



**University of California San Francisco
CURRICULUM VITAE**

Name: **Britt-Marie Ljung, MD**

Position: Professor of Clinical Pathology
Department of Pathology
School of Medicine

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EDUCATION:

1969-71	Karolinska Institute Pre-Med School , Stockholm, Sweden	B.S.	Medicine
1971-75	Karolinska Institute Medical School, Stockholm, Sweden	M.D.	Medicine
1975-77	Rotating Internship, Internal Medicine and Surgery, & Psychiatry, and General Practice, Koping Hospital, Koping, Karolinska Hospital, Stockholm, Sweden	Intern	Medicine
1977-78	Oncology, Karolinska Hospital (7 months), Stockholm, Sweden	Resident	Medicine
1978-80	Karolinska Hospital, Stockholm, Sweden	Resident	Cytology
1980-81	UCLA School of Medicine, Los Angeles, California	Resident	Pathology
1981-82	UCLA School of Medicine, Los Angeles, California	Resident	Pathology

LICENSES, CERTIFICATION:

1980 (Jan) ECFMG exam
1980 (June) FLEX
1981 (June) California license to practice medicine
1985 (May) Diplomate, American Board of Pathology
1989 (Nov) American Board of Pathology (Cytopathology)
2009 (May) Certificate of Special Expertise (CSE) in Ultrasound Guided FNA of Thyroid and Breast,
issued by College of American Pathologists

PRINCIPAL POSITIONS HELD:

1981-1982 Visiting Assistant Professor of Pathology, UCLA School of Medicine, Los Angeles, California
1982-1983 Assistant Adjunct Professor of Pathology, UCLA School of Medicine, Los Angeles, California
1983-1989 Assistant Professor in Residence, Department of Pathology, University of California School of Medicine, San Francisco, California (UCSF)
1989-1995 Associate Professor of Clinical Pathology, UCSF
1994-1999 Director, Cytology Division
1994-present Director, Cytopathology Fellowship Program
1995-present Professor of Clinical Pathology, UCSF
2000-present Co-Director Cytology Division
2004-present Vice Chair Department of Pathology, Mt. Zion campus

ANCILLARY POSITIONS HELD CONCURRENTLY:

1984-1986 Consultant in Pathology, Veterans Administration Medical Center, Martinez, California
1985-1989 Attending Pathologist, Veterans Administration Medical Center, San Francisco, California
1997-present Attending Pathologist, Brown and Toland Medical Group, San Francisco, California

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

1983-1996 International Academy of Cytology
1987-present American Society of Cytology
1984-present Society for Analytical Cytology
1985-present American Medical Association
1990-present San Francisco Medical Society
College of American Pathologists
1996-present Papanicolau Society of Cytopathology
2002-present American Society for Clinical Pathology
1992-present California Society of Pathologists
2003-present United States and Canadian Academy of Pathology
California Medical Association
1997-present California Academy of Medicine

HONORS AND AWARDS:

1985 First Prize in Health Sciences Communications Association Media Festival, Patient Education Category: Educational Video for Hospital Network, "The Nature of Breast Cancer," David Watts, Producer.
1986-1987 Academic Senate Committee on Equal Opportunity Faculty Development Affirmative Action Award.
1987 1987 Year Book of Cancer, Year Book Medical Publishers. Article chosen from 40,000 citations for publication (no. 16 under Publications)
1994 Award for "Outstanding Lecture," UCSF School of Medicine Class of 1996
1999 Elected to Gerson Lehrman Group's Council of Healthcare Advisors

- 2000 Award for Best Abstract Presentation by Senior Faculty Member, UCSF Clinical Research Program, 2000
- 2001 2001, Nominee “Outstanding Lecture”, “Outstanding Lecture Series,” UCSF School of Medicine Class of 2003
- 2002 Selected Top Doctor in Pathology, www.guidetotopdoctors.org, Center for Study Services
- 2003 Bay Area Consumers Checkbook, (Winter/Spring 2003 - Vol 10, No. 1) Bay Area Top Doctors – 8 mentions
- 2006 Thanks Star Recognition Program, Patient Satisfaction, UCSF
- 2007 Best Doctors in America, 2007-2008
- 2008 America’s Top Doctors, Castle Connolly American Registry

KEYWORDS/AREAS OF INTEREST:

Cytology, Pathology, Oncology, Immunohistochemistry, Cancer, Breast, Prostate, Microarrays, Prognosis, Medical Education. Fine Needle Aspiration Cytology, Tissue Banking for research, Research regulation, Informed Consent. Thyroid, Ultrasound.

