodendrocytes: A new resource for understanding brain development and function** *JOURNAL OF NEUROSCIENCE*
Cahoy, J. D., Emery, B., Kaushal, A., Foo, L. C., Zamanian, J. L., Christopherson, K. S., Xing, Y., Lubischer, J. L., Krieg, P. A., Krupenko, S. A., Thompson, W. J., Barres, B. A.
2008; 28 (1): 264-278
- **High dynamic range characterization of the trauma patient plasma proteome** *MOLECULAR & CELLULAR PROTEOMICS*
Liu, T., Qian, W., Gritsenko, M. A., Xiao, W., Moldawer, L. L., Kaushal, A., Monroe, M. E., Varnum, S. M., Moore, R. J., Purvine, S. O., Maier, R. V., Davis, R. W., Tompkins, et al
2006; 5 (10): 1899-1913