Prepared: December 14, 2020

University of California, San Francisco

CURRICULUM VITAE

Name: Steven R Long

Position: HS Clinical Professor
Pathology
School of Medicine

Address: University of California, San Francisco
Email: steven.long@ucsf.edu

EDUCATION

1979 - 1983	Stanford University	AB	Economics, Art History
1987 - 1992	University of California, San Francisco	MD	
1989 - 1990	University of California, San Francisco		Post Sophomore Fellowship, Department of Pathology
1992 - 1994	University of California, San Francisco		Residency, Anatomic Pathology, Department of Pathology
1994 - 1995	University of California, San Francisco		Fellowship, Surgical Pathology, Department of Pathology
1995 - 1996	University of California, San Francisco		Clinical Instructor, Cytopathology, Department of Pathology
2016 - 2017	Stanford University		Stanford Medicine Leadership Academy (SMLA, cohort 2)

LICENSES, CERTIFICATION

06/1994	Physician and Surgeon License, The Medical Board of California, G79234
05/1996	Diplomat, American Board of Pathology, Anatomic Pathology
07/1997	Diplomat, American Board of Pathology, Cytopathology

PRINCIPAL POSITIONS HELD

07/1995 - 06/1996	University of California, San Francisco	Clinical Instructor, Cytopathology	Pathology
07/1996 - 03/2004	Outpatient Pathology Associates	Pathologist, Partner	Pathology

03/2004 - 06/2012	Diagnostic Pathology Medical Group, Inc	Pathologist, Partner	Pathology
02/2009 - 06/2012	Diagnostic Pathology Medical Group, Inc	President (Elected to four consecutive terms)	Pathology
07/2012 - 06/2017	Stanford University	Clinical Associate Professor	Pathology
06/2017 - present	Stanford University	Clinical Professor	Pathology
02/2014 - 06/2018	Stanford University	Director, Surgical Pathology	Pathology
04/2015 - 06/2016	Stanford University	Interim Vice Chair, Anatomic Pathology	Pathology
06/2016 - 09/2018	Stanford University	Director, Anatomic Pathology	Pathology
10/2018 - present	University of California, San Francisco (UCSF)	Clinical Professor	Pathology

OTHER POSITIONS HELD CONCURRENTLY

09/1998 - 03/2004	Outpatient Pathology Associates	Director, Cytopathology Laboratory	Pathology
03/2004 - 06/2012	Diagnostic Pathology Medical Group, Inc	Director, Fine Needle Aspiration Biopsy Service	Pathology
03/2010 - 06/2012	Diagnostic Pathology Medical Group, Inc	Director, Cytopatholgy Laboratory	Pathology
02/2006 - 02/2008	Diagnostic Pathology Medical Group, Inc	Executive Committee, Member (Elected Governance Council)	Pathology
02/2006 - 02/2008	Diagnostic Pathology Medical Group, Inc	Chief Financial Officer (Elected)	Pathology
02/2009 - 06/2012	Diagnostic Pathology Medical Group, Inc	Executive Committee, Member (Elected Governance Council)	Pathology
03/2008 - 06/20012	Stanford University	Adjunct Clinical Assistant Professor	Pathology
07/2012 - present	Stanford University	Director, Histology Laboratory	Pathology

07/2012 - present	Stanford University	Co-Director, Immunohistochemistry Laboratory	Pathology
06/2016 - present	Stanford University	Medical Director, for Pathology Services, South Bay Cancer Center, Los Gatos, CA	Pathology
04/2015 - present	Stanford University	Leadership Executive Group, member (Stanford Hospital and Clinics Leadership Council)	Pathology
07/2017 - 06/2018	Stanford University	Incentive Capability Development Program (ICDP), Team Leader (Major quality initiative of Stanford Hospital and Clinics)	Pathology

HONORS AND AWARDS

1979	Kraft Medal for outstanding academic achievement	University of California, Davis
1981	Foreign Language Faculty Fellowship; Instructor of English, Harbin Institute of Technology, People's Republic of China	Harbin Institute of Technology, People's Republic of China
1986	Dean of Students Service Award	Stanford University
1994	Nominated, Kaiser Faculty Teaching Award (as a resident)	University of California, San Francisco, School of Medicine
1996	Nominated, Excellence in Small Group Teaching Award, (as a resident)	University of California, San Francisco, School of Medicine, Class of 1996
2012	Recognition of Service,	Diagnostic Pathology Medical Group, Inc., Sacramento, CA
2013	Junior Faculty Teaching Award, Anatomic Pathology	Stanford University, Department of Pathology
2017	Finalist, Mentor of the Year, Faculty Award	Stanford University, Department of Pathology
2017	Nominee, Community Building Award	Stanford University, Department of Pathology

2019	First Place research award (Senior author).	Papanicolau Society of Cytopathology
2019	Second Place research award (Author)	Papanicolau Society of Cytopathology

KEYWORDS/AREAS OF INTEREST

Cytopathology
Fine Needle Aspiration Biopsy
Ultrasound Guided Fine Needle Aspiration Biopsy
Head and Neck Surgical Pathology
Genitourinary Surgical Pathology
Fine Needle Aspiration Biopsy (FNA) to support and provide tissue samples for clinical trials and research studies
Sponsorship
Mentoring
Business and operational issues in Pathology

CLINICAL ACTIVITIES

CLINICAL ACTIVITIES SUMMARY

Fine Needle Aspiration Biopsy service: staffed a fine needle aspiration service since 1996, performing and interpreting aspiration samples. Helped innovate and establish Ultra Sound guided FNA's in our clinics starting in 2002. Served as director of the FNA service from 2004-2012.