SUMMARY OF CLINICAL ACTIVITIES

Vice Chair of Pathology Mt. Zion Campus since 2004

Co-Director Division of Cytology since 2000

Director Division of Cytopathology 1995-2000

I work full time on the Mount Zion Campus and attend 40-50% time on the cytology service.

I act as the senior back up faculty for technically challenging cases in the fine needle aspiration clinic. I am also available for microscopic interpretation of difficult internal cases. These activities are in addition to my regular service load.

Consult service, cytopathology cases from outside institutions, about 130 cases a year.

Surgical pathology night and weekend on call at Mount Zion campus for frozen section diagnosis.

Director, Cytopathology fellowship, 2 fellows, 1 year duration.

Primary responsibility for pathology resident’s cytology rotations.

I spearheaded the acquisition of an ultrasound machine for the FNA clinic, installed in late 2008. I am in the process of training all Cytopathology faculty and fellows in using the ultrasound for imaging FNA targets and to use ultrasound as a guide for FNA procedures. As part of the introduction of the ultrasound capabilities in our clinic I worked with Dr Ruth Goldstein, chief of ultrasound imaging in radiology, and the credentials committee to revise the pathology credentialing form and to put training and proctoring criteria in place.

PUBLIC SERVICE:

- 1983-present Supervised the work of and taught various aspects of cytology to 31 pathologists in private practice.
- 1987 Interview, Physician's Radio Network.
- 1987 Lecture to Community Group, SWEA (Swedish Women's Education Association) "Breast Disease, Early Diagnosis and Treatment Options," Nov 9, 1987.
- 1989 Lecture on Breast Cancer for Swedish Women's Educational Association, New York and New Jersey Chapters (June 7)
- 1991 Public Service Interview – An important Tool in Breast Cancer Detection, Science Today, October 23, 2001.
- 1994 Lecture, "Pathology of Cancers," City College of Radiologic Oncology Technology (Sept 6)
- 1994 CNN Television, "Larry King Live:" Expert on breast cytopathology (April 22, 1994).
- 1994-present Member, Bay Area Breast Discussion Group
- 1997 Bay Area Breast Cancer Study Group, lecture "Breast Disease from a Pathologist's Perspective," March 24, 1997.
- 1998 Review of project for the Breast Cancer Fund, Aug, 1998.
- 1999 Lecture to Community Group, SWEA (Swedish Women's Education Association) "Breast Cancer Diagnosis," April 5, 1999.
- 1999-2001 Board of Directors, San Francisco Medical Society, San Francisco, CA
- 1998 Public Service Interview – Science Today-Program 704. An Important Tool in Breast Cancer Detection. (Program Archives), October 23, 2001.
- 1999 Consultant, ProDuct Health, Inc.
- 2000 Consultant, Applied Imaging Corp
- 2001 Contributed to Wall Street Journal article on: The informed Patient: Giving the gift of...Body Tissue...Doctors urge patients to donate surgical by products to science. (December '02)
- 2002 Interview for MAMM Magazine, Tissue banking for Research
- 2004 Contributed check sample to ASCP
- 2006 Service Lecture on Osteoporosis, SWEA March 2006
- 2008 Oncology News International interview resulting in Publication December 2008
- 2009 Lecture on Medical School Process in Sweden, SWEA February 2009

UNIVERSITY SERVICE:

- 1984-1995 Surgical Case and Hospital Mortality Review Committee; Chair, 1989-94
- 1985-1990 Committee on Equal Opportunity; 1986, Vice Chairperson
- 1988-1990 Committee on Equal Opportunity, Chairperson; Co-author, *Advancement and Promotion at UCSF: A Survival Handbook for Tenure Track and In-residence Faculty.*
- 1989-1995 Quality Assurance Executive Committee
- 1990 Facilitator, All-University Faculty Conference
- 1991-1992 Committee on Privilege and Tenure, Academic Senate, UCSF
- 1991 ad hoc Committee on Promotion
- 1992 Participant, Conference on the Report of the University Task Force on Faculty Rewards ("Pister Report")
- 1992 ad hoc Committee on Promotion
- 1992 Neuropathology Search Committee, Department of Pathology

1992 Search Committee, Department of Ear, Nose, and Throat Surgery
 1992,1997 ad hoc Peer Review Process
 1994-1995 Bylaws Committee of the Medical Staff
 1994-2006 Credentials Committee
 1994-1995 Quality Assurance Executive Committee
 1994-Present Public / community Service, Bay Area Breast Discussion Group
 1995 Department of Pathology Executive Committee
 1996-1998 President of the Medical Staff
 1996-1998 ad hoc Committee on Promotions
 1997-1998 Search Committee for two breast surgeons for Mt. Zion Breast Center
 1997-present Chair, Breast Oncology Program, Breast Tissue Utilization Committee
 1997-present Director, Tissue Banking Core serving the UCSF Comprehensive Cancer Center
 1998-present Member, UCSF Comprehensive Cancer Center
 1998-present Member, CCC Tissue Core Oversight Committee
 1998-1999 Search Committee, Department of Radiation Oncology
 1998-2000 Chair, Credentials Committee
 1998-present Member, Breast Care Center Site Committee
 1999-present Member, Cancer Center Program Planning Committee
 1999-present Director Comprehensive Cancer Center Tissue Core
 1999-2000 Search Committee, Carol Franc Buck Breast Care Center/Department of Surgery
 2000-present Member, Cancer Committee
 2000-2002 Chair, Bylaws Committee
 2000-present Member, UCSF Comprehensive Cancer Center Endocrine Oncology Section
 2001-present Member, UCSF Cancer Center Performance Improvement Subcommittee
 2001-present Member, UCSF Comprehensive Cancer Center Cancer Risk Program Steering Committee
 2002-present UCSF HIPPA Research Committee
 2002 Chair, ad hoc Search Committees (2), Cytopathology Faculty
 2002-present Member, UCSF Committee on Privilege & Tenure Advisory Panel
 2003-present Cancer Center Program Activity Coordinator for Multidisciplinary Cancer Conferences
 2003 Resident Teaching Conference, Department of Pathology (April 03)
 2003-2006 Member, Faculty Welfare Senate Committee
 2004- Chair, ad hoc Search Committee, Cytopathology Faculty
 2004 Member, Search Committee Director Molecular Path Lab
 2004-present Ad hoc Medical Staff Committee
 2005-2006 Committee on Faculty Life
 2005- Member, Search Committee Radiology
 2005 Member, Search Committee Pathology
 2005 Member, Search Committee Department of Surgery
 2006-2008 Ad Hoc Member, Medical Staff Tissue Committee
 2006 Member, Search Committee Breast Surgeon
 2006-present Member, Cancer Committee
 2007 Search Committee, Department of Radiology
 2007 Search Committee, Department of Radiation Oncology
 2008 Member, Medical Staff Tissue Committee
 2009 Appointments, Promotions, Merit Committee, Pathology Department

SERVICE TO PROFESSIONAL PUBLICATIONS:

Acta Cytologica	Editorial Board, Fine Needle Aspiration Section
Cancer Cytopathology	Editorial Board
Gastroenterology	Peer review
Cytometry	Book review & Peer review
Cancer Research	Peer review
Journal of Urology	Peer review
Cytopathology Journal	Advisory Editorial Board, Editorial Board
CRC Press/Times Mirror	
Books	ad hoc review
Diagnostic Cytopathology	Editorial Board
Western Journal of Medicine	ad hoc review
Cancer	ad hoc review
Journal of the NCI	ad hoc review
Modern Pathology	ad hoc review
Analytical and Quantitative	
Cytology and Histology	ad hoc review
American Journal of	
NeuroRadiology	ad hoc review
Thyroid	ad hoc review

INVITED PRESENTATIONS

International:

- Fine Needle Aspiration Cytology of Prostate. Fourth Annual Symposium on Fine Needle Aspiration. Stockholm, Sweden. August 15, 1984.
- Fine Needle Aspiration in Breast and Prostate. Lecture, Asociacion Medica Argentina, Sociedad Argentina de Patologia, Buenos Aires, Argentina. April 30, 1986.
- Fine Needle Aspiration Biopsy for Diagnosis and follow-up of prostate cancer. Consensus Conference, WHO Collaborating Centre for Urological Tumours, "Diagnosis and Prognostic Parameters in Localized Prostate Cancer," Stockholm, Sweden. May 12-13, 1993.
- Ductal Lavage Cytology. 14th International Congress of Cytology, Amsterdam, Netherlands. May 27-31, 2001.
- Advanced Aspiration Cytology Symposium, Karolinska Hospital--Stockholm, Sweden, 2003
- Scientific Symposiums International, Surgical Pathology of Breast and Thoracic and non-gynecologic cytology. 5 lectures. Hawaii, October 25-28, 2004
- Pathology of DCIS, Japan Comprehensive Cancer Network, Breast International Symposium on Noninvasive Ductal Carcinoma (DCIS) exploring the possibility and the limit of treatment, October 14-15, 2006.
- Visiting Professor, Stockholm, Sweden. September 24-29, 2007
- Breast Health Global Initiative Global Summit on International Breast Health – Implementation of Diagnostic Tests. Budapest, Hungary. October 1-4, 2007
- Visiting Professor, Stockholm, Sweden, August 12-14, 2008

National:

- Fine Needle Aspiration: A Practical Solution to Clinical Problems. Department of Oncology, Johns Hopkins Hospital, Baltimore. September, 1980.
- Fine Needle Aspiration of Breast, lecture and workshop. Tutorial on Clinical Cytology. Center for Continuing Education, University of Chicago, Chicago. May, 1982.
- Fine Needle Aspiration: lectures and workshops on breast, prostate, lymph nodes, salivary glands, and thyroid. Swedish Hospital, Seattle. July, 1982.
- Fine Needle Aspiration: Biopsy Techniques and Comparison of Staining Techniques; Cytology of Breast Aspirates; Workshop on Breast Aspirates and Wet Workshop on Fine Needle Aspiration Techniques. Tutorial on Clinical Cytology. University of Chicago. August 26-27, 1983.
- Fine Needle Aspiration: Biopsy Technique; Fine Needle Aspiration: Comparative Study of May-Grunewald-Giemsa, Papanicolaou, and Hematoxylin and Eosin Stain; Interpretation of Fine Needle Aspiration of Breast Lesions; Workshop on Breast Cytology and Fine Needle Aspiration Techniques. Tutorial on Clinical Cytology. University of Chicago. July 13-14, 1984.
- Diagnostic Techniques for Salivary Gland Disorders. American Academy of Otolaryngology, Head and Neck Surgery. Annual Meeting. Las Vegas. September 19, 1984.
- Overview of Fine Needle Aspiration Cytology; Fine Needle Aspiration of the Prostate: Technique; Fine Needle Aspiration of the Prostate: Malignant Lesions, with Grading of Adenocarcinoma and Effects of Treatment; Fine Needle Aspiration of the Prostate: Microscopic workshop. New York University Medical Center. New York. October 12-13, 1984.
- Fine Needle Biopsies in Diagnoses of Prostate Cancer. Lecture. Advancements in Treatment of Prostate Cancer. Lecture. American Cancer Society, Florida Division, and Largo Medical Center Hospital. Largo, FL. September 21, 1985.
- Fine Needle Aspiration of the Breast and Thyroid Gland. Workshops. New York University Medical Center. New York. October 5-6, 1985.
- Thin Needle Aspiration of Lesions of the Breast. Research Seminar, Department of Pathology, Albert Einstein College of Medicine. New York. October 8, 1985.
- Fine Needle Aspiration of Breast Lesions; Fine Needle Aspiration Technique; and Fine Needle Aspiration--Comparative Study of Stains. Lectures and Workshops. Tutorials on Cytology. Chicago, IL. March 21-22, 1986.
- Fine Needle Aspiration Technique; Fine Needle Aspiration of Benign Breast Lesions; Fine Needle Aspiration of Borderline Lesions of the Breast; Fine Needle Aspiration Technique and Stains for Thyroid Lesions; Follicular Lesions of the Thyroid. Lectures and Workshops. Fine Needle Aspiration of the Breast and Thyroid Gland. New York University Medical Center. New York. June 7-8, 1986.
- Diagnostic Techniques for Salivary Gland Disorders. Instructional course. American Academy of Otolaryngology-Head and Neck Surgery, Annual Meeting. San Antonio, TX. September 14-18, 1986.
- Technique, Interpretation, and Accuracy of Thyroid Aspiration. Pathology Grand Rounds, New York University Medical Center. New York, October 19, 1986.
- Fine Needle Biopsy. American Academy of Oral Pathology, Annual Meeting. Phoenix, AZ. May 19, 1987.
- 3 lectures: Historical Notes; New Techniques in FNA; Fine Needle Aspiration Cytology of the Prostate. 7th Annual Comprehensive Fine Needle Biopsy Course, UCSF and California Society of Pathologists, Maui, HI. August 22-29, 1987.

- 2 Lectures: Comparison of Cytologic and Gleason Grading of Prostate Cancer; Flow Cytometry and Gleason Grading. Cytopathology/Flow Cytometry and Prognostic Indicators of Prostate Cancer. Prostate Cancer Program Workshop, Prouts Neck, Maine. October 16-18, 1987.
- Fine Needle Aspiration of Thyroid Gland: Technique, Interpretation, and Clinical Relevance. Pathology Grand Rounds, New York University Medical Center, NY. October 19, 1987.
- Fine Needle Aspiration Biopsy of the Prostate: Methods, Interpretation, and Diagnostic Accuracy. Clinical and Pathology Update, Department of Pathology, Massachusetts General Hospital, Boston, MA. October 20, 1987.
- Fine Needle Aspiration of the Thyroid. Lecture, St. Luke's/Roosevelt Hospital Center, Columbia University, New York. October 21, 1987.
- Lecture and Workshops on Breast FNA. Comprehensive Seminar on Fine Needle Aspiration. NYU Medical Center, New York. October 22-24, 1987.
- Comparative Advantages of the May-Gruenwald-Giemsa Versus Papanicolaou Technique, lecture; Breast Aspirates and Wet Workshop on Fine Needle Aspiration Techniques, workshop. 31st Annual Tutorial on Clinical Cytology. Chicago, IL. March 5-12, 1988
- Fine Needle Aspiration of Borderline Lesions of the Breast. American Society of Cytology, Cytoteleconference. April 26, 1988.
- 2 Lectures: Fine Needle Aspiration Biopsy: Historical Notes; Fine Needle Aspiration Cytology of the Prostate. 8th Annual Comprehensive Fine Needle Biopsy Course, UCSF and California Society of Pathologists, Maui, HA. August 13-20, 1988.
- 2 Lectures: Techniques of FNA; FNA of Breasts; Workshop: FNA of Breast. Comprehensive Seminar on Fine Needle Aspiration for Pathologists and Cytologists, NYU Medical Center, New York, NY. June 7-10, 1989.
- 2 Lectures: FNA Historical Notes; Fine Needle Aspiration Cytology of the Prostate. 9th Annual Comprehensive Fine Needle Biopsy Course, UCSF and California Society of Pathologists, Kauai, HI. August 5-12, 1989.
- 2 Lectures: Fine Needle Aspiration Techniques; Fine Needle Aspiration of Breast; 2 Workshops. 33rd Tutorial on Clinical Cytology, Chicago, IL. August 22-29, 1989.
- 3 Lectures: FNA Biopsy: Techniques and Standards; FNA of Breast; FNA of Prostate; 1 Workshop: Prostate and Thyroid. Cytology Review Course, Atlanta, GA. November 11-14, 1989.
- 2 Lectures: Fine Needle Aspiration Techniques; Fine Needle Aspiration of Breast; 2 Workshops. 34th Tutorial on Clinical Cytology, Chicago, IL. March 22-24, 1990.
- Lecture: Fine Needle Aspiration of the Breast: Morphological Diagnosis and New Approaches to Research. Michigan Cancer Foundation, Detroit, MI. April 26, 1990.
- Lectures: Prostate FNA: Introduction and Advanced Topics. 10th Annual Comprehensive Fine Needle Biopsy Course, UCSF and California Society of Pathologists, Hamilton, Bermuda, August 5-11, 1990.
- Lecture: Fine Needle Aspiration of the Eye and Orbit. Cytoteleconference, Annenberg Center for Health Sciences, Eisenhower Medical Ctr, Rancho Mirage, CA. September 25, 1990.
- Lecture: Fine Needle Aspiration Techniques and Comparison of Staining Methods. 35th Tutorial on Clinical Cytology, International Academy of Cytology, Universal City, CA. January 24, 1991.
- 2 Lectures: Fine Needle Aspiration Biopsy: Historical Notes; Fine Needle Aspiration Cytology of the Prostate, 11th Annual Comprehensive Fine Needle Biopsy Course, UCSF and California Society of Pathologists, Aspen, CO, August 17-24, 1991.
- Lecture: Fine Needle Aspiration Biopsy in the Diagnosis of Mammographically Detected Breast Lesions, American Society of Cytology, Annual Meeting, Los Angeles, CA, November 6, 1991.
- Workshops and Lectures: Introduction to Needle Aspiration Cytopathology; Fine Needle Aspiration Cytopathology of the Salivary Glands; Microscopy session: Salivary Gland Aspirates; Fine Needle Aspiration Cytopathology of the Breast; Microscopy session: Breast Aspirates and Wet Workshop

- on Fine Needle Aspiration Techniques, 37th Tutorial on Clinical Cytology, Chicago, IL, February 29 - March 7, 1992.
- Lecture: Selected Diagnostic Problems in Breast FNA, 22nd Annual Symposium, Greater New York Association of Cytotechnologists, New York, April 25, 1992.
- Lecture: Fine Needle Aspiration Sampling and Smearing Techniques, Dept. of Pathology Grand Rounds, NYU Medical Center, New York, April 27, 1992.
- 2 Lectures: Historical Notes, Biopsy Technique, Slide Preparation, and General Information; Fine Needle Aspiration Cytology of the Prostate, 12th Annual Comprehensive Fine Needle Biