

CURRICULUM VITAE

JERRY SSU-HSIEN LEE

UPDATED: 10/16/2026

PERSONAL INFORMATION:

Work

Arizona State University
Complex Adaptive Systems Initiative
1475 N. Scottsdale Road
Scottsdale, AZ 85257
Phone: 443-858-5533
Work Email: jerrylee@asu.edu

Home

11401 McDonald Street
Culver City, CA 90230

Citizenship: US

EDUCATION AND PROFESSIONAL APPOINTMENTS

EDUCATION:

2001	B.S., Biomedical Engineering, Johns Hopkins University, Baltimore, MD
2006	Ph.D., Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD

ACADEMIC APPOINTMENTS:

2026-Present	Research Professor	Complex Adaptive Systems Initiative, Arizona State University, Scottsdale, AZ US
2025-2026	Associate Professor of Health Innovation	Iovine and Young Academy, University of Southern California, Los Angeles, CA US
2022-2026	Associate Professor of Quantitative and Computational Biology	Department of Quantitative and Computational Biology, Dornsife College of Letters, Arts, and Sciences, University of Southern California, Los Angeles, CA US
2018-2026	Associate Professor of Chemical Engineering and Material Sciences	Department of Chemical Engineering and Material Sciences, Viterbi School of Engineering, University of Southern California, Los Angeles, CA US
2018-2026	Associate Professor of Clinical Medicine	Department of Medicine, Keck School of Medicine, University of Southern California, Los Angeles, CA, US
2008-2018	Adjunct Associate Professor	Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, US
2013-2019	Research Health Scientist	Medical/Oncology Service, Washington D.C. Veterans Affairs Medical Center, Washington, DC, US

ADMINISTRATIVE APPOINTMENTS:

2026-Present	Director, Precision Health Network	Complex Adaptive Systems Initiative, Arizona State University, Scottsdale, AZ US
2021-2026	Chief Science and Innovation Officer	Ellison Medical Institute, Los Angeles, CA, US Lawrence J. Ellison Institute for Transformative Medicine of University of Southern California, Los Angeles, CA, US
2018-2021	Chief Science and Innovation Officer	
2016-2017	Deputy Director of Cancer Research and Technology	White House Cancer Moonshot Task Force, Office of the Vice President, Executive Office of the President, Washington DC
2010-2018	Health Sciences Director	Office of the Director, National Cancer Institute, Bethesda, MD, US
2008-2010	Chief of Staff	Office of the Deputy Director, National Cancer Institute, Bethesda, MD, US
2006-2008	Technology Development Program Specialist	Office of Technology and Industrial Relations, National Cancer Institute, Bethesda, MD, US

HONORS, AWARDS:

2017	NCI Individual Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
------	----------------------------	--

2017	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2016	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2015	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2014	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2012	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2011	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2010	NCI Group Merit Award	National Institutes of Health, 31 Center Drive, Bethesda, MD
2004 - 2006	NASA GSRP Fellowship	Office of Education, NASA Headquarters, Washington, DC
2004	Tau Beta Pi Induction	Tau Beta Pi Maryland Alpha Chapter, Baltimore, MD

TEACHING

DIDACTIC TEACHING:

Department of Medicine, University of Southern California

2026	MEDS 445: Cancer: Biology, Prevention and Therapy- A Convergence Approach	2 hrs	Big Data, Machine Learning, and AI in Cancer
2025	MEDS 445: Cancer: Biology, Prevention and Therapy- A Convergence Approach	2 hrs	Big Data, Machine Learning, and AI in Cancer
2024	MEDS 445: Cancer: Biology, Prevention and Therapy- A Convergence Approach	2 hrs	Big Data, Machine Learning, and AI in Cancer
2023	MEDS 445: Cancer: Biology, Prevention and Therapy- A Convergence Approach	2 hrs	Differentiating Association from Causality
2022	MEDS 445: Cancer: Biology, Prevention and Therapy- A Convergence Approach	2 hrs	Big Data in Cancer

Department of Quantitative and Computational Biology, University of Southern California

2026	QBIO490: Multi-Omics Public Data Analysis	2 unit course	Hands-on bioinformatics project using public omics datasets (TCGA/CPTAC)
2025	QBIO490: Multi-Omics Public Data Analysis	2 unit course	Hands-on bioinformatics project using public omics datasets (TCGA/CPTAC)
2024	QBIO490: Multi-Omics Public Data Analysis	2 unit course	Hands-on bioinformatics project using public omics datasets (TCGA/CPTAC)
2023	QBIO105: Introduction to Quantitative Biology Seminar Development	1.5 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine
	QBIO490: Multi-Omics Public Data Analysis	2 unit course	Hands-on bioinformatics project using public omics datasets (TCGA/CPTAC)
2022	QBIO105: Introduction to Quantitative Biology Seminar Development	1.5 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine
	QBIO490: Public Data Analysis	2 unit course	Hands-on bioinformatics project using public omics datasets (TCGA/CPTAC)

Iovine and Young Academy, University of Southern California

2026	ACAD432: Collaborative Prototyping in Health Innovation	4 unit course	Innovations at the Interface of Science, Engineering, and the Art of Medicine
2025	ACAD432: Collaborative Prototyping in Health Innovation	4 unit course	Innovations at the Interface of Science, Engineering, and the Art of Medicine

Department of Chemistry, University of Southern California

2026	CHEM577b: Medicinal Chemistry And Drug Design	1.5 hrs	Big Data and Cancer
2024	CHEM577b: Medicinal Chemistry	1.5 hrs	Big Data and Cancer

2023	And Drug Design CHEM204LG: Pandemics Shaping Our World: Past, Present, Future	1.5 hrs	Cancer and Personalized Medicine
2022	CHEM204LG: Pandemics Shaping Our World: Past, Present, Future	1.5 hrs	Cancer and Personalized Medicine
2021	CHEM577b: Medicinal Chemistry and Drug Design CHEM203: Chemistry in Life: AIDS Drug Discovery and Development	1.5 hrs 1.5 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine Innovations at Interface: Science Engineering, and the Art of Medicine
2020	CHEM577b: Medicinal Chemistry and Drug Design CHEM203: Chemistry in Life: AIDS Drug Discovery and Development	1.5 hrs 1.5 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine Innovations at Interface: Science Engineering, and the Art of Medicine
2019	CHEM577b: Medicinal Chemistry and Drug Design CHEM203: Chemistry in Life: AIDS Drug Discovery and Development	1.5 hrs 1.5 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine Innovations at Interface: Science Engineering, and the Art of Medicine
Washington State University			
2021	MBIO494: Senior Project in Molecular Biosciences	1.5 hrs	Innovations at Interface of Science, Engineering, and the Art of Medicine
Children's Hospital Los Angeles			
2021	Office of Training, Education, Career Planning, and Dev. (TECPAD)	1.5 hrs	Understanding NIH Programs- Initiation, Application, and Review
University of Alabama at Birmingham			
2020	EH102: English Composition II	3 hrs	Innovations at Interface: Science Engineering, and the Art of Medicine
Department of Chemical Engineering and Material Sciences, University of Southern California			
2021	MASC 350L: Nanostructured Materials: Design, Synthesis And Processing	1.5 hrs	Clinical Trials Discussion
2020	MASC 350L: Nanostructured Materials: Design, Synthesis, And Processing	1 hr	Innovations at the Interface of Science, Engineering, and the Art of Medicine
Department of Regulatory & Quality Sciences, University of Southern California			
2019	Regulatory Science Boot Camps: Patient-Centered Drug Development & Real World Evidence/Data	1 hr	Case Study: From Discovery to Practice and Survivorship
Department of Electrical Engineering, University of Southern California			
2019	EE542: Internet and Cloud Computing	3 hrs	Omics, Batch Effects, and Data Commons in Cancer Research
2018	EE542: Internet and Cloud Computing	3 hrs	Omics, Batch Effects, and Computing
GeorgetownX, edX MOOC			
2016-2017	Demystifying Biomedical Big Data: A User's Guide	1 hr	Lecturer

UNDERGRADUATE, GRADUATE AND MEDICAL STUDENT (OR OTHER) MENTORSHIP:

2025 – Present	Amin Naghdloo	Graduate	Advancing Data-Driven and Deep Learning Techniques for Biomarker Discovery in Image-based Cancer Liquid Biopsy
2024 – Present	Xiaoping Zhao	Graduate	Anti-Viral Agent Development
	Kimchou Lao	Graduate	Development of PROTACs for Prostate Cancer Patients
2023 – Present	Glenn Harter	Graduate	The Scale-Up Synthesis of a Novel Androgen Receptor Ligand Binding Domain Competitive Inhibitor
	Lily Bi	Graduate	Design and Synthesis of Antiviral Lipophilic Amino Acid Nucleoside Prodrugs
	Jiayi Yang	Graduate	Synthesis of Antiviral Acyclic Nucleoside Phosphonate (ANP) Prodrugs and Computational Studies of <i>Candida</i> spp. Bdf1 Binding Mode
2022 – Present	Kayla Xu	Undergraduate	Spatial omics and Multi-Omics Analysis of Cancer
2022 – 2024	Hagai Ligumsky, MD, PhD	Rothchild Fellow	Developing Personalized Prevention Program Using Longitudinal Molecular Profiling
2022 – Present	Seda Nohut	Graduate	A Novel 18F PET Imaging Probe and Bisphosphonate Prodrug Targeting Bone Metastasis
2019 – Present	Ariana Barbetta	Graduate	Temporal Analysis of the Immune Landscape in Recurrent Rejection after Pediatric Liver Transplantation
2021 – 2023	Asish Misra, MD	Fellow	Nanostructured Mass Exchangers for Hepatic Replacement Therapy
2020 – 2024	Oskar Sundberg	Graduate	Osteoadsorbent Fluorogenic Sentinel Probe 3 (OFS-3): Chemical Nature and Synthesis
2021 – Present	Alexandra Demetriou	Med Student	Project DeLorean: Defining GBM prognostic tissue states through spatial/temporal technology convergence
2021 – 2021	Jared Khan	Undergraduate	Public Data Analysis of Molecular Profiling Datasets
2021 – Present	Ruojiao Sun	Graduate	Micro-Macro Rheology of Tunable Hydrogels
2021 – Present	Kate Guion	Med Student	Multi-omics Analysis of Young and Older Women with Breast Cancer
2020 – 2021	Kate Guion	Undergraduate	Multi-omics Analysis of Young and Older Women with Breast Cancer
2020 – 2023	Dylan Depuy	Undergraduate	Value-based and Health Economics of Cancer Healthcare
2020 – 2024	Colin Cess	Graduate	Multi-Scale Modeling of the Tumor-Immune Microenvironment to Predict Tumor Evolution and Immunotherapeutic Outcomes
2020 – 2021	Laura Cao	Undergraduate	Analysis of Cancer Metastasis Through Machine Learning Analysis of Live Cell Data
2019 – 2024	Nikki Higa	Graduate	Liquid Biopsy Approaches to Study Tumor Evolution and Treatment Resistance in Breast Cancer Patients
2019 – 2021	James Joly	Graduate	Systems Approaches to Understanding Metabolic Vulnerabilities in Cancer Cells
2019 – Present	Fakhar Singhera	Graduate	Biophysical Properties of Baseline and Treated Breast Cancer Subtypes
2019 – 2023	Samantha Riemann	Graduate	Mechanistic Approaches to Inhibition of Emerging DNA Viruses
2019 – 2022	Justin Overhulse	Graduate	Studies of Bdf1 Bromodomains in <i>Candida glabrata</i> and the Development of Small Molecule Inhibitors
2019 – 2022	Hammond Sun	Graduate	Study of a Family of Ligands for the Human Androgen Receptor

2019 – 2022	Cassandra Man	Undergraduate	IMC Analysis in Liver Transplantation
2019 – 2021	Emily Miltenberger	Undergraduate	Fluorescent Bisphosphonates as a Visualization Tool for Charcot Neuroarthropathy
2019 – 2022	Julianne Hoefflich	Undergraduate	Multiplex in Situ Imaging Mass Cytometry Analysis of Chronic Rejection in Liver Transplantation
2019 – 2022	Jonathan Le	Undergraduate	Mapping Morphological Behavior of Cancer Cell Lines in Response to Artificial Extracellular Matrix
2018 – 2025	Yasaman Moradi	Graduate	Hydrogels for Therapeutic Delivery
2018 – 2025	Kylie Trettner	Graduate	Magnetically Actuated 4D Hydrogels to Study Cancer
2018 – 2022	Libere Ndacayisaba	Graduate	Medical Biophysics
2018 – 2020	Gavin Kress	Undergraduate	Pre-analytical Variables of STEP Chips
2016 – 2018	Alexandra Sneider	Graduate	Cell Density Induced Drug Responsiveness
2014 – 2017	Hasini Jayatilaka	Graduate	Mechanistic Coupling of Tumor Cell Proliferation and Migration
2014 – 2016	Puja Sharma	Graduate	A Suspended Fiber Network Platform for the Investigation of Single and Collective Cell Behavior
2012 – 2015	Wei-Chiang Chen	Graduate	Integrative Characterization of Disease Heterogeneity at Single Cell Resolution
2012 – 2016	Ivie Aifuwa	Graduate	Senescence and Cancer Migration
2012 – 2016	Jude Phillips	Graduate	Cell Mechanics to Predict Age Related Diseases
2011 – 2013	Allison Chambliss	Graduate	Fluid Shear Dynamics and Cell Mechanics
2008 – 2012	Shyam Khatau	Graduate	The Role of Nucleo-Cytoskeletal Connections in Disease and Development
2008 – 2011	Christopher Hale	Graduate	Characterizing Cytoskeleton-Mediated Biophysical Defects in Laminopathies
2008 – 2009	Melissa Thompson	Graduate	Ovarian Cancer Dynamics, Molecular Pathology, the Rho GTPases, and Cytoskeletal Mechanics

GRADUATE STUDENT THESIS, EXAM AND DISSERTATION COMMITTEES:

2025	Yukiko Higa	Qualifying Committee	Department of Chemical Engineering and Material Sciences, University of Southern California
2025	Kimchou Lao	Qualifying Committee	Department of Chemistry, University of Southern California
2025	Xiaoping Zhao	Qualifying Committee	Department of Chemistry, University of Southern California
2025	Amin Naghadloo	Dissertation Committee	Department of Mechanical Engineering, University of Southern California
2025	Ali Basirattalab	Qualifying Committee	Department of Chemical Engineering and Material Sciences, University of Southern California
2025	Kylie Trettner	Dissertation Committee	Department of Chemical Engineering and Material Sciences, University of Southern California
2024	Yasaman Moradi	Dissertation Committee	Department of Chemical Engineering and Material Sciences, University of Southern California
2024	Oskar Sundberg	Dissertation Committee	Department of Chemistry, University of Southern California
2024	Seda Nohut	Qualifying Exam	Department of Chemistry, University of Southern California
2024	Kimchou Lao	Screening Exam	Department of Chemistry, University of Southern California
2024	Xiaoping Zhao	Screening Exam	Department of Chemistry, University of Southern California
2024	Lily Bi	Qualifying Exam	Department of Chemistry, University of Southern California
2024	Jiayi Yang	Qualifying Exam	Department of Chemistry, University of Southern California
2024	Glenn Harter	Qualifying Exam	Department of Chemistry, University of Southern California

2023	Samantha Riemann	Dissertation Committee	Department of Chemistry, University of Southern California
2023	Glenn Harter	Screening Exam	Department of Chemistry, University of Southern California
2023	Jiayi Yang	Screening Exam	Department of Chemistry, University of Southern California
2023	Yang Bi	Screening Exam	Department of Chemistry, University of Southern California
2022	Justin Overhulse	Dissertation Committee	Department of Chemistry, University of Southern California
2022	Zheyu Li	Qualifying Exam	Department of Chemical Engineering and Material Sciences, University of Southern California
2022	Seda Nohut	Screening Exam	Department of Chemistry, University of Southern California
2022	Libere Ndacayisaba	Dissertation Committee	Department of Medicine, University of Southern California
2022	Ariana Barbetta	Qualifying Exam	Department of Medicine, University of Southern California
2022	Oskar Sundberg	Qualifying Exam	Department of Chemistry, University of Southern California
2022	Yasaman Moradi	Qualifying Exam	Department of Chemical Engineering and Material Sciences, University of Southern California
2022	Hammond Sun	Dissertation Committee	Department of Chemistry, University of Southern California
2021	Kylie Trettner	Qualifying Exam	Department of Chemical Engineering and Material Sciences, University of Southern California
2021	Oskar Sundberg	Screening Exam	Department of Chemistry, University of Southern California
2021	Samantha Riemann	Screening and Qualifying Exam	Department of Chemistry, University of Southern California
2020	Colin Cess	Qualifying Exam	Department of Biomedical Engineering, University of Southern California
2020	Libere Ndacayisaba	Thesis Committee Chair	Programs in Biomedical and Biological Sciences, University of Southern California
2019	Nikki Higa	Qualifying Exam	Programs in Biomedical and Biological Sciences, University of Southern California
2019	Justin Overhulse	Screening and Qualifying Exam	Department of Chemistry, University of Southern California
2019	Hammon Sun	Screening and Qualifying Exam	Department of Chemistry, University of Southern California
2019	Libere Ndacayisaba	Qualifying Exam	Programs in Biomedical and Biological Sciences, University of Southern California
2017	Hasini Jayatilaka	Dissertation	Chemical and Biomolecular Engineering, Johns Hopkins University
2016	Puja Sharma	Dissertation	Biomedical Engineering, Virginia Polytechnic Institute and State University
2015	Wei-Chiang Chen	Dissertation	Chemical and Biomolecular Engineering, Johns Hopkins University
2012	Shyam Khatau	Dissertation	Chemical and Biomolecular Engineering, Johns Hopkins University
2011	Christopher Hale	Dissertation	Chemical and Biomolecular Engineering, Johns Hopkins University
2009	Melissa Thompson	Dissertation	Chemical and Biomolecular Engineering, Johns Hopkins University

SERVICE

UNIVERSITY SERVICE:

2025	Reviewer	USC Nemirovsky Engineering and Medicine Opportunity (NEMO) Prize
2024 – 2025	Reviewer	USC Zumberge Award Program

PROFESSIONAL SERVICE:

2025 – Present	Reviewer, Transforming Cancer Navigation with Open Data & APIs	HeroX, Wilmington, DE
2024 – 2025	Reviewer, SBIR Concept Award A Special Emphasis Panel (ZCA1 TCRB-5 C1)	National Cancer Institute, National Institute of Health, Bethesda, MD
2022 – Present	Innovation Reviewer, Catalyst Award	National Academy of Medicine, Washington, DC, US
2021 – 2025	Ad Hoc Member, Health Care Research Training (HCRT) Study Section	Agency for Healthcare Research and Quality, Rockville, MD, US
2021 – 2021	Reviewer, Emerson Collective Cancer Research Fund, Emerson Collective Health	Emerson Collective, Palo Alto, CA, US
2018 – Present	Member, Health Services Research and Development Scientific Merit Review Board	Office of Research and Development, Department of Veterans Affairs, Washington, DC, US
2018 – Present	Member, Early Career Reviewer Program	Center for Scientific Review, National Institutes of Health, Bethesda, MD, US
2017 – 2021	Member, National Research Advisory Council	Office of the Secretary, Department of Veterans Affairs, Washington, DC, US
2012 – 2018	Member, Innovation Policy Forum of the Board on Science, Technology, and Economic Policy	National Academies of Sciences, Washington, DC, US

CONSULTANTSHIPS AND ADVISORY BOARDS:

2026 – Present	Member, Board of Directors	Lumea, Inc., Salt Lake City, UT
2025 – Present	Member and subcommittee co-chair, AACR Vision 2032 Strategic Planning Committee	American Association for Cancer Research, Philadelphia, PA
2025 – Present	Member, Data COUNTS Trusted Data Broker Executive Advisory Board	Foundation for NIH, Bethesda, MD
2024 – Present	Member, Scientific Advisory Board	miRoncol, Inc., Philadelphia, PA
2022 – Present	Member, Advisory Board	Accelerating Therapeutics for Opportunities in Medicine (ATOM), San Francisco, CA
2020 – 2021	Member, Agency Review Team	Biden-Harris Transition Team, Philadelphia, PA
2020 – Present	Member, Scientific Advisory Board	AtlasXomics, Inc., New York, NY
2018 – Present	Member, Advisory Board	HESI Thrive, Washington DC
2018 – Present	Consultant	Henry M. Jackson Foundation for Military Medicine, Bethesda, MD
2017 – Present	Co-founder and co-Chair	Blood Profiling Atlas in Cancer (BloodPAC), Chicago, IL
2015 – 2023	Member, Board of Trustees	Board of Trustees, Health and Environmental Sciences Institute, Washington, DC

PROFESSIONAL SOCIETY MEMBERSHIPS:

2003- Present	American Society for Cell Biology
2003- Present	Biophysical Society
2008- Present	American Association for Cancer Research
2013- Present	American Society for Mechanical Engineers
2018- Present	American Association for the Advancement of Science

COMMUNITY SERVICE:

2012 – Present	Scientist <-> Survivor Program	American Association for Cancer Research, Philadelphia, PA	Scientific Mentor to Patient Advocates
----------------	-----------------------------------	---	--

DISCLOSURES, PATENT APPLICATIONS, AND PATENTS

2008: PCT/US2009/034051- **Biophysical parameters for systems biology**. Inventors: Yiider Tseng, Jerry S.H. Lee, Pei-Hsun Wu, University of Florida Research Foundation, Inc.

MAJOR LEADERSHIP POSITIONS: (E.G., DEAN, CHAIR, INSTITUTE DIRECTOR, HOSPITAL ADMINISTRATION, ETC.)

2016-2017	Deputy Director for Cancer Research and Technology, White House Cancer Moonshot Task Force	Served as subject matter expert to White House Cancer Moonshot Taskforce on national and international cancer research efforts and co-chaired interagency group (20 federal agencies) focused on cancer data and technology policy issues. Designed and developed strategic partnerships between and amongst government, academic, and private sector institutions that include: 1) a tri-agency effort to enable a national protegenomic cancer care learning health care system amongst the Department of Defense, Department of Veterans Affairs, and National Cancer Institute (APOLLO), 2) 11 international memoranda of understanding for generating, standardizing, and sharing cancer clinical and molecular datasets worldwide (ICPC), and 3) a public-private partnership amongst 20 biotechnology, pharmaceutical, and bioinformatics companies, Food and Drug Administration, National Cancer Institute, academic universities, and professional societies to create a public data resource for cancer blood profiling technologies (BloodPAC).
-----------	--	---

RESEARCH AND SCHOLARSHIP

EDITORSHIPS AND EDITORIAL BOARDS:

2015 – 2018	Editorial Board Member	Covergence Science Physical Oncology Journal
-------------	------------------------	--

MANUSCRIPT REVIEW:

2021 – Present	American Chemical Society Photonics
2018 – Present	Clinical Pharmacology and Therapeutics
2014 – Present	The BMJ
2013 – Present	European Urology
2008 – Present	Biophysical Journal
2006 – Present	Expert Review of Medical Devices
2006 – Present	British Journal of Cancer

MAJOR AREAS OF RESEARCH INTEREST

1. Molecular Profiling Driven Delivery of Cancer Healthcare
2. Biophysics of Disease
3. Cell migration and motility
4. Big Data-informed intervention development (therapy, imaging, and diagnostics)

GRANT SUPPORT - CURRENT:

Grant Number: HU00012420059 (Lee/Agus)

Agency: Henry M. Jackson Foundation

Title: APOLLO Biophysics

Description: The goal of this project is to conduct pre-analytical validation studies of emerging technologies and workflows used to characterize biophysical parameters of cancer patient samples. In collaboration with the Department of Defense’s Murtha Cancer Center Research network, we aim to develop integrative quality metrics applied in subsequent multi-site analytical validation studies.

Dates of Award: 07/01/2024 – 09/30/2026

Percent Effort: 10%

Role: co-PI (Contact)
Total Direct Costs: \$972,642

GRANT SUPPORT - PAST:

Grant Number: HU00012220063 (Lee)
Agency: Henry M. Jackson Foundation
Title: PROMETHEUS-EITM

Dates of Award: 07/01/2023 – 10/25/2025
Percent Effort: 5%

Description: The PROMETHEUS-EITM effort will serve as proof-of-concept to build and sustain an iterative framework to ensure that technologies, databases, and analytics in areas of uncertain readiness levels within the Department of Defense's Murtha Cancer Center PROMETHEUS program can be deployed robustly and reliably at scale.

Role: PI
Total Direct Costs: \$1,718,921

Grant Number: HU00012320028 (Lee/Agus)
Agency: Henry M. Jackson Foundation
Title: APOLLO Biophysics

Dates of Award: 05/01/2023 – 04/30/2024
Percent Effort: 10%

Description: The goal of this project is to conduct pre-analytical validation studies of emerging technologies and workflows used to characterize biophysical parameters of cancer patient samples. In collaboration with the Department of Defense's Murtha Cancer Center Research network, we aim to develop integrative quality metrics applied in subsequent multi-site analytical validation studies.

Role: co-PI (Contact)
Total Direct Costs: \$858,466

Grant Number: HU00011820032 (Lee/Agus)
Agency: Henry M. Jackson Foundation
Title: APOLLO Biophysics- Lawrence J. Institute for Transformative Medicine

Dates of Award: 12/19/2019 – 04/20/2023
Percent Effort: 10%

Description: The goal of this project is to conduct pre-analytical validation studies of emerging technologies and workflows used to characterize biophysical parameters of cancer patient samples. In collaboration with the Department of Defense's Murtha Cancer Center Research network, we aim to develop integrative quality metrics applied in subsequent multi-site analytical validation studies.

Role: co-PI (Contact)
Total Direct Costs: \$270,000

Grant Number: BCRF-22-002 (Agus)
Agency: Breast Cancer Research Foundation
Title: Identification of Variant BRCA 1/2 Histopathologic Signatures Using Machine Learning

Dates of Award: 10/01/2022 – 09/30/2023
Percent Effort: 5%

Description: The goal of this project is to use machine learning and artificial intelligence to study mutant BRCA genes in breast cancer samples, without the need to sequence the genes, and thereby make treatment decisions based on the presence of the mutant genes immediately available and accessible to all.

Role: Investigator
Total Direct Costs: \$225,000

Grant Number: BCRF-21-002 (Agus)
Agency: Breast Cancer Research Foundation
Title: Extraction and Validation of Clinical Data Elements from Histopathological Tissue Slides

Dates of Award: 10/01/2021 – 09/30/2022
Percent Effort: 5%

Description: The goal of this project is to determine feasibility of applying machine learning and artificial intelligence on the structure and appearance of tumors from diagnostic slides to extract information that would otherwise need to be collected manually and extracted from clinical records.

Role: Investigator

Total Direct Costs: \$250,000

Grant Number: BCRF-20-002 (Agus)

Dates of Award: 10/01/2020 – 09/30/2021

Agency: Breast Cancer Research Foundation

Percent Effort: 5%

Title: Predicting Clinical Outcome to HER2-targeted Therapy from Histopathology Deep Learning

Description: The goal of this project is to determine if HER2 targeted therapy outcomes can be predicted by applying machine learning methods to the architecture of breast cancer, as represented in hematoxylin and eosin (H&E) and HER2 IHC slides.

Role: Investigator

Total Direct Costs: \$190,000

Grant Number: BCRF-19-002 (Agus)

Dates of Award: 10/01/2019 – 09/30/2020

Agency: Breast Cancer Research Foundation

Percent Effort: 5%

Title: Predicting Breast Cancer Lymph Node Status Using Machine Learning of Three-Dimensional Tumor Structure

Description: The goal of this project is to relate the three-dimensional arrangement of cells within primary breast cancer patient tumors to pathological lymph node status, with the goal of discerning a link between the nature of tumor growth and breast cancer progression.

Role: Investigator

Total Direct Costs: \$250,000

Grant Number: NNG04G054H (Lee)

Dates of Award: 09/01/2004 – 08/31/2006

Agency: National Aeronautics and Space Administration (NASA)

Percent Effort: 100%

Title: Investigating the Effects of Nucleus Reorientation on Protein Expression and Post-Translational Modification in Cells Under Microgravity

Description: The inability of the human body to sustain prolonged spaceflight is a critical challenge that must be overcome in order to expand the future of space exploration. Current obstacles that prevent prolonged flight include changes that occur in cardiovascular and musculoskeletal systems after exposure to microgravity. The most effective countermeasure taken against these changes consist mainly of exercise protocols⁴ which still leads to significant degradation. As a NASA Graduate Student Research Program (GSRP) fellow, I propose that cellular research will yield valuable knowledge on microscopic changes such as protein expression levels that could ultimately cause macroscopic musculoskeletal changes such as muscle atrophy. These changes will provide insight into explaining why some of the short term effects of space travel, such as muscle strength loss and bone density loss, occur and provide new molecular engineering guidelines to ultimately overcome the deleterious effects of prolonged spaceflight.

Role: PI

Total Direct Costs: \$60,000

INVITED LECTURES, SYMPOSIA, KEYNOTE ADDRESSES

2026	Invited Speaker	Building Patient Journey Lines: Collaborative Lessons Learned and Future Opportunities, Digital Diagnostics Summit, Park City, UT
2026	Invited Speaker	Genomic Biomarker Testing in Advanced Prostate Cancer: A Primer for Clinicians: An Engineer's Perspective, National Prostate Cancer Roundtable, Virtual Webinar
2026	Invited Speaker	AACR-CVC Cancer Vaccine Think Tank: Transforming Cancer Care: A Global Think Tank to Accelerate Advances in Cancer Immunity, New York, NY
2025	Invited Speaker	Building Patient Journey Lines: Lessons Learned and Opportunities for Molecular Driven Adaptive Learning Healthcare Systems, Virtual Human Global Summit II, New York, NY
2025	Invited Speaker	Future Opportunities for Adaptive Learning Healthcare Systems, Accelerating Research through Data Meshes and Data Fabrics (ARDM-25), Chicago, IL
2024	Invited Speaker	Lessons Learned and Future Opportunities for Adaptive Learning Healthcare Systems, Accelerating Research through Data Meshes and Data Fabrics (ARDM-24), Chicago, IL
2024	Invited Speaker	Opportunities and Challenges in Implementation of Multiparameter Single Cell Analysis Platforms for Clinical Translation, Cedars-Sinai 2 nd Annual Spatial Biology Symposium, Los Angeles, CA

2024	Keynote Speaker	Next Stage of Patient and Public Involvement: AACR-Scientist Survivor Program, Japanese Society of Medical Oncology Annual Meeting, Nagoya, Japan
2023	Keynote Speaker	Building Patient Journey Lines: Collaborative Lessons Learned and Future Opportunities, Virtual Human Global Summit, New York, NY
2023	Invited Speaker	Genomics Revolution in Cancer Research and Prostate Cancer Care: An Engineer's Perspective, ZERO Us TOO Prostate Cancer Support Groups, New York, NY
2023	Invited Speaker	An Engineer's Perspective on Cancer Research, San Marino City Council Club, San Marino, CA
2022	Keynote Speaker	An Engineer's Perspective on Shaping a Decade of Cancer Research: Innovations at the Interface of Science, Engineering, and the Art of Medicine, 1st SoCal Healthcare Innovation Symposium/Joined by the 3rd International Conference on AI in Healthcare (ICAIH), Alhambra, CA
2022	Invited Lecture	An Engineer's Perspective on Shaping a Decade of Cancer Research: Innovations at the Interface of Science, Engineering, and the Art of Medicine, Basic and Translational Research Seminar Series, Ohio University, Athens, OH
2021	Invited Lecture	Big Data and Genomics, Innovations to Translation: Role of Genomics in Medical Product Development, USC Regulatory Science Symposium, Los Angeles, CA
2021	Invited Panelist	Data Sharing: Perspectives, Requirements, Resources, and Progress, Foundation for the National Institutes of Health Biomarkers Consortium Cancer Steering Committee Annual Scientific Symposium, Bethesda, MD
2021	Invited Panelist	Biophysics of Cancer and Health, Ellison Insights Forum, Los Angeles, CA
2021	Invited Lecture	Innovations at the Interface of Science, Engineering, and the Art of Medicine, Canary Cancer Research Education Summer Training (CREST) Program, Stanford University, Palo Alto, CA
2021	Invited Lecture	Innovations at the Interface of Science, Engineering, and the Art of Medicine, Viterbi Honors Colloquium, Los Angeles, CA
2020	Invited Lecture	Blood Profiling Atlas in Cancer: Raising the Bar for Cancer Liquid Biopsy Data in Public Databases, International Society for Biological and Environmental Repositories Annual Meeting, Anaheim, CA
2019	Invited Lecture	An Engineer's Perspective on Shaping A Decade of Cancer Innovation: Importance of Research Participation, 2nd Annual Stomach Cancer Patient and Caregiver Symposium, San Gabriel, CA
2019	Invited Lecture	Innovations at the Interface: Science, Engineering, and the Art of Medicine, 3rd SoCal Taiwanese Biotechnology Symposium, Irvine, CA
2019	Invited Lecture	Are You Out-of-the-box, Out-of-this-world, or Out-of-your-mind? Defining and Funding Innovation in Health Services Research, 2019 AcademyHealth Annual Research Meeting, Washington, DC
2018	Invited Keynote	An Engineer's Perspective on Shaping a Decade of Cancer Innovation and Convergence: Lessons Learned and Future Challenges, Ming Hsieh Institute for Research on Engineering-Medicine for Cancer Symposium: Moving Cancer Research into Clinical Trials, Pasadena, CA
2018	Invited Keynote	Data Sharing: Highlights from NCI Experience and Cancer Moonshot Task Force, 2018 Biomedical Transparency Summit, Bethesda, MD
2017	Invited Keynote	Advancing Innovation and Convergence in Cancer Research: U.S. Federal Cancer Moonshot Efforts, 8 th Taiwan Biosignatures Workshop, Taipei, Taiwan
2017	Invited Keynote	U.S. Federal Cancer Moonshot: One Year Later, Frontiers of Predictive Oncology and Computing, New York City, NY
2017	Invited Lecture	Advancing Innovation and Convergence in Cancer Research: National Cancer Institute's Center for Strategic Scientific Initiatives, Prostate Cancer Foundation Scientific Retreat Young Investigators' Day, Washington, DC
2017	Invited Lecture	Advancing Innovation and Convergence in Cancer Research: National Cancer Institute's Center for Strategic Scientific Initiatives, 232 nd Electrochemical Society Meeting, National Harbor, MD
2017	Invited Keynote	Cancer Moonshot and an Inflection Point in Cancer Care, Southern California Blood Cancer Conference, Leukemia and Lymphoma Society, Anaheim, CA
2017	Invited Keynote	Cancer Moonshot and an Inflection Point in Cancer Care", Northern California Blood Cancer Conference, Leukemia and Lymphoma Society, San Francisco, CA
2016	Invited Keynote	Unleashing the Power of Data: Cancer Moonshot and Artificial Intelligence, NVIDIA GPU Technology Conference, Washington DC
2016	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, 15 th Human Proteome Organization World Congress, Taipei, Taiwan
2016	Invited Keynote	Advancing Innovation and Convergence in Cancer Research, Innovative Minds in Prostate Cancer Today (IMPACT) Meeting, Department of Defense Prostate Cancer Research Program, Baltimore, MD

2015	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Biotechnology in Sustainable Development and Global Health, Innovation 20 Summit, G20, Antalya, Turkey
2015	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Future of Funding Special Plenary Session, Biomedical Engineering Society Annual Meeting, Tampa, FL
2015	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Enabling Technologies Technical Exchange Meeting, U.S.-Australia Joint Commission Meeting on Science and Technology, McClean, VA
2015	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, American Society for Engineering Education Engineering Research Council Annual Meeting, Washington, DC
2015	Invited Lecture	Building the Right Team, Using the Right Resources, and Evaluating Progress, Health and Environmental Sciences Institute Annual Meeting, Washington, DC
2014	Invited Lecture	Advancing Innovation and Convergence in Cancer Research", American Society for Engineering Education Engineering Research Council Annual Meeting, Washington, DC
2013	Invited Symposium	Bioengineering for Medical Diagnostics, Therapeutics, and Imaging (6 session tracks), American Society of Mechanical Engineers 3rd Global Congress on Nanoengineering for Medicine and Biology, San Francisco, CA
2013	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Singapore-U.S. Innovation Conference, Singapore
2013	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Innovation Imperative: Slovakia's Future, Bratislava, Slovakia
2012	Invited Symposium	Bioengineering for Medical Diagnostics, Therapeutics, and Imaging (10 session tracks), American Society of Mechanical Engineers 2nd Global Congress on Nanoengineering for Medicine and Biology, Boston, MA
2012	Invited Lecture	Finding the Needle...Again...and Again...and Again..., World Circulating Tumor Cell Summit, Boston, MA
2012	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Building the Illinois Innovation Economy, U.S. National Academy of Sciences, Chicago, IL
2012	Invited Keynote	Advancing Innovation and Convergence in Cancer Research, 21st Century Challenges and Innovations in the Chemical Industry, Council for Chemical Research 33rd Annual Meeting, Detroit, MI
2012	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, The U.S.-Czech Innovation Conference: Exploring the Innovation Opportunity, U.S. National Academy of Sciences and Academy of Sciences of the Czech Republic, Prague, Czech Republic
2011	Invited Lecture	Advancing Innovation and Convergence in Cancer Research, Meeting Global Challenges: U.S. Innovation Policy, U.S. National Academy of Sciences and German Institute for Economic Research, Berlin, Germany
2011	Invited Lecture	Advancing Innovation and Convergence in Cancer Research", E. Kamakani Noi'i: U.S. National Academy of Sciences and University of Hawaii, Honolulu, HI
2010	Invited Lecture	Convergence of Physical and Life Sciences Perspectives: Cell Mechanics and Cancer, ASME International Mechanical Engineering Congress & Exposition, Vancouver, Canada
2010	Invited Symposium	Convergence of Physics and Life Sciences: Emerging Perspectives in Cancer, American Physical Society Annual Meeting, Portland, OR
2009	Invited Symposium	Physics of Circulating Tumor Cells and Metastasis, American Physical Society Annual Meeting, Pittsburgh, PA
2008	Invited Lecture	Finding the Needle: Challenges, Strategies, and Opportunities, Materials Research Society, Boston, MA
2008	Invited Lecture	Strategies and Opportunities for Emerging Technologies in Cancer Metastasis, Prostate Cancer Skeletal Metastasis Joint Retreat, Atlanta, GA
2007	Invited Lecture	Strategies and Opportunities for Nanotechnology in Cancer, Howard University Nanotechnology Symposium, Washington DC
2006	Invited Lecture	Possibilities of Ballistic Intracellular Nanorheology: From Fluid Flow to Tumor Metastasis, 2006 Fine Particle Society International Conference on Bio and Pharmaceutical Science and Technology, San Diego, CA

INVITED GRAND ROUNDS, CME LECTURES

2025	Cancer Grand Rounds	“Building Patient Journey Lines: Lessons Learned and Future Opportunities for Molecular Driven Adaptive Learning Healthcare Systems”, Cancer Grand Rounds, Cedars-Sinai, Los Angeles, CA
2020	CME Lecture	“Omics, Data, and Real World Evidence”, Oncology Updates, Oncology Nursing Society, Sacred Heath Medical Center, Spokane, WA
2019	Ground Rounds	Basic and Translational Surgery Grand Rounds, Department of Surgery, University of Southern California, Los Angeles, CA
2017	CME Lecture	Federal Cancer Moonshot, Murtha Cancer Center Research Seminar, Bethesda, MD

THESIS:

2006	PhD	Johns Hopkins University	Nuclear and Cellular Mechanics: Implications for Laminopathies and Cancer
------	-----	--------------------------	---

PUBLICATIONS:

REFEREED JOURNAL ARTICLES:

1. Singhera, FU, Overhulse JM, Lee TM, Katz JE, Lee JSH, McKenna CE. Big Data and Artificial Intelligence in Cancer Drug Discovery: Promise, Challenges, and Emerging Opportunities. *Cancers*. 2026. PMID: [42794906](#).
2. Yang L, Bryan ME, Veiga E, Lowenhoff I, Wan A, Mina I, Allen T, Alfaro JA, Bloomfield G, Beach J, Dahlgren K, Davis NK, Fontana E, Gennatas S, Ghafoor Q, Housseau F, Lubelski D, Zhang Z, Hancock M, Ince W, James D, Khan S, Kunene V, McGrane J, Millen GC, Moxley-Wyles B, Narganes-Carlson D, Payne M, Ross PJ, Roux R, Rowe M, Lee R, Lee JSH, Liu JKH, Aggarwal D, Teoh ABS, Thirlwell C, Tilby M, Symeonides S, Watts I, Agus DB, Ono SJ, Elliott T, Calleja P, Lee LYW. Sovereign AI supercomputers: a global landscape review of unprecedented biomedical research infrastructure. *Front Artif Intell*. 2026. PMID: [42318580](#).
3. Silvestro A, Baden J, Billings K, Bramlett K, Corner A, Danek T, Deras I, Dickey J, Godsey JH, Guan L, Hutchinson T, Johann DJ, Lee JSH, Lin CJ, Lococo JS, Lopez Ramos D, Richardson AO, Stetson D, Wenz P, Leiman LC. Generic Protocols for the Analytical Validation of Next-Generation Sequencing-Based Circulating Tumor DNA Assays, Version 2.0. *JCO Precis Oncol*. 2026. PMID: [42114037](#).
4. Baden J, Lin CJ, Anfora AT, Beer J, Bisselou K, Bungo J, Corner AS, Danek T, Dickey J, Godsey JH, Johann DJ, Jones G, Karlin-Neumann G, Larson JL, Lee JSH, Liu L, Lopez Ramos D, Merriam D, Palomares M, Pena CE, Rathbun J, Rhodes K, Connolly Rohrbach JE, Saritas-Yildirim B, Sausen M, Zhang S, Leiman LC. Generic Protocols for Analytical Validation of Tumor-Informed Circulating Tumor DNA Assays for Molecular Residual Disease: The Blood Profiling Atlas in Cancer's Molecular Residual Disease Analytical Validation Working Group Consensus Recommendation. *JCO Precis Oncol*. 2026. PMID: [41533993](#).
5. Alba MM, Lee WH, Lee JSH, Lu Z, Stiles B, Ligumsky H. Expression and functional diversity of the glucagon-like peptide-1 receptor across tumor types. *Discov Oncol*. 2025. PMID: [41331220](#).
6. Raj-Kumar PK, Liu J, Soltis AR, Bateman NW, Chen Q, Sturtz LA, Deyarmin B, Pierobon M, Abulez TA, Praveen-Kumar A, Zhang X, Nguyen T, Yan C, Hu Y, Guion K, Hooke JA, Kovatich AJ, Fantacone-Campbell L, Mostoller B, Kvecher L, Somiari S, Steeg PS, Rajagopal PS, Darcy KM, Lee JSH, Dalgard CL, Conrads TP, Petricoin EF, Meerzaman D, Wilkerson MD, Lin X, Shriver CD, Lipkowitz S, Hu H. Proteogenomic characterization of invasive breast tumors in young women. *NPJ Breast Cancer*. 2025. PMID: [40826002](#).
7. Clarke CA, Mitchell BL, Alme E, Beer JP, Beer TM, Beidelschies MA, Hoyos J, Klein EA, Kuhn P, Krunic N, Lang K, Lee JSH, Lopez Ramos D, Morgenstern D, Putcha G, Quinn E, Raymond VM, Rubinstein WS, Sanchez SA, Serra RW, Stewart MD, Leiman LC. Navigating Complexity: Perspectives on Risk Assessment in the Era of New Blood-Based Tests for Early Cancer Detection. *Clin Cancer Res*. 2025. PMID: [40198129](#).
8. Chen X, Ligumsky H, Ambrose C, Sibrian D, Tran B, Arif D, Castellanos O, Kessner D, Luo H, Ubale M, Coleman A, Mahaganapathy V, Jönsson TJ, Basho RK, Lee JSH, Matasci N, Agus DB. Monitoring the rate and variability of somatic genomic alterations using long-read sequencing. *Sci Rep*. 2025. PMID: [40500302](#).
9. Grossman RL, Vinson J, Bain E, Bisselou K, Chandan S, Compton C, Hu J, Johann DJ, Jones F, Jones G, LeBlang S, Lee JSH, Lichtenberg T, Lockwood CM, Lyle J, Martini JF, Merker JD, Saunders L, Scher H, Somiari S, You J, Leiman LC. Recommended Clinical Context and Patient Context Data Elements for Liquid Biopsy Data Submitted to Data Repositories and Data Commons. *Clin Transl Sci*. 2025. PMID: [40261285](#).

10. Lockwood CM, Merker JD, Bain E, Compton C, Grossman RL, Johann D, Jones F, Jones G, Kreifels M, LeBlang S, Lee JSH, Lyle J, Martini JF, Saunders L, Scher H, Somiari S, Stewart M, Vinson J, Leiman LC. Towards Preanalytical Best Practices for Liquid Biopsy Studies: A BLOODPAC Landscape Analysis. *Clin Pharmacol Ther.* 2025. PMID: [39164947](#).
11. Clarke CA, Mitchell BL, Putcha G, Alme E, Bach P, Beer JP, Beer TM, Beidelschies MA, Hoyos J, Klein E, Kuhn P, Kronic N, Lang K, Lee JSH, Lopez Ramos D, Morgenstern D, Quinn E, Raymond VM, Rubinstein WS, Sanchez SA, Serra R, Stewart M, Leiman LC. Lexicon for blood-based early detection and screening: BLOODPAC consensus document. *Clin Transl Sci.* 2024. PMID: [39206679](#).
12. Lockwood CM, Merker JD, Bain E, Compton C, Grossman RL, Johann D, Jones F, Jones G, Kreifels M, LeBlang S, Lee JSH, Lyle J, Martini JF, Saunders L, Scher H, Somiari S, Stewart M, Vinson J, Leiman LC. Towards Preanalytical Best Practices for Liquid Biopsy Studies: A BLOODPAC Landscape Analysis. *Clin Pharmacol Ther.* 2024. PMID: [39164947](#).
13. Feldman TC, Kaplan DE, Lin A, La J, Lee JSH, Aljehani M, Tuck DP, Brophy MT, Fillmore NR, Do NV. Phenotyping Hepatic Immune-Related Adverse Events in the Setting of Immune Checkpoint Inhibitor Therapy. *JCO Clin Chem Inform.* 2024. PMID: [38728613](#).
14. Trettner KJ, Hsieh J, Xiao W, Lee JSH, Armani AM. Nondestructive, quantitative viability analysis of 3D tissue cultures using machine learning image segmentation. *APL Bioeng.* 2024. PMID: [38566822](#).
15. Bateman NW, Abulez T, Soltis AR, McPherson A, Choi S, Garsed DW, Pandey A, Tian C, Hood BL, Conrads KA, Teng PN, Oliver J, Gist G, Mitchell D, Litzi TJ, Tarney CM, Crothers BA, Mhawech-Fauceglia P, Dalgard CL, Wilkerson MD, Pierobon M, Petricoin EF, Yan C, Meerzaman D, Bodelon C, Wentzensen N, Lee JSH, Huntsman DG, Shah S, Shriver CD, Phippen NT, Darcy KM, Bowtell DDL, Conrads TP, Maxwell GL. Proteogenomic analysis of enriched HGSOE tumor epithelium identifies prognostic signatures and therapeutic vulnerabilities. *NPJ Precis Oncol.* 2024. PMID: [38480868](#).
16. Moradi Y, Lee JSH, Armani AM. Detecting Disruption of HER2 Membrane Protein Organization in Cell Membranes with Nanoscale Precision. *ACS Sens.* 2023. PMID: [37955934](#).
17. Aljehani MA, Bien J, Lee JSH, Fisher GA Jr, Lin AY. KRAS Sequence Variation as Prognostic Marker in Patient With Young- vs Late-Onset Colorectal Cancer. *JAMA Netw Open.* 2023 PMID: [38032636](#).
18. Eaglehouse YL, Seabury SA, Aljehani M, Koehlmoos T, Lee JSH, Shriver CD, Zhu K. Chemotherapy Treatment Costs and Clinical Outcomes of Colon Cancer in the U.S. Military Health System's Direct and Private Sector Care Settings. *Mil Med.* 2023 PMID: [37167011](#).
19. Rodriguez GM, DePuy D, Aljehani M, Bien J, Lee JSH, Wang DH, Lin AY. Trends in Epidemiology of Esophageal Cancer in the US, 1975-2018. *JAMA Netw Open.* 2023 PMID: [37606926](#).
20. Hernandez KM, Bramlett KS, Agius P, Baden J, Cao R, Clement O, Corner AS, Craft J, Dean DA 2nd, Dry JR, Grigaityte K, Grossman RL, Hicks J, Higa N, Holzer TR, Jensen J, Johann DJ, Katz S, Kolatkar A, Keynton JL, Lee JSH, Maar D, Martini JF, Meyer CG, Roberts PC, Ryder M, Salvatore L, Schageman JJ, Somiari S, Stetson D, Stern M, Xu L, Leiman LC. Contrived Materials and a Data Set for the Evaluation of Liquid Biopsy Tests: A Blood Profiling Atlas in Cancer (BLOODPAC) Community Study. *J Mol Diagn.* 2023 PMID: [36828596](#).
21. Soltis AR, Bateman NW, Liu J, Nguyen T, Franks TJ, Zhang X, Dalgard CL, Viollet C, Somiari S, Yan C, Zeman K, Skinner WJ, Lee JSH, Pollard HB, Turner C, Petricoin EF, Meerzaman D, Conrads TP, Hu H; APOLLO Research Network, Shriver CD, Moskaluk CA, Browning RF Jr, Wilkerson MD. Proteogenomic analysis of lung adenocarcinoma reveals tumor heterogeneity, survival determinants, and therapeutically relevant pathways. *Cell Rep Med.* 2022 PMID: [36384096](#).
22. Ung N, Goldbeck C, Man C, Hoeflich J, Sun R, Barbetta A, Matasci N, Katz J, Lee JSH, Chopra S, Asgharzadeh S, Warren M, Sher L, Kohli R, Akbari O, Genyk Y, Emamaullee J. Adaptation of Imaging Mass Cytometry to Explore the Single Cell Alloimmune Landscape of Liver Transplant Rejection. *Front Immunol.* 2022. PMID: [35432320](#).
23. Emamaullee JA, Aljehani M, Hogen RVT, Zhou K, Lee JSH, Sher LS, Genyk YS. Potential association between public medical insurance, waitlist mortality, and utilization of living donor liver transplantation: An analysis of the Scientific Registry of Transplant Recipients. *Clin Transplant.* 2021. PMID: [34236113](#).
24. Erbe R, Wang Z, Wu S, Xiu J, Zaidi N, La J, Tuck D, Fillmore N, Giraldo NA, Topper M, Baylin S, Lippman M, Isaacs C, Basho R, Serebriiskii I, Lenz HJ, Astsaturov I, Marshall J, Taverna J, Lee J, Jaffee EM, Roussos Torres ET, Weeraratna A, Easwaran H, Fertig EJ. Evaluating the impact of age on immune checkpoint therapy biomarkers. *Cell Rep.* 2021. PMID: [34433020](#).
25. Rocque B, Barbetta A, Singh P, Goldbeck C, Helou DG, Loh YE, Ung N, Lee JSH, Akbari O, Emamaullee J. Creation of a Single Cell RNASeq Meta-Atlas to Define Human Liver Immune Homeostasis. *Front Immunol.* 2021. PMID: [34335581](#).
26. Grossman RL, Dry JR, Hanlon SE, Johann DJ, Kolatkar A, Lee JSH, Meyer C, Salvatore L, Wells W, Leiman L. BloodPAC Data Commons for Liquid Biopsy Data. *JCO Clin Cancer Inform.* 2021 PMID: [33929890](#).

27. Patsch K, Liu C, Zapotoczny G, Sun Y, Sura H, Ung N, Sun RX, Haliday B, Yu C, Aljehani M, Lee JSH, Kashemirov BA, Agus DB, McKenna CE, Ruderman D. Paradoxical androgen receptor regulation by small molecule enantiomers. *Proc Natl Acad Sci U S A*. 2021. PMID: [33741738](#).
28. La J, Cheng D, Brophy MT, Do NV, Lee JSH, Tuck D, Fillmore NR. Real-World Outcomes for Patients Treated With Immune Checkpoint Inhibitors in the Veterans Affairs System. *JCO Clin Cancer Inform*. 2020. PMID: [33074743](#).
29. Godsey JH, Silvestro A, Barrett JC, Bramlett K, Chudova D, Deras I, Dickey J, Hicks J, Johann DJ, Leary R, Lee JSH, McMullen J, McShane L, Nakamura K, Richardson AO, Ryder M, Simmons J, Tanzella K, Yee L, Leiman LC. Generic Protocols for the Analytical Validation of Next-Generation Sequencing-Based ctDNA Assays: A Joint Consensus Recommendation of the BloodPAC's Analytical Variables Working Group. *Clin Chem*. 2020. PMID: [32870995](#).
30. Hasnain Z, Nilanon T, Li M, Mejia A, Kolatkar A, Nocera L, Shahabi C, Cozzens Philips FA, Lee JSH, Hanlon SE, Vaidya P, Ueno NT, Yennu S, Newton PK, Kuhn P, Nieva J. Quantified Kinematics to Evaluate Patient Chemotherapy Risks in Clinic. *JCO Clin Cancer Inform*. 2020. PMID: [32598179](#).
31. Febbo PG, Martin AM, Scher HI, Barrett JC, Beaver JA, Beresford PJ, Blumenthal GM, Bramlett K, Compton C, Dittamore R, Eberhard DA, Edelstein D, Godsey J, Gruen A, Hanlon SE, Hicks J, Hovelson D, Hullings M, Johann D, Johnson J, Kolatkar A, Kuhn P, Levine R, Martini JF, Miller DP, Moore C, Moy B, Pathak A, Philip R, Reese D, Royalty W, Ryder M, Sakul H, Salvatore LM, Schade A, Silvestro A, Simmons JK, Simons J, Singh Bhan S, Smalley MD, Somiari SB, Talasaz A, Tewari M, Tseng HR, Vinson J, Wells W, Welsh A, Grossman RL, Lee JSH, Leiman LC. Minimum Technical Data Elements for Liquid Biopsy Data Submitted to Public Databases. *Clin Pharmacol Ther*. 2020 Apr;107(4):730-734. doi: 10.1002/cpt.1747. 2020. PMID: [32017048](#).
32. Gerdtsen AS, Thiele JA, Shishido SN, Zheng S, Schaffer R, Bethel K, Curley S, Lenz HJ, Hanna DL, Nieva J, Kolatkar A, Ruiz C, Rodriguez-Lee M, Oakley Iii GJ, Lee JSH, Hicks J, Kuhn P. Single cell correlation analysis of liquid and solid biopsies in metastatic colorectal cancer. *Oncotarget*. 2019. PMID: [31903162](#).
33. Eaglehouse YL, Aljehani M, Georg MW, Castellanos O, Lee JSH, Seabury SA, Shriver CD, Zhu K. Contribution Of Care Source To Cancer Treatment Cost Variation In The US Military Health System. *Health Affairs*, 38(8):1335-1342, 2019. PMID: [31381409](#).
34. Broderick JE, May M, Schwartz JE, Li M, Mejia A, Nocera L, Kolatkar A, Ueno NT, Yennu S, Lee JSH, Hanlon SE, Cozzens Philips FA, Shahabi C, Kuhn P, Nieva J. Patient Reported Outcomes Can Improve Performance Status Assessment: a Pilot Study. *J Patient Rep Outcomes*. 16;3(1):41, 2019. PMID: [31313047](#).
35. Piehowski PD, Petyuk VA, Sontag RL, Gritsenko MA, Weitz KK, Fillmore TL, Moon J, Makhlof H, Chuaqui RF, Boja ES, Rodriguez H, Lee JSH, Smith RD, Carrick DM, Liu T, Rodland KD. Residual Tissue Repositories as a Resource for Population-based Cancer Proteomic Studies. *Clinical Proteomics*, 3;15:26, 2018. PMID: [30087585](#).
36. Jayatilaka H., Umanzor FG, Shah V, Meirson T, Russo G, Starich B, Tyle P, Lee JSH, Khatau S, Gil-Henn H, Wirtz D. Tumor cell density regulates matrix metalloproteinases for enhanced migration. *Oncotarget*, 24;9(66):32556-32569, 2018. PMID: [30220965](#).
37. Wu PH, Aroush DR, Asnacios A, Chen WC, Dokukin ME, Doss BL, Durand-Smet P, Ekpenyong A, Guck J, Guz NV, Janmey PA, Lee JSH, Moore NM, Ott A, Poh YC, Ros R, Sander M, Sokolov I, Staunton JR, Wang N, Whyte G, Wirtz D. A Comparison of Methods to Assess Cell Mechanical Properties. *Nature Methods*, 15(7):491-498, 2018. PMID: [29915189](#).
38. Keating, SM, Taylor DL, Plant AL, Litwack E, Kuhn P, Greenspan EJ, Hartshorn CM, Sigman CC, Kelloff GJ, Chang D, Friberg G, Lee JSH, Kuida K. Opportunities and Challenges in Implementation of Multiparameter Single Cell Analysis Platforms for Clinical Translation. *Clinical and Translational Science*, 11(3):267-276, 2018. PMID: [29498218](#).
39. Sharma P, Ng C, Jana A, Padhi A, Szymanski P, Lee JSH, Behkam B, Nain AS. Aligned Fibers Direct Collective Cell Migration to Engineer Closing and Non-Closing Wound Gaps. *Molecular Biology of the Cell*, 28(19):2579-2588, 2017. PMID: [28747440](#).
40. Phillip JM, Wu PH, Gilkes DM, Williams W, McGovern S, Daya J, Chen J, Aifuwa I, Lee JSH, Fan R, Walston J, Wirtz D. Determination of Cellular Biological Age in Health and Disease. *Nature Biomedical Engineering*. 1:0093, 2017. PMID: [31372309](#).
41. Jayatilaka H, Tyle P, Chen JJ, Kwak M, Ju J, Kim HJ, Lee JSH, Wu PH, Gilkes DM, Fan R, Wirtz D. Novel Synergistic IL6/8 Paracrine Signaling Pathway Infers New Strategy to Inhibit Tumor Cell Migration. *Nature Communications*. 8:15584, 2017. PMID: [28548090](#).
42. Kowack E, Multani P, McCarthy W, Hornby Z, Li G, Landin R, Yamamoto M, Christiansen J, Lee JSH, Lim J. Innovative Methodologies to Drive Enrollment of Molecularly Defined Patient Populations for Diagnostic-Enabled Basket Studies. *Journal of Precision Medicine*. 5:34-39, 2017. PMID: N/A.
43. Grossman RL, Abel B, Angiuoli S, Barrett JC, Bassett D, Bramlett K, Blumenthal GM, Carlsson A, Cortese R, DiGiovanna J, Davis-Dusenbery B, Dittamore R, Eberhard DA, Febbo P, Fitzsimons M, Flamig Z, Godsey J, Goswami J, Gruen A, Ortuño F, Han J, Hayes D, Hicks J, Holloway D, Hovelson D, Johnson J, Juhl H, Kalamegham R, Kamal R, Kang Q, Kelloff GJ, Klozenbuecher M, Kolatkar A, Kuhn P, Langone K, Leary R, Loverso P, Manmathan H, Martin AM, Martini J, Miller D, Mitchell M, Morgan T, Mulpuri R, Nguyen T, Otto G, Pathak A, Peters E, Philip R, Posadas

- E, Reese D, Reese MG, Robinson D, Dei Rossi A, Sakul H, Schageman J, Singh S, Scher HI, Schmitt K, Silvestro A, Simmons J, Simmons T, Sislow J, Talasaz A, Tang P, Tewari M, Tomlins S, Toukhy H, Tseng HR, Tuck M, Tzou A, Vinson J, Wang Y, Wells W, Welsh A, Wilbanks J, Wolf J, Young L, Lee JSH, Leiman LC. Collaborating to Compete: Blood Profiling Atlas in Cancer (BloodPAC) Consortium. *Clinical Pharmacology & Therapeutics*. 101(5):589-5922, 2017. PMID: [28187516](#)
44. Kievit FM, Florkczyk SJ, Leung MC, Wang K, Wu JD, Silber JR, Ellenbogen RG, Lee JSH, Zhang M. Proliferation and Enrichment of CD133(+) Glioblastoma Cancer Stem Cells on 3D Chitosan-alginate Scaffolds. *Biomaterials*. 35(33):9137-43, 2014. PMID: [25109438](#).
 45. Carr SA, Abbatiello SE, Ackermann BL, Borchers C, Domon B, Deutsch EW, Grant RP, Hoofnagle AN, Hüttenhain R, Koomen JM, Liebler DC, Liu T, MacLean B, Mani DR, Mansfield E, Neubert H, Paulovich AG, Reiter L, Vitek O, Aebersold R, Anderson L, Bethem R, Blonder J, Boja E, Botelho J, Boyne M, Bradshaw RA, Burlingame AL, Chan D, Keshishian H, Kuhn E, Kinsinger C, Lee JSH, Lee SW, Moritz R, Oses-Prieto J, Rifai N, Ritchie J, Rodriguez H, Srinivas PR, Townsend RR, Van Eyk J, Whiteley G, Wiita A, Weintraub S. Targeted Peptide Measurements in Biology and Medicine: Best Practices for Mass Spectrometry-based Assay Development Using a Fit-for-Purpose Approach. *Molecular and Cellular Proteomics*. 13(3):907-917, 2014. PMID: [24443746](#).
 46. Chen WC, Wu PH, Phillip JM, Khatau SB, Choi JM, Dallas MR, Konstantopoulos K, Sun SX, Lee JSH, Hodzic D, Wirtz D. Functional Interplay Between the Cell Cycle and Cell Phenotypes. *Integrative Biology*. 5(3): 523-34, 2013. PMID: [23319145](#).
 47. Hsu ER, Williams DE, Dijoseph LG, Schnell JD, Finstad SL, Lee JSH, Greenspan EJ, Corrigan JG. Rapid and automated assessment of new biomedical research funding initiatives: application to the National Cancer Institute's Provocative Question initiative. *Research Evaluation*. 22(5):272-284, 2013. PMID: [24808631](#).
 48. Kievit FM, Cooper A, Jana S, Leung MC, Wang K, Edmondson D, Wood D, Lee JSH, Ellenbogen RG, Zhang M. Aligned chitosan-polycaprolactone polyblend nanofibers promote the migration of glioblastoma cells. *Advanced Healthcare Materials*. 2(12):1651-9, 2013. PMID: [23776187](#).
 49. Khatau SB, Kusuma S, Hanjaya-Putra D, Mali P, Cheng L, Lee JS, Gerecht S, Wirtz D. The Differential Formation of the LINC-mediated Perinuclear Actin Cap in Pluripotent and Somatic Cells. *PLoS ONE*. 7(5):e36689, 2012. PMID: [22574215](#).
 50. Parkinson DR, Dracopoli N, Petty BG, Compton C, Cristofanilli M, Deisseroth A, Hayes DF, Kapke G, Kumar P, Lee JSH, Liu MC, McCormack R, Mikulski S, Nagahara L, Pantel K, Pearson-White S, Punnoose EA, Roadcap LT, Schade AE, Scher HI, Sigman CC, Kelloff GJ. Considerations in the Development of Circulating Tumor Cell Technology For Clinical Use. *Journal of Translational Medicine*. 10(1):138, 2012. PMID: [22747748](#)
 51. Wu PH, Hale CM, Chen WC, Lee JSH, Tseng Y, Wirtz D. High-throughput Ballistic Injection Nanorheology to Measure Cell Mechanics. *Nature Protocols*. 7:155-70, 2012. PMID: [22222790](#).
 52. Hale CM, Chen WC, Khatau SB, Daniels BR, Lee JSH, Wirtz D. SMRT Analysis of MTOC and Nuclear Positioning Reveals the Role of EB1 and LIC1 in Single-cell Polarization. *Journal of Cell Science*. 124:4267-85, 2011. PMID: [22193958](#).
 53. Veisheh O, Gunn JW, Kievit FM, Sun C, Fang C, Lee JSH, Zhang M. Inhibition of Tumor Cell Invasion with Chlorotoxin-Bound Superparamagnetic Nanoparticles. *Small*. 5(2):256-64, 2009. PMID: [19089837](#).
 54. Lee JSH, Hale CM, Panorchan P, Khatau SB, George JP, Tseng Y, Stewart CL, Hodzic D, Wirtz D. Nuclear lamin A/C Deficiency Induces Defects in Cell Mechanics, Polarization, and Migration. *Biophysical Journal*. 93(7):2542-52, 2007. PMID: [17631533](#).
 55. Lee, J.S.H., P. Panorchan, C.M. Hale, S.B. Khatau, T.P. Kole, Y. Tseng, D. Wirtz. Ballistic Intracellular Nanorheology Reveals ROCK-Hard Cytoplasmic Stiffening Response to Fluid Flow. *Journal of Cell Science*. 119: 1760-1768, 2006. PMID: [16636071](#).
 56. Panorchan P, Lee JSH, Kole TP, Tseng Y, Wirtz D. Microrheology and ROCK Signaling of Human Endothelial Cells Embedded in a 3D Matrix. *Biophysical Journal*. 91(9):3499-507, 2006. PMID: [16891369](#).
 57. Tseng Y, Kole TP, Lee JSH, Fedorov E, Almo SC, Schafer BW, Wirtz D. How Actin Crosslinking and Bundling Proteins Cooperate to Generate an Enhanced Cell Mechanical Response. *Biochemical and Biophysical Research Communications*. 334:183-192, 2005. PMID: [15992772](#).
 58. Lee JSH, Chang MI, Tseng Y, Wirtz D. Cdc42 Mediates Nucleus Movement and MTOC Polarization in Swiss 3T3 Fibroblasts under Mechanical Shear Stress. *Molecular Biology of the Cell*. 16:871-880, 2005. PMID: [15548602](#).
 59. Tseng Y, Lee JSH, Kole TP, Jiang I, Wirtz D. Micro-Organization and Visco-elasticity of the Interphase Nucleus Revealed by Particle Nanotracking. *Journal of Cell Science*. 117:2159-67, 2004. PMID: [15090601](#).
 60. Tseng Y, Kole TP, Lee SHJ, Wirtz D. Local Dynamics and Viscoelastic Properties of Cell Biological Systems. *Current Opinion in Colloid & Interface Science*. 7:210-217, 2002. PMID: N/A.

REFEREED JOURNAL ARTICLES IN PRESS:

REFEREED REVIEWS, CHAPTERS, AND EDITORIALS:

1. Manley, K and Lee JSH. Drowning in data, starving for access: unlocking the bottleneck in molecular medicine and cancer research. *Health Systems*. 2026. PMID: [41716852](#).
2. Barker AD, Alba MM, Mallick P, Agus DB, Lee JSH. An Inflection Point in Cancer Protein Biomarkers: What Was and What's Next. *Mol Cell Proteomics*. 2023. PMID: [37196763](#).
3. Clarke CA, Mitchell BL, Putcha G, Alme E, Bach P, Beer JP, Beer TM, Beidelschies MA, Hoyos J, Klein E, Kuhn P, Kronic N, Lang K, Lee JSH, Lopez Ramos D, Morgenstern D, Quinn E, Raymond VM, Rubinstein WS, Sanchez SA, Serra R, Stewart M, Leiman LC. BLOODPAC: Collaborating to chart a path towards blood-based screening for early cancer detection. *Clin Transl Sci*. 2022. PMID: [36251491](#).
4. Barker AD and Lee JSH. Translating "Big Data" in Oncology for Clinical Benefit: Progress or Paralysis. *Cancer Research*. 2022. PMID: [35416976](#).
5. Files DC, Matthay MA, Calfee CS, Aggarwal NR, Asare AL, Beitler JR, Berger PA, Burnham EL, Cimino G, Coleman MH, Crippa A, Discacciati A, Gandotra S, Gibbs KW, Henderson PT, Ittner CAG, Jauregui A, Khan KT, Koff JL, Lang J, LaRose M, Levitt J, Lu R, McKeehan JD, Meyer NJ, Russell DW, Thomas KW, Eklund M, Esserman LJ, Liu KD. I-SPY COVID adaptive platform trial for COVID-19 acute respiratory failure: rationale, design and operations. *BMJ Open*. 2022. PMID: [35667714](#)
6. I-SPY COVID Consortium. Clinical trial design during and beyond the pandemic: the I-SPY COVID trial. *Nat Med.*, 2022. PMID: [35058620](#).
7. Armani, AM and Lee JSH. Evaluating the impact of ideation and actualization of multidisciplinary research. *Commun. Phys.* 4, 208, 2021. PMID: N/A. [Article Link](#)
8. Way GP, Greene CS, Carninci P, Carvalho BS, de Hoon M, Finley SD, Gosline SJC, Lê Cao KA, Lee JSH, Marchionni L, Robine N, Sindi SS, Theis FJ, Yang JYH, Carpenter AE, Fertig EJ. A field guide to cultivating computational biology. *PLoS Biol*. 2021. PMID: [34618807](#).
9. Lee JSH, Darcy KM, Hu H, Casablanca Y, Conrads TP, Dalgard CL, Freymann JB, Hanlon SE, Huang GD, Kvecher L, Maxwell GL, Meng F, Moncur JT, Turner C, Wells JM, Wilkerson MD, Zhu K, Ramoni RB, Shriver CD. From Discovery to Practice and Survivorship: Building a National Real-World Data Learning Healthcare Framework for Military and Veteran Cancer Patients. *Clin Pharmacol Ther.* 106(1):52-57, 2019. PMID: [30838639](#)
10. Rivera DR, Lee JSH, Hsu E, Khoury MJ, Meng F, Olivero O, Penberthy L, Tourassi GD. Harnessing the Power of Collaboration and Training Within Clinical Data Science to Generate Real-World Evidence in the Era of Precision Oncology. *Clin Pharmacol Ther.* 106(1):60-66, 2019. PMID: [31166005](#)
11. Lee JSH, Kibbe WA, Grossman RL. Data Harmonization for a Molecularly Driven Health System. *Cell*. 174(5):1045-1048, 2018. PMID: [30142341](#)
12. Lee JSH, Blumenthal GM, Hohl RJ, Huang SM. Cancer Therapy: Shooting for the Moon. *Clinical Pharmacology & Therapeutics*. 101(5):552-558, 2017. PMID: [28418166](#)
13. Dawson MR, Tseng Y, Lee JSH, McAndrews KM. Intracellular Particle Tracking Rheometry. *CRC Handbook of Imaging in Biological Mechanics*. 381-388, 2014. PMID: N/A
14. Scott D, Tan W, Lee JSH, McCarty OJ, Hinds MT. Vascular Cell Physiology Under Shear Flow: Role of Cell Mechanics and Mechanotransduction. *Mechanical and Chemical Signalling in Angiogenesis, Studies in Mechanobiology, Tissue Engineering, and Biomaterials*. 12:121-141, 2013. PMID: N/A
15. Lee JSH and Wirtz, D. "Physical Oncology", *Physical Biology*, 8(1):010301, 2011. PMID: [21368347](#).
16. Moore NM, Kuhn NZ, Hanlon SE, Lee JSH, Nagahara LA. De-convoluting cancer's complexity: using a 'physical sciences lens' to provide a different (clearer) perspective of cancer. *Physical Biology*. 8(1):010302, 2011. PMID: [21368346](#)
17. Fraley SI, Hale CM, Bloom RJ, Celedon A, Lee JSH, Wirtz D. Intra- and Extracellular Microrheology of Endothelial Cells in 3D Matrix. *Biological and Medical Physics, Biomedical Engineering: Biophysical Regulation of Vascular Differentiation and Assembly*. 1:69-87, 2011. PMID: N/A
18. Nagahara LA, Lee JSH, Molnar LK, Panaro NJ, Farrell D, Ptak K, Alper J, Grodzinski P. Strategic Workshops on Cancer Nanotechnology. *Cancer Research*. 70(11):4265-8, 2010. PMID: [20460532](#).
19. Lee JSH, Cheng J, Kim KY. Next Generation Nanosolutions for Cancer Treatment and Diagnosis. *Cancer and Chemotherapy Reviews*. 3:144-51, 2008. PMID: N/A
20. Sun C, Lee JSH, Zhang M. Magnetic Nanoparticles in MR Imaging and Drug Delivery. *Advanced Drug Delivery Reviews*. 60(11):1252-65, 2008. PMID: [18558452](#).
21. Panorchan P, Lee JSH, Daniels BR, Kole TP, Tseng Y, Wirtz D. Probing Cellular Mechanical Responses to Stimuli Using Ballistic Intracellular Nanorheology. *Methods in Cell Biology: Cell Mechanics*. 83:115-40, 2007. PMID: [17613307](#).

NON-REFEREED JOURNAL ARTICLES, REVIEWS, OR OTHER COMMUNICATIONS:

1. Elder SG and Lee JSH. Advancing Convergence and Innovation in Cancer Research: National Cancer Institute Center for Strategic Scientific Initiatives (CSSI). *Electrochemical Society Transactions*. 80(10):1315-1318, 2017. PMID: N/A.
2. Ponomarev I, Sulima P, Basner J, Jensen U, Schnell J, Jo K, Nagahara LA, Lee JSH, Moore NM. A New Approach for Automated Author Discipline Categorization and Evaluation of Cross-disciplinary Collaborations for Grant Programs. *Proceedings of ISSI 2013- 14th International Society of Scientometrics and Informetrics Conference*. 2:2066-2068, 2013. PMID: N/A.
3. Kuhn NZ, Hanlon SE, Calcagno AM, Moore NM, Lee JSH, Nagahara LA. National Cancer Institute's Physical Sciences in Oncology Program. *Nature Physics*. 6(10):760-761. PMID: N/A.

BOOKS, MONOGRAPHS, AND TEXT BOOKS:

1. Jerry S.H. Lee. The Force in Biology. *VDM Verlag*. 2008

ABSTRACTS AND PRESENTATIONS:

1. Dabke K, Kyle J, Liu T, Lei J, Lee JSH, Katz JE. Structural Similarity Guided Design of Internal Standards for Exposure Science Enabling Class Based Normalization in Untargeted Metabolomics Studies. *American Society for Mass Spectrometry*, 2026.
2. Basho R, Heredia EA, McArthur H, Fang Z, LeVee A, Narumi V, Hamid E, Papasian L, Jonsson T, Dadmanesh F, Bose S, Patre S, Keller T, Paine J, Tran B, Simental B, Castellanos O, Lee JSH, Shiao S, Agus D, Matasci N. Prediction of Pathologic Complete Response from Histopathology Images of HER2+ Breast Cancer Using an AI Foundation Model. *San Antonio Breast Cancer Symposium*, San Antonio, TX, December 2025.
3. Li E, Lee W, Mahaganapathy V, Alba M, Mitchell K, Lee JSH, Vicente D. *Neural Network Accurately Predicts Negative Surgical Margins in Pan-Cancer Model*, Computational Cove Symposium, Claremont McKenna College, CA, October 2025.
4. Heredia E, Paine J, Patre S, Jonsson T, Keller T, Fang Z, Narumi V, Katiyar I, Lagerstrom I, Lombardo J, Lee JSH, Basho R, Agus DB, Matasci N: Detecting obesity-associated histopathology characteristics in breast cancer using an AI foundation model. *AACR Special Conference in Cancer Research: Artificial Intelligence and Machine Learning*. Montreal, Canada, July 2025.
5. Singhera, FU, Kimmerling R, Chen X, Campbell L, Katz J, Basho R, Wells J, Kovatich A, Press MF, Lee JSH. Single-cell mass-based mixture model for perturbation response characterization in breast cancer. *Biophysical Society Annual Meeting*. Los Angeles, CA, February 2025.
6. Raj-Kuman, P-K., J. Liu, A.R. Soltis, N.W. Bateman, Q. Chen, L.A. Sturtz, B. Deyarmin, M. Pierobon, T.A. Abulez, A. Praveen-Kumar, X. Zhang, T. Nguyen, C. Yan, Y. Hu, K. Guion, J.A. Hooke, A.J. Kovatich, L. Fantacone-Campbell, B. Mostoller, L. Kvecher, S. Somiari, P.S. Steeg, P.S. Rajagopal, K.M. Darcy, J.S.H. Lee, C.L. Dalgard, T.P. Conrads, E.F. Petricoin, D. Meerzaman, M.D. Wilkerson, APOLLO Research Network, X. Lin, C.D. Shriver, S. Lipkowitz, H. Hu. Proteogenomic Characterization of Primary Invasive Breast Tumors from Young Women Compared to Match Tumors from Older Women. *Military Health System Research Symposium*, 2024
7. Casey, W., J. Kyle, M. Embry, C.L. Sake, T. Liu, S. Somiari, J.S.H. Lee, C.D. Shriver, J.E. Katz. Development and Characterization of a Set of Internal Standards, Chemical Libraries and Long Term Reference Samples to Enable Service Member Related Exposure Studies. ([Link](#)) *Military Health System Research Symposium*, 2024
8. Sake, C.L., A.Y. Yoon, K. Dabke, S. Sominari, K. Miller, H. Blackburn, H. Hu, J.S.H. Lee, C.D. Shriver, J.E. Katz. Evaluation of Red Blood Cell Depletion in Blood Fractionation Workflows. *Military Health System Research Symposium*, 2024
9. Raj-Kuman, P-K., J. Liu, A.R. Soltis, N.W. Bateman, Q. Chen, L.A. Sturtz, B. Deyarmin, M. Pierobon, T.A. Abulez, A. Praveen-Kumar, X. Zhang, T. Nguyen, C. Yan, Y. Hu, K. Guion, J.A. Hooke, A.J. Kovatich, L. Fantacone-Campbell, B. Mostoller, L. Kvecher, S. Somiari, P.S. Steeg, P.S. Rajagopal, K.M. Darcy, J.S.H. Lee, C.L. Dalgard, T.P. Conrads, E.F. Petricoin, D. Meerzaman, M.D. Wilkerson, APOLLO Research Network, X. Lin, C.D. Shriver, S. Lipkowitz, H. Hu. Proteogenomic Characterization of Primary Invasive Breast Tumors from Young Women Compared to Match Tumors from Older Women. *San Antonio Breast Cancer Symposium*, 2023
10. Moradi, Y., J.S.H. Lee, A. Armani. Detection and Visualization of HER2 Clustering Using an Aggregation Induced Emission Based Fluorescent Probe Molecule. *American Institute of Chemical Engineers Annual Meeting*, 2023
11. Trettner, K.J., J. Hsieh, R. Hill, K. Patsch, J.S.H. Lee, A. Armani. Label-free Machine Learning-based Viability Analysis of 3D Tissue Cultures. *Biomedical Engineering Society Annual Meeting*, 2023

12. Chilakala S., Sake C.L., Yoon A.Y., Sominari S., Miller, K. Blackburn V., Hu H., Lee J.S.H., Katz J.E., Opportunities for Metabolomics Screening in the Military: Evaluation of Dried Blood Spot Extraction Strategies for Untargeted Metabolomics Workflow. *American Society for Mass Spectrometry*, 2023
13. Armani, A.M., Y. Moradi, P. Saris, M. Lilic, L. Custer, J.S.H. Lee, C. Garri. Non-linear organic small molecule imaging agents. *SPIE BiOS*, 2023.
14. Chen, X., E. Heredia, S. Patre, J.S.H. Lee, N. Matasci, and D.B. Agus. SPE3D: A Distributed and Scalable 2D/3D Digital Pathology Platform. *Pacific Symposium on Biocomputing*, 2023
15. Sturtz, L.A., S. Shuss, S. Rummel, H. Blackburn, J. Kane, M. Cannada, B. Deyarmin, K. Miller, S. Somiari, B. Mostoller, L. Kvecher, J. Liu, J. Wells, N. Wolf, R. Blackwell, C.A. Moskaluk, K. Jensen, S.M. Wren, A.Y. Lin, J.L. Fantacone-Campbell, G. Eley, J. Vockley, J.S.H. Lee, M.D. Wilkerson, C.L. Dalgard, APOLLO Research Network, C.D. Shriver, and H. Hu. Biospecimen quality assessments and identity matching from the first two years of the APOLLO Molecular Quality Control program. *Military Health System Research Symposium*, 2022.
16. Eaglehouse, Y.L., S.A. Seabury, M. Aljehani, T. Koehlmoos, J.S.H. Lee, C.D. Shriver, K. Zhu. Chemotherapy and Its Cost in the Treatment of Colon Cancer and Overall Survival in the U.S. Military Health System's Direct Care and Private Sector Care Settings. *Military Health System Research Symposium*, 2022.
17. Bien, J., T.H. Nguyen, M. Aljehani, J.S.H. Lee, D.H. Wang, A.Y. Lin. Changing epidemiology of esophageal cancer: A population-based study over 43 years (1975–2018). *American Society for Clinical Oncology Gastrointestinal Cancers Symposium*, 2022
18. Singhera, F.U., M.M. Alba, J.E. Katz, J.S.H. Lee, Lessons Learned of Pre-Analytical Variables When Measuring Human Health States Using Biosensors and Platform. *240th Electrochemical Society Annual Meeting*, 2021
19. Bien, J., M. Aljehani, J.S.H. Lee, A.Y. Lin. Racial disparity in KRAS mutation frequency and outcomes in colorectal cancer (CRC): A U.S. population based study. *American Society for Clinical Oncology Gastrointestinal Cancers Symposium*, 2021.
20. Chilakala, S., K. Miller, A.Y. Yoon, H. Blackburn, V. Eedunuri, H. Hu, J.S.H. Lee, C.D. Shriver, J.E. Katz, S. Somiari. Opportunities for Metabolomics Screening in the Military: Method Development of Pre-analytical Variables for Metabolomics Analysis of Peripheral Blood Mononucleocytes from Whole Blood. *Military Health System Research Symposium*, 2020.
21. Singhera, F.U., D. Kim, C. Garri, J.E. Katz, L. Shin, J.S.H. Lee, R. Fan. Single-Cell Cytokine Profiling of Bone-Marrow Derived Mesenchymal Stem Cells. *Biomedical Engineering Society Annual Meeting*, 2020.
22. Yoon, A.Y., S. Chilakala, S. Somiari, K. Miller, H. Blackburn, V. Eedunuri, H. Hu, J.S.H. Lee, J.E. Katz. Impact of microcentrifuge tube selection on metabolomic results and some suggestions for best practices. *American Society for Mass Spectrometry*, 2020.
23. Emamaullee, J., S. Asgharzadeh, C. Man, J. Hoeflich, N. Ung, R. Sun, N. Matasci, J. Katz, J.S.H. Lee, S. Chopra, L. Sher, Y. Genyk. Multiplexed In Situ Imaging Mass Cytometry Analysis of Chronic Rejection in Liver Transplantation. *15th Annual Academic Surgical Congress*, 2020.
24. Kress, G.T., S. Jugroop, C. Garri, E. Lou, A. Nain. J.S.H. Lee. Pre-Analytical Validation of A Novel Artificial ECM System to Study the Biophysical Adaptions Exhibited by Metastatic Cancer Cells. *Biomedical Engineering Society Annual Meeting*, 2019.
25. Berny-Lang, M.A., J.S.H. Lee, E.J. Greenspan. Trans-disciplinary Research Approaches: Integration of Fluid Mechanics with Cell Biology. *Society of Engineering Science 51st Annual Technical Meeting*, 2014.