Cytopathology: Interpreted cytopathology samples of all types from 1996 - present, including gyn, non-gyn, and fna samples. Served as Director of Cytology from 1998-2004 and 2010-2012.

Surgical Pathology: 1996-present. Interpreted surgical pathology samples with focus on out reach samples, gyn biopsy material and since 2012 head and neck surgical pathology and genitourinary pathology.

CLINICAL SERVICES

1996 - present	Fine Needle Aspiration Biopsy service, performing and interpreting FNA's at Outpatient Pathology Associates, Diagnostic Pathology Medical Group, and Stanford University	One to five days per week
2002 - present	Ultrasound Guided Fine Needle Aspiration Biopsy service, performing and interpreting US guided FNA's at Outpatient Pathology Associates, Diagnostic Pathology Medical Group, and Stanford University	One to five days per week
1996 - present	Cytopathology Service, including gyn and non-gyn specimens, at Outpatient Pathology Associates, Diagnostic Pathology Medical Group, and Stanford University	Daily when on service

1996 - present	Surgical Pathology service, including sign out, call and frozen section coverage at Outpatient Pathology Associates, Diagnostic Pathology Medical Group, and Stanford University. Sub-specialized in ENT and GU surgical pathology since 2012	Daily when on service
2015 - present	Perform Fine Needle Aspiration Biopsies to support several clinical trials in support of lymphoma cancer vaccine trials and CAR-T cell therapy trials at Stanford University	1 - 10 biopsies per month

PROFESSIONAL ACTIVITIES

MEMBERSHIPS

1996 - present	American Society of Clinical Pathology (ASCP)
1996 - 2012	Sierra Sacramento Valley Medical Society (SSVMS)
1996 - present	California Society of Pathology (CSP)
2004 - present	College of American Pathology (CAP)
2011 - present	Association of Molecular Pathology (AMP)
2013 - present	South Bay Pathology Society
2014 - present	United States and Canadian Academy of Pathology, (USCAP)
2014 - present	Association of Directors of Anatomic and Surgical Pathology (ADASP)
2014 - present	International Society of Urologic Pathologists (ISUP)
2015 - present	American Society of Cytopathology (ASC)
2016 - present	North American Society of Head and Neck Pathology
2019 - present	International Academy of Cytology (IAC)
2019 - present	Papanicolau Society of Cytopathology
2020 - present	California Medical Association (CMA)
2020 - present	San Francisco Marin Medical Association

SERVICE TO PROFESSIONAL ORGANIZATIONS

2105 - 2017	American Society of Cytopatholgy (ASC)	Membership Committee, member
2018 - 2020	American Society of Cytopathology (ASC)	Foundation Board Member
2019 - 2020	USCAP	Mentor, USCAP mentoring academy

2020 - 2021	USCAP	Mentor, USCAP mentoring academy
2020 - present	College of American Pathologists (CAP), House of Delegates	HOD member, alternate
2020 - present	American Society of Cytopathology (ASC)	Social Media and Mentoring committee, member

INVITED PRESENTATIONS - INTERNATIONAL

2016	United States and Canadian Academy of Pathology (USCAP)	Assimilation of Small Departments by Academic Departments The Stanford Experience: What We've Learned, Where We're Going. ADASP meeting presentation
2019	International Congress of Cytology (ICC), Sydney AU	US Directed FNAB Hands on Workshop (two sessions), faculty member

INVITED PRESENTATIONS - NATIONAL

2014	American Society of Cytopathology (ASC), Annual Meeting,	You've Accepted a Job Offer – Now What? Small Group Rotating Round Table Discussions:
2016	American Society of Cytopathology (ASC), Annual Meeting	Giving Your Fellows Wings: 2-hour presentation/ discussion on skills, advice, tips for training, job preparation, and succeeding on the job

2018	College of American Pathologists (CAP) Annual Meeting 2018 Maximizing FNA in the diagnosis of hematologic lesions. Accepted as didactic course for the	Fine Needle Aspiration of Lymphoid Lesions: A Planned Approach to Maximize Diagnostic Value, accepted as a 3-hr workshop
2018	American Society of Cytopathology Annual Meeting.	Maximizing FNA in the diagnosis of hematologic lesions. 90 min didactic course.
2019	American Society of Cytopathology Annual Meeting	Maximizing FNA in the diagnosis of hemepath lesions. 90 min didactic course
2020	UCSF Current Issues in Pathology	Selected topics in Head and Neck Pathology. Pushed to 2021
2020	American Society of Cytopathology Annual Meeting	Cytopathology-Hemepath synthesis. Maximizing Cytologic diagnoses of hemepath lesions.

INVITED PRESENTATIONS - REGIONAL AND OTHER INVITED PRESENTATIONS

2018	UCSF Department of Pathology	Department wide lecture: Expanding the role of FNA to optimize clinical trials and diagnoses in hematopathology
2013	Kaiser Permanente	System wide lecture: Salivary gland cytology
2020	Stanford University, Department of Pathology, professionalism series	How to Understand and Negotiate a Pathology Contract

2021	Stanford University, Department of Pathology, professionalism series	How to Find, Interview For, and Get a Job in Pathology
2021	UCSF Current Issues in Anatomic Pathology, (May 2021)	Lecture: Tricky and Interesting Topics/Advances in Head and Neck Pathology

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

2014 - 2016	Oncohealth	Consultant

UNIVERSITY AND PUBLIC SERVICE

SERVICE ACTIVITIES SUMMARY

My prior service work at Stanford University has primarily supported three major areas:

1) Search Committees: I led/chaired a search committee for the recruitment of 5 subspecialty surgical pathologists and also served on other committees in support of GI pathology, Hematopathology, and Pediatric Pathology. These search committees led to key recruitments allowing our clinical diagnostic sections to move from a more general surgical pathology practice to a nearly complete sub-specialty model.

2) Committees supporting our Resident and Fellowship programs:
I served on the Resident Fellow Committee (RFC) which facilitated problems and new programatic support for the training programs. I also was a member of the training competencies committee (CCC) and was a member of multiple task forces which fundamentally redesigned the resident training curriculum in anatomic pathology to support our recently initiated sub-specialty surgical pathology services. This work also led to expansion and continued development of our AP fellowship programs (with expansion of Cytopathology, GI pathology, gyn pathology and breast pathology, and creation of new fellowships in renal pathology, GU pathology and Pediatric pathology).

3) Leadership groups in support of the Stanford Department of Pathology, and SHC (Stanford Hospital and Clinics): I served on the major leadership groups of the department from 2014-2018 as part of my roles as Director of Surgical Pathology and as Director of Anatomic pathology, and similar leadership roles for Stanford Hospital in support of the Hospital administration and the hospital operational teams.

In 2018 I also lead a co-sponsored evaluation and in-depth analysis of EPIC's AP Beaker module with the Department of Pathology and Stanford Hospital leadership and leadership of the IT division of Stanford Health.

At UCSF:
1) Pathology department Resident Selection Committee, 2019-present
2) UCSF Current Issues organizing committee, 2019-present
3) UCSF Clinical Instructor faculty recruitment search committees, 2019-2020.

UCSF CAMPUSWIDE

2020 - present	UCSF Sponsorship Initiative	Department advocate

SCHOOL OF MEDICINE

-

DEPARTMENTAL SERVICE

2019 - present	Department of Pathology, Search Committee for Clinical Instructor, Cytopathology	Member of Search Committee
2019 - present	Department of Pathology, Residency Selection Committee	Member of committee; interview many applicants as well as review applicant files
2019 - present	UCSF Pathology Current Issues Annual Course	Organizing Committee

SERVICE AT OTHER UNIVERSITIES

2013 - 2013	Search Committee for the Director of Hematology	Stanford University, Deptrrment of Pathology
2013 - 2017	Resident Competency Committee (RCC)	Stanford University, Department of Pathology
2014 - 2015	Chair, Search Committee for Surgical Pathology (5 faculty recruited)	Stanford University, Department of Pathology
2014 - 2018	Resident Faculty Committee (RFC)	Stanford University, Department of Pathology
2014 - 2016	Department of Pathology Leadership Group, (replaced by Pathology Executive Committee)	Stanford University, Department of Pathology
2015 - 2018	Professional Practice Evaluation Committee (PPEC), Department of Pathology	Stanford University, Department of Pathology

2015 - 2016	Task Force in Surgical Pathology: To redesign the Surgical Pathology Curriculum (Resulted in changing to weekly subspecialty rotations beginning June 2016)	Stanford University, Department of Pathology
2016 - 2016	Clinician Educator Line promotion evaluation committee (Dr. Rieger)	Stanford University, Department of Pathology
2016 - 2018	Pathology Department Executive Committee (PEC)	Stanford University, Department of Pathology
2016 - 2017	Search Committee for Gastrointestinal Pathologists (2 faculty recruited)	Stanford University, Department of Pathology
2017 - 2018	Search Committee for Pediatric Pathologist	Stanford University, Department of Pathology
2018 - 2018	Clinician Educator Line promotion evaluation committee (Dr. Born)	Stanford University, Department of Pathology
2018 - 2018	Lead Core Team Member, Evaluation and Vote on developing AP Beaker for the Department of Pathology and SHC	Stanford University, Department of Pathology, Stanford Hospitals and Clinics (SHC), Stanford Hospital IT

COMMUNITY AND PUBLIC SERVICE

2009 - 2010	Guide Dogs for the Blind	Guide Dog puppy raiser

RESEARCH AND CREATIVE ACTIVITIES SUMMARY

I am interested in studying the various ways fine needle aspiration (FNA), ultrasound guided fine needle aspiration (USFNA), and cytology in general can be used to support full pathology diagnoses (including the use of all ancillary testing modalities), so that it might be able to replace more costly, and painful surgical procedures in many instances. I am also interested in exploring the role of FNA in supporting clinical trials and other research studies requiring tissue to confirm and study their findings. FNA may be very valuable in this effort as material can be obtained easily, with minimal cost or discomfort to the patient, and samples can be taken at multiple time points through out a study (maximizing the ability to demonstrate tissue, cellular and molecular relationships to experimental therapies). The ability to triage the material at the time of collection also provides maximum flexibility in the types of tissue samples we are able to collect (expanding the possibilities beyond fresh frozen material or formalin fixed paraffin embedded tissue).

I have been involved in several clinical studies supporting and documenting the

effectiveness of FNA, and USFNA in facilitating optimal patient care, and posters and platform presentations highlighting the effectiveness of FISH and molecular assays in supporting specific and extended pathologic diagnoses from cytopathology material. I am currently part of collaboration with Dita Gratzinger and other members of the Stanford hematopathology service to study the thousands of cytology specimens in our files containing hematopathology diagnoses. This growing REDCap data base is providing the foundation for numerous studies we hope will document and elucidate the strengths and limitations in cytopathologically based hemepath diagnoses, champion the use of ancillary studies in supporting these diagnoses, and suggest algorithms for 'best practice' work ups. We have received a $50,000 value based grant from the department of pathology in 2017 to support this work. Several projects are underway. We have expanded our Cytology Hemepath studies to multiple institutions and Dr.
Gratzinger and I have co-lead a course on optimum cytologic-hemepath diagnoses at the 2018 College of American Pathologists (CAP) and American Society of Cytopathology (ASC) fall national meetings.
I have also collaborated with Ronald Levy and his lab in supporting numerous immunooncology
studies and clinical trials. I have been the primary pathologist preforming fna's of patient's through many trials, which has produced valuable fresh cellular material that is being studied by flow cytometry and other molecular methods. We have shown that FNA is a valuable and viable tool to collect samples from patients at multiple time points through out any study. Much of this data has been used to study the immune response, trends, and possible successes of these drug and radiation regimens, and this work has led to several abstracts, which subsequently should produce follow up publications. This work has also allowed me to participate collaboratively in several grants with the Levy lab. The current multi-dose clinical trial of low grade recurrent lymphomas is producing promising results and later this year we are looking forward to opening the human trials that will test and compliment the mouse studies of OX40 and CPG on mice which eradicated tumors of many types (Eradication of Spontaneous Malignancy by Local Immunotherapy) Sci Transl Med, Jan 2018.)
In the past year I have also joined the lab of David Miklos, who is studying and providing patients with Car T-cell therapies for large cell lymphomas and ALL. We are using similar FNA sample techniques to study direct tumor masses both before and during the clinical trials with multiple Car T-cell therapies. Samples are currently being tested and studied using flow cytometry, MIBI, CyToF and 10x technologies. FNA obtained direct tumor samples will provide added and complimentary data to cells harvested via clinical trial blood draws.
Finally, I have also been added to the team of Drs. Scott Boyd and Mark Davis as they look to use FNA samples to study the immune responses to (non-tumor) injected vaccines in humans.

RESEARCH AWARDS - PAST

1. SPO 137297	Co-investigator	5% % effort	Levy (PI)
The Paul G. Allen Frontiers Group		01/01/2019	12/31/2021
Immunotherapy of Lymphoma with RNA			
To develop a new approach and study of cancer immunotherapy.			

Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

2. SPO 133182 | Co-Investigator | 5% % effort | Mackall (PI)
   California Institute of Regenerative Medicine | 06/01/2018 | 01/31/2021
   Phase 1 Study of CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells in Adults with Recurrent or Refractory B Cell Malignancies
   Determine the feasibility of producing CD22/CD19-CAR engineered T Cells that meet release criteria
   Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

3. 5R35 CA19735302 SPO 117911 | Co-investigator | 1% % effort | Levy, R (PI)
   National Institutes of Health | 09/02/2016 | 08/31/2023
   Enhancing Cancer Immunotherapy: Targeting the Tumor and Targeting the Host
   Intratumoral Injection of an Immunostimulatory agents, in Combination with Local Radiation in Low-Grade B-Cell Lymphomas.
   Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

4. CCR-16-300 SPO 125609 | Co-investigator | 1% % effort | Levy, R (PI)
   Rising Tide Foundation for Clinical Cancer Research | 10/01/2016 | 09/30/2019
   Abscopal Effects of Ibrutinib and TLR9 Ligand for Lymphoma
   To develop a new approach to cancer immunotherapy
   Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

5. RFT 6002-17 SPO 124077 | Co-investigator | 5% % effort | Levy, R (PI)
   The Leukemia and Lymphoma Society | 10/1/2016 | 09/30/2019
   Abscopal Effects of Ibrutinib and TLR9 Ligand for Lymphoma
   To develop a new approach to cancer immunotherapy

Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

6. 6539-18 SPO 128520 | Co-investigator | 1% % effort | Levy, R (PI)
   The Leukemia and Lymphoma Society | 10/1/2017 | 09/30/2020
   Applying an innovative microscopy platform to study lymphoma in the context of a new clinical trial.
   Comprehensively profile the human lymphoma immune microenvironment using a novel multiplexed microscopy platform called CODEX.
   Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

7. SPO 132143 | Co-investigator | 1% % effort | Levy, R (PI)
   Bristol-Myers Squibb Company | 12/18/2017 | 12/18/2027
   Intratumoral Injection of SD-101, an Immunostimulatory CpG, in combination with BMS-986178 and local radiation in Low-Grade B-Cell Lymphoma
   Develop a new approach to cancer immunotherapy
   Perform Fine Needle Aspiration (FNA) Biopsies on trial patients. These biopsies harvest fresh cellular material from lesional lymph nodes which allow us to directly sample the tumor microenvironment. The cellular FNA samples are used to generate much of the data in this trial.

