

Stanford



Billy Tsz Cheong Lau

Instructor, Medicine - Oncology

Bio

ACADEMIC APPOINTMENTS

- Instructor, Medicine - Oncology

PROFESSIONAL EDUCATION

- B.A.Sc., University of British Columbia , Engineering Physics, Electrical Engineering Option (2006)
- Ph.D., Harvard University , Engineering Sciences (2012)

Publications

PUBLICATIONS

- **Integrative single-cell analysis of allele-specific copy number alterations and chromatin accessibility in cancer.** *Nature biotechnology*
Wu, C., Lau, B. T., Kim, H. S., Sathe, A., Grimes, S. M., Ji, H. P., Zhang, N. R.
2021
- **Profiling SARS-CoV-2 mutation fingerprints that range from the viral pangenome to individual infection quasispecies.** *Genome medicine*
Lau, B. T., Pavlichin, D., Hooker, A. C., Almeda, A., Shin, G., Chen, J., Sahoo, M. K., Huang, C. H., Pinsky, B. A., Lee, H. J., Ji, H. P.
2021; 13 (1): 62
- **Joint single cell DNA-seq and RNA-seq of gastric cancer cell lines reveals rules of in vitro evolution.** *NAR genomics and bioinformatics*
Andor, N. n., Lau, B. T., Catalanotti, C. n., Sathe, A. n., Kubit, M. n., Chen, J. n., Blaj, C. n., Cherry, A. n., Bangs, C. D., Grimes, S. M., Suarez, C. J., Ji, H. P.
2020; 2 (2): lqaa016
- **Single cell genomic characterization reveals the cellular reprogramming of the gastric tumor microenvironment.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Sathe, A. n., Grimes, S. M., Lau, B. T., Chen, J. n., Suarez, C. n., Huang, R. J., Poultsides, G. A., Ji, H. P.
2020
- **OVERCOMING HIGH NANOPORE BASECALLER ERROR RATES FOR DNA STORAGE VIA BASECALLER-DECODER INTEGRATION AND CONVOLUTIONAL CODES**
Chandak, S., Neu, J., Tatwawadi, K., Mardia, J., Lau, B., Kubit, M., Hulett, R., Griffin, P., Wootters, M., Weissman, T., Ji, H., IEEE
IEEE.2020: 8822–26
- **A high throughput method for the optimization of digital PCR assays for personalized circulating tumor DNA detection**
Arce, M. M., Wood-Bouwens, C., Haslem, D., Lau, B. T., Bell, J., Almeda, A., Kubit, M., Moulton, B., Romero, R., St Onge, R. P., Nadauld, L., Ji, H. P.
AMER ASSOC CANCER RESEARCH.2019
- **Comprehensive characterization of gastric cancer at single-cell resolution**
Chen, J., Sathe, A., Grimes, S., Greer, S., Lau, B., Renschler, A., Poultsides, G., Suarez, C., Ji, H.
AMER ASSOC CANCER RESEARCH.2019

- **Single cell RNA sequencing reveals multiple adaptive resistance mechanisms to regorafenib in colon cancer**
Sathe, A., Lau, B. T., Grimes, S., Greer, S., Ji, H.
AMER ASSOC CANCER RESEARCH.2019
- **Single-cell transcriptome analysis identifies distinct cell types and niche signaling in a primary gastric organoid model.** *Scientific reports*
Chen, J., Lau, B. T., Andor, N., Grimes, S. M., Handy, C., Wood-Bouwens, C., Ji, H. P.
2019; 9 (1): 4536
- **A functional CRISPR/Cas9 screen identifies kinases that modulate FGFR inhibitor response in gastric cancer.** *Oncogenesis*
Chen, J. n., Bell, J. n., Lau, B. T., Whittaker, T. n., Stapleton, D. n., Ji, H. P.
2019; 8 (5): 33
- **Improved read/write cost tradeoff in DNA-based data storage using LDPC codes**
Chandak, S., Tatwawadi, K., Lau, B., Mardia, J., Kubit, M., Neu, J., Griffin, P., Wootters, M., Weissman, T., Ji, H., IEEE
IEEE.2019: 147–56
- **Covalent 'click chemistry'-based attachment of DNA onto solid phase enables iterative molecular analysis.** *Analytical chemistry*
Lau, B. T., Ji, H. P.
2019
- **Integrated single-cell DNA and RNA analysis of intratumoral heterogeneity and immune lineages in colorectal and gastric tumor biopsies**
Lau, B., Andor, N., Sathe, A., Wood-Bouwens, C., Poultsides, G., Ji, H.
AMER ASSOC CANCER RESEARCH.2018
- **Characterization of colorectal liver metastasis at single-cell resolution reveals dynamic interplay in the tumor microenvironment**
Sathe, A., Chen, J., Wood-Bouwens, C., Almeda, A., Lau, B., Grimes, S. M., Poultsides, G. A., Ji, H.
AMER ASSOC CANCER RESEARCH.2018
- **Chromosome-scale haplotyping enables comprehensive discovery of cancer rearrangements and germline-related susceptibility mutations**
Greer, S. U., Lau, B. T., Nadauld, L. D., Ji, H. P.
AMER ASSOC CANCER RESEARCH.2018
- **High-quality CNV segments from low-coverage whole genome sequencing from FFPE cancer biopsies based on an evaluation of multiple CNV tools**
Lee, H., Xia, L., Greer, S., Bell, J., Grimes, S. M., Bouwens, C., Shin, G., Lau, B. C., Johnson, L., Andor, N., Day, K., Miller, M., Escobar, et al
AMER ASSOC CANCER RESEARCH.2018
- **Robust Multiplexed Clustering and Denoising of Digital PCR Assays by Data Gridding** *ANALYTICAL CHEMISTRY*
Lau, B. T., Wood-Bouwens, C., Ji, H. P.
2017; 89 (22): 11913–17
- **Chromosome-scale mega-haplotypes enable digital karyotyping of cancer aneuploidy** *NUCLEIC ACIDS RESEARCH*
Bell, J. M., Lau, B. T., Greer, S. U., Wood-Bouwens, C., Xia, L. C., Connolly, I. D., Gephart, M. H., Ji, H. P.
2017; 45 (19): e162
- **Single molecule counting and assessment of random molecular tagging errors with transposable giga-scale error-correcting barcodes** *BMC GENOMICS*
Lau, B. T., Ji, H. P.
2017; 18: 745
- **Single-Color Digital PCR Provides High-Performance Detection of Cancer Mutations from Circulating DNA.** *The Journal of molecular diagnostics : JMD*
Wood-Bouwens, C., Lau, B. T., Handy, C. M., Lee, H., Ji, H. P.
2017; 19 (5): 697-710
- **CRISPR-Cas9-targeted fragmentation and selective sequencing enable massively parallel microsatellite analysis** *NATURE COMMUNICATIONS*
Shin, G., Grimes, S. M., Lee, H., Lau, B. T., Xia, L. C., Ji, H. P.
2017; 8
- **Linked read sequencing resolves complex genomic rearrangements in gastric cancer metastases.** *Genome medicine*
Greer, S. U., Nadauld, L. D., Lau, B. T., Chen, J. n., Wood-Bouwens, C. n., Ford, J. M., Kuo, C. J., Ji, H. P.
2017; 9 (1): 57

- **Haplotyping germline and cancer genomes with high-throughput linked-read sequencing.** *Nature biotechnology*
Zheng, G. X., Lau, B. T., Schnall-Levin, M., Jarosz, M., Bell, J. M., Hindson, C. M., Kyriazopoulou-Panagiotopoulou, S., Masquelier, D. A., Merrill, L., Terry, J. M., Mudivarti, P. A., Wyatt, P. W., Bharadwaj, et al
2016; 34 (3): 303-311
- **Clonal structure analysis of cancer genomes at single molecule resolution**
Lau, B., Ji, H.
AMER ASSOC CANCER RESEARCH.2015
- **Identification of novel tumor suppressor candidates and characterizing their potential driver role in familial cholangiocarcinoma**
Greer, S., Nadauld, L. D., Lau, B., Miotke, L., Hopmans, E., Wood, C. M., Bell, J. M., Ji, H. P.
AMER ASSOC CANCER RESEARCH.2015
- **Megabase-scale phased haplotypes of genetic aberrations from whole cancer genome sequencing of primary colorectal tumors**
Lau, B., Bell, J. M., Schnall-Levin, M., Jarosz, M., Hopmans, E., Wood, C. M., Zheng, G. X., Giorda, K., Ji, H. P.
AMER ASSOC CANCER RESEARCH.2015
- **Highly sensitive and specific digital quantification of cancer genetic aberrations**
Miotke, L. K., Lau, B., Rumma, R., Ji, H.
AMER ASSOC CANCER RESEARCH.2014
- **A robust and rapid targeted sequencing technology for iterative multiple genomic features in cancer**
Lau, B., Cushing, A., Ji, H.
AMER ASSOC CANCER RESEARCH.2014
- **High sensitivity detection and quantitation of DNA copy number and single nucleotide variants with single color droplet digital PCR.** *Analytical chemistry*
Miotke, L., Lau, B. T., Rumma, R. T., Ji, H. P.
2014; 86 (5): 2618-2624
- **New quantitative methods for measuring plasmid loss rates reveal unexpected stability** *PLASMID*
Lau, B. C., Malkus, P., Paulsson, J.
2013; 70 (3): 353-61
- **A complete microfluidic screening platform for rational protein crystallization** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Lau, B. C., Baitz, C. A., Dong, X. P., Hansen, C. L.
2007; 129 (3): 454-55