PEER REVIEWED PUBLICATIONS

1. **Long SR**, Cohen MB. Classics in Cytology IV: Traut and the “Pap smear”. Acta Cytol. 1991 Jan-Feb;35(1):140-2.
2. **Long SR**, Cohen MB. Classics in Cytology V: William Sanders and Early Urinary Tract Cytology. Diagn Cytopathol. 1992;8(2):135-6.
3. **Long SR**, Cohen MB. Classics in Cytology VI: The Early Cytologic Discoveries of Lionel S. Beale. Diagn Cytopathol. 1993 Oct;9(5):595-8.
4. Bealer JF, Raisanen J, Skarsgard ED, **Long SR***, Wong K, Filly RA, Adzick NS, Harrison MR. The incidence and Spectrum of Neurological Injury After Open Fetal Surgery. J Pediatr Surg. 1995 Aug;30(8):1150-4. *reviewed neuropathology tissues for microscopic findings
5. Cha I, **Long SR**, Atwater SK, Darragh TM, Ljung BM, Miller TR. Fine needle aspiration (FNA) of thymoma: Use of flow cytometry and cytokeratin immunoperoxidase studies/> December 1995 Laboratory Investigation 74(1):172-172
6. **Long SR**, Cohen MB. Classics in Cytology VII: Kun, Lebert, and Early Efforts at Fine Needle Aspiration biopsy. Diagn Cytopathol. 1996 Mar;14(2)182-3.

7. **Long SR**, Whitfield MJ, Eades C, Koehler JE, Korn AP, Zaloudek CJ. Bacillary Angiomatosis of the Cervix and Vulva in a Patient with AIDS. Obstet Gynecol. 1996 Oct;88(4 Pt 2):709-11.
8. Cha I, **Long SR***, Ljung BM, Miller TR. Low-grade Lymphoma of Mucosa-Associated Tissue in the Parotid Gland: A Case Report of Fine-Needle Aspiration Cytology Diagnosis Using Flow Cytometric Immunophenotyping. Diagn Cytopathol. 1997 Apr; 16;4i: 345-9. *contributed fna case for study
9. Yang SR, Lin CY, Stehr H, **Long SR**, Kong CS, Berry GJ, Zehnder JL, Kunder CA. Comprehensive Genomic Profiling of Malignant Effusions in Patients with Metastatic Lung Adenocarcinoma. J Mol Diagn. 2018 Mar; 20(2):184-194. PMID: 29269277
10. Zaman RT, Yousefi S, **Long SR**, Saito T, Mandella M, Qiu Z, Chen R, Contag CH, Gambhir SS, Chin FT, Khuri-Yakub BT, McConnell MV, Shung KK, Xing L. A Dual-Modality Hybrid Imaging System Harnesses Radioluminescence and Sound to Reveal Molecular Pathology of Atherosclerotic Plaques. Sci Rep. 2018 Jun 12; 8(1):8992. PMID: 29895966. PMCID: PMC5997702
11. Nagy N, Sunkari VG, Kaber G, Hasbun S, Lam DN, Speake C, Sanda S, McLaughlin TL, Wight TN, **Long SR**, Bollyky PL. Hyaluronan levels are increased systemically in human type 2 but not type 1 diabetes independently of glycemic control. Matrix Biol. 2018 Sep 06. PMID: 30196101
12. Frank MJ , Reagan PM, Bartlett NL, Gordon LI, Friedberg JW, Czerwinski DK, **Long SR***, Janssen R, Candia AF, Coffman RL, Levy R. In situ vaccination with a TLR 9 agonist and local low dose radiation induces systemic responses in untreated indolent lymphoma. Cancer Discovery. 2018 Aug 28. pii: CD-18-0743. PMID 30154192. doi: 10.1158/2159-8290. * performed FNA's on all of the Stanford cohort patients and obtained all the tissue samples studied from this group.
13. Natarajan A, Patel CB, Ramakrishnan S, Panesar PS, **Long SR**, Gambhir SS. A Novel Engineered Small Protein for Positron Emission Tomography Imaging of Human Programmed Death Ligand-1 : Validation in Mouse Models and Human Cancer Tissues. Clin Cancer Res. 2018 Oct 29. PMID: 30373750
14. Darras N, Mooney KM, **Long SR**. Diagnostic Utility of Fluorescence in Situ Hybridization (FISH) Testing on Cytology Cell Blocks for the Definitive Classification of Salivary Gland Neoplasms. J Am Soc Cytopathol. 2019 May - Jun. PMID: 31097292
15. Zaman R, Yousufi S, Chibana H, Ikeno F, **Long SR**, Gambhir SS, CHin FT, McConnell MV, Xing L, Yeung A. In Vivo Translation of the CIRPI System--- Revealing Molecular Pathology of Rabbit Aortic Atherosclerotic Plaques. J Nucl Med. 2019 Sep; 60(9):1308-1316. PMID: 30737298.
16. Yonggang L, Hanley T, Chen H, **Long SR**, Gambhir SS, Chang Z, Wu JC, El Fakhri G, Anvari B, Zaman RT. A Non-Invasive Photoacoustic Imaging with Erythrocyte Derived Optical Nanoparticles to Detect CAD in In Vivo Mice. Sci Rep. 2020 Apr 6;10(1):5983. PMID: 32249814
17. Yang SR, Libiran P, Jones CD, Chiang T, Rohan J, Lau HD, Stehr H, Berry GJ, Longacre TA, Allison KH, Zehnder JL, **Long SR**, Kong CS, Kunder CA. Targeted deep sequencing of cell-free DNA in body cavity fluids with malignant, suspicious, and benign cytology.

Cancer Cytopathol. 2020 Jan;128(1):43-56.
PMID: 31751001

18. Gupta S, **Long SR**, Natkunam Y, Kong CS, Gupta NK, Gratzinger D. Role of FNA with core biopsy or cell block in patients with nodular lymphocyte-predominant Hodgkin lymphoma./> Cancer Cytopathol. 2020 Apr 28. Online ahead of print./> PMID: 32343479

19. Haebe S, Shree T, Sathe A, Day G, Czerwinski D, Grimes S, Martin B, **Long SR**, Lee H, Ji HP, Levy R : Single Cell Analysis Reveals Divergent Evolution of Tumor Sites in Human Lymphoma. Submitted Cancer Discovery, April, 2020.

20. Mooney KL, Czerwinski DK, Martin BA, Testa S, Frank M, Shree T, Greenstein R, Levy R, **Long SR.**
Fine Needle Aspiration (FNA) Allows Direct Sampling of Malignant and Infiltrating Immune Cells in Patients with Low-Grade B-cell Lymphoma Receiving Immunotherapy, ready to submit to Cancer Cytopathology, Oct., 2020.

/>

BOOKS AND CHAPTERS

1. Kong, CS., Jensen, K., Long, SR. Needle Aspiration Cytology: indications and interpretation. In Breast Surgical Techniques and Interdisciplinary Management, 2nd Edition, 2020. Dirbas, F ed.
2. Ruiz-Codero R, Long SR. The Cytolpathology of Lymphomas. In Diagnostics: The Diagnosis and Treatment of Lymphomas., 2020. In preparation

SIGNIFICANT PUBLICATIONS

1. Frank MJ , Reagan PM, Bartlett NL, Gordon LI, Friedberg JW, Czerwinski DK, **Long SR**, Janssen R, Candia AF, Coffman RL, Levy R. In situ vaccination with a TLR 9 agonist and local low dose radiation induces systemic responses in untreated indolent lymphoma. Cancer Discovery. 2018 Aug 28. pii: CD-18-0743. PMID 30154192. doi: 10.1158/2159-8290. *

   Performed the FNA's and obtained the cellular material on all of the Stanford cohort patients which allowed for the generation of data from this cohort of patients.

2. Darras N, Mooney K, **Long SR**. Diagnostic Utility of Fluorescence In Situ Hybridization (FISH) Testing on Cytology Cell Blocks for the Definitive Classification of Salivary Gland Neoplasms. JASC, 2019
3. Mooney K, Czerwinski D, Frank M, Shree T, Greenstein R, Martin B, Levy R, **Long SR**. Serial Fine Needle Aspiration (FNA) Allows Direct Sampling of Tumor Cells and Infiltrating Immune Cells in Lymphoma Clinical Trial Patients Receiving Immunotherapy. Platform for the USCAP Annual Meeting, Mar. 2019.

   Senior Author. Performed most of the FNA biopsies (and provided most of the cellular material) for these studies.

4. Gupta S, **Long SR**, Natkunam Y, Kong CS, Gupta N, Gratzinger D. Role of Fine Needle Aspiration with Core Biopsy or Cell Block in Patients with Nodular Lymphocyte Predominant Hodgkin Lymphoma. Cancer Cytopathol. 2020 Apr 28. Online ahead of print. PMID: 32343479

5. Haebe S, Shree T, Sathe A, Day G, Czerwinski D, Grimes S, Martin B, **Long SR**, Lee H, Ji HP, Levy R : Single Cell Analysis Reveals Divergent Evolution of Tumor Sites in Human Lymphoma. Submitted Nature Medicine, April, 2020.

CONFERENCE ABSTRACTS

1. Long SR, Zaloudek CJ, Carroll PR, Cohen MB. Proliferating Cell Nuclear Antigen (PCNA) Expression in Testicular Germ Cell Neoplasms. (abstract for USCAP, 1994)

2. Long SR, Cha I, Char D, Darragh TM, Lung BME, Miller TR. Fine Needle Aspiration Cytology of Ocular Melanocytoloma and Pigmented Epithelial Adenoma. (abstract for USCAP, 1996).

3. Yang YS, Lawrence L, Smith-McCune K, Darragh TM, Long SR, Reid A, Welch J, Cheng S. Direct E6/E7 ELISA for Detection of HPV E6/E7 Oncoprotein in Cytology Samples from a Screening Population Presented at HPV2012, Dec. 2012, San Juan Puerto Rico.

4. Yang YS, Lawrence L, Smith-McCune K, Darragh TM, Long SR, Reid A, Welch J, Cheng S. The Potential use of Direct E6/E7 Whole-Cell ELISA for Triage of Patients with ASCUS/LSIL HPV+. Eurogin Conference, Florence, Italy, Nov 2013.

5. Yang Y-S, Lawrence L, Smith-McCune K, Darragh TM, Long SR, Tiea Kesler, Alicia Carter, Anne Reid, James Welch, Philip E. Castle, and Shuling Cheng. Direct Detection of HPV E6/E7 Oncoproteins in Liquid Based Cytology Samples by Flow Cytometry. Abstract for American Society of Microbiology, 2014

6. Czerwinski DK, Long SR, Khodadoust M, Frank M, Chu M, Okada A, McDonald K, Coffman R Jensen R, Levy R. Regulatory T cells are Depleted In Low-grade Lymphoma by the Combination of Local Low-dose Radiation Followed by CpG-ODN Injection. 2015 ASH

7. Khodadoust MS, Chu MP, Czerwinski D, McDonald K, Long SR, Kohrt HE, Hoppe RT, Advani RH, Lowsky R, Levy R. Phase I/II Study of Intratumoral Injection of SD-101, an Immunostimulatory CpG, and Intratumoral Injection of Ipillumumab, an anti-CTLA-4 Monoclonal Antibody, in Combination with Local Radiation in Low-grade B-cell Lymphomas. Abstract, submitted for the 2015 ASCO Annual Meeting May 29 - June 2, 2015.

8. Czerwinski DK, Frank M, Khodadoust M, Long SR, Okada A, Levy R. Depletion of T Regulatory Cells by Intratumoral Injection of CpG-ODN and Impilimubab may Facilitate an anti-Tumor Immune Response in Patients with Follicular Lymphoma. Abstract for ASH lymphoma meeting, June 2016.

9. Gomez A, Levy D, Obi C, Kong CS, Long SR. Cytopathologist-Performed Ultrasound-Guided Fine Needle Aspiration of PET-Detected Lesions. Abstract for USCAP, 2016.

10. Lin CY, Yang SR, Costa HA, Weiel J, Lo A, Zhang M, Kunder CA, Long SR, Zehnder JL. Targeted Next-Generation Sequencing-Based Mutation Profiling of Fine Needle Aspiration

Samples: Utility and Technical Adequacy (abstract for Association of Molecular Pathology (AMP) Annual Meeting, Nov. 2016.

11. Gomez AG, Levy D, Kong C, Long SR. Impact of Pathologist-Performed Ultrasound-Guided Fine Needle Aspirations in a Tertiary Care Academic Center Abstract for the American Society of Cytology (ASC) Annual Meeting, Nov. 2016
12. Gomez AG, Yang SR, Kong C, Long SR. Molecular Testing on Fine Needle Aspiration Specimens by Fluorescence in Situ Hybridization: Diagnostic and Management Implications. Platform presentation for American Society of Cytology (ASC) Annual Meeting, Nov. 2016.
13. Yang S-R, Lin CY, Kunder CA, Long SR. Detecting Clinically Actionable Mutations in Malignant Pleural Effusions: Technical Adequacy and Clinical Utility. Platform presentation for American Society of Cytology (ASC) Annual Meeting, Nov. 2016.
14. Czerwinski DK, Long SR, Khodadoust M, Frank M, Kardosh A, Ami Okada A, Robinson S, and Levy R Examining the Heterogeneity of Follicular Lymphoma By Multi-Parameter Flow Cytometry in Previously Untreated Patients. American Society of Hematology (ASH) meeting, San Diego, Dec. 2016
15. Levy R, Bartlett N, Friedberg J, Reagan PM, Gordon L, Peterkin J, Leung A, Xing B, Coffman R, Janssen R, Candia A, Khodadoust M, Frank M, Long SR, Czerwinski D, Chu MP, Kohrt H. SD-101, a Novel Intratumoral class C CpG-ODN, Given with Low Dose Radiation in Patients with Untreated Low grade B-cell Lymphoma: Interim Results of a Phase 1 Trial. Abstract for the AACR Annual Meeting 2016; April 16-20, 2016; New Orleans, LA
16. Levy R, Bartlett N, Friedberg J, Reagan PM, Gordon L, Peterkin J, Leung A, Xing B, Coffman R, Janssen R, Candia A, Khodadoust M, Frank M, Long SR, Czerwinski D, Chu MP, Kohrt H. SD-101, a Novel Class C CPG-ODN, Given with Low Dose Radiation for Untreated Low grade B-cell Lymphoma: Interim Results of a Phase 1/2 trial. Abstract for the American Society of Hematology (ASH) meeting, San Diego, Dec, 2016.
17. Gomez A, Yang S-R, Long SR, Longacre T, Kong CS. Detection of Mismatch Repair Protein Expression by Immunohistochemistry on Cytopathology Specimens: Implications for PD-1 Blockade Therapy. Abstract for the USCAP annual meeting, Mar. 2017.
18. Lau HD, Wu S, Long SR, Gratzinger D. Combined Fine Needle Aspiration Cytology and Flow Cytometric Immunophenotyping is an Effective Method for Diagnosis of Hematolymphoid diseases. Abstract for the USCAP annual meeting, Mar. 2017.
19. Darras N, Mooney K, Long SR. Diagnostic Utility of Fluorescence In Situ Hybridization (FISH) Testing on Cytology Cell Blocks for the Definitive Classification of Salivary Gland Neoplasms. Abstract for the USCAP annual meeting, Mar. 2018.
20. Peerani, R, Gupta S, Lau, H, Natkunam Y, Long SR, Gratzinger, D. The Role of Fine Needle Aspiration with Cytopathology-Hematopathology Review in The Diagnosis of T Lymphoproliferative Disorders. Abstract for the USCAP annual meeting, Mar. 2018.
21. Menke J, Gupta S, Bangs D, Kong CS, Natkunam Y, Long SR, Gratzinger, D. Comparison of MYC fluorescent In Situ Hybridization Testing of Diffuse Large B-cell Lymphomas in Fine Needle Aspiration and Surgical Specimens. Abstract for the USCAP annual meeting, Mar. 2018.

22. Gupta S, Natkunam Y, Long SR, Gratzinger, D. Nodular Lymphocyte Predominant Hodgkin Lymphoma: Cytopathologic and Immunophenotypic Correlation and Diagnostic Pitfalls. Abstract for the USCAP annual meeting, Mar. 2108.
23. Menke J, Gupta S, Bangs CB, Kong CS, Natkunam Y, Long SR, Gratzinger D. Comparison of FISH testing of diffuse large B-cell lymphomas in FNA and surgical specimens. Abstract for the American Society of Cytopathology Annual Meeting, Nov. 2018.
24. Mooney K, Czerwinski D, Frank M, Shree T, Greenstein R, Martin B, Levy R, Long SR. Serial Fine Needle Aspiration (FNA) Allows Direct Sampling of Tumor Cells and Infiltrating Immune Cells in Lymphoma Clinical Trial Patients Receiving Immunotherapy. Platform for the USCAP Annual Meeting, Mar. 2019.
25. Shree T, Czerwinski D, Frank MJ, Greenstein R., Long SR., Martin B, Levy R. Interim results of a Phase I/II trial of intratumoral CpG, local low-dose radiation, and oral ibrutinib in patients with low-grade B-cell lymphoma/> June 2019/> DOI: 10.1158/1538-7445.SABCS18-CT133/> Conference: Proceedings: AACR Annual Meeting 2019; March 29-April 3, 2019; Atlanta, GA/>
26. Shree T, Khodadoust MS, Czerwinski D, Frank MJ, Hong WX, Greenstein R Long SR, Martin B, Levy R. A Phase I/II Trial of Intratumoral CpG, Local Low-Dose Radiation, and Oral Ibrutinib in Patients with Low-Grade B-Cell Lymphoma/> November 2019 Blood 134 (Supplement_1):2825-2825/> DOI: 10.1182/blood-2019-129661. Abstract for ASH meeting
27. Shree T, Khodadoust MS, Czerwinski D, Frank MJ, Hong WX, Greenstein R Long SR, Martin B, Levy R. Cell Analysis of Serial Lymphoma Biopsies Reveals Dynamic Immune Modulation and Predictors of Response in Patients Undergoing in Situ Vaccination. ASH meeting, 2020.

ACADEMIC LEADERSHIP

During my six plus years at Stanford I contributed to Stanford School of Medicine, Stanford Hospitals and Clinics and Pathology Departmental leadership in three main areas:

1) Departmental: As Director of Anatomic Pathology, and Director of Surgical Pathology, I helped lead the department from a largely general surgical pathology service to a now almost entirely sub-specialized organization. Under my tenure we developed new service lines in genitourinary pathology, head and neck surgical pathology, soft tissue pathology, thoracic pathology, and pediatric pathology. We also underwent a near complete re-design of our consultation services to support the sub-specialty model, and a re-working of our AP residency rotations to match and compliment our newly established sub-specialty service lines. Additional work included recruiting several new sub-specialty pathologists, and navigating considerable political turbulence. During this period we also expanded our fellowship programs, began the process of digitizing the pathology practice workflow, and preparing for our conversion to EPIC's AP Beaker platform.

2) Operations: As the Director of Surgical Pathology, Director of the Histology Laboratory, Co-Director of the Immunohistochemistry Laboratory, and Medical Director of the Cancer Center South Bay (CCSB), I oversaw essentially the entire Anatomic Pathology operational work flow. Our volumes grew across all service lines and we worked on optimizing our processes under tight budget constraints. In these roles I also served on the hospital leadership group which helped report important issues to hospital leadership and also helped in establishing priorities.

In 2017 I served as the department's physician improvement leader for the newly launched Improvement Capability Development Program (ICDP) at Stanford Medicine. This major initiative between the School of Medicine and Stanford Hospital and Clinics is designed to promote significant improvement projects and skills training in quality improvement and quality leadership. Our initiative focused on improving the efficiency, turn around time, and consistency of our AP operational units including: accessioning, grossing, and histology.

3) Mentoring: During this time of political and operational change and recruitment I also became involved in mentoring of several of our new junior faculty as well as residents and fellows and operational SHC staff and supervisors. I feel this work helped to keep us aligned as well as provide opportunities for growth and a leadership style that promoted a diversity of ideas and work styles.

From May 2016 – Nov 2017 I participated in the second cohort of the Stanford Medicine Leadership Academy (SMLA). This intensive and rigorous eighteen-month leadership course was designed to prepare our 15-member cohort for advanced leadership roles both at Stanford Medicine and beyond. Participants received training coursework from Business School faculty in: Negotiation, Strategy, Difficult Conversations and Conflict Resolution, Scaling, Finance, Interpersonal Communications, as well as in depth 360 analysis, and Myers-Briggs testing. Each member was assigned an executive coach, and mentor, and was required to initiate and complete a strategic initiative. Other elements of the course included leadership interviews, attendance at two Stanford Medicine leadership retreats, and our mid-term SMLA retreat.

OTHER CREATIVE ACTIVITIES

1. **Ultrasound Guided Fine Needle Aspiration** (performed by pathologists)
   I was one of the pioneer pathologists who began using and training in this technique in 2002 (leading to wide adoption adoption in FNA services throughout the US and abroad). Allows expansion of FNA to a broad range of non palpable lesions, including nodules detected by various imaging platforms (PET-CT, CT, US, MRI, etc.)
2. **Integrated Pathology Report** At Diagnostic Pathology Medical Group, Inc./> Created a report of reports that in one single page included results of multiple tests including: results of the patient's Pap smear, HPV testing, Chlamydia and Gonorrhea testing, and prior pap smear results
3. **Expansion of the Role for Fine Needle Aspiration (FNA) Biopsy** Stanford University School of Medicine and UCSF. Using FNA to produce full scale pathology diagnosis and analysis including cell block production for histologic examination, and facilitation of ancillary testing on these samples including Flow Cytometry, FISH, and Molecular studies. I am also working to expand this platform to collect samples for Clinical Trials, and other research studies that previously required surgical excisions. ROSE (rapid on site evaluation) allows triaging the material and collecting material fresh, in RPMI, and as formalin fixed paraffin blocks).
4. **Stanford FNA Clinic** Helped establish a freestanding FNA clinic at Stanford. This allows us to optimize our patient visits, provide onsite preliminary diagnoses for clinicians as well as perform ultrasound guided fine needle aspiration biopsies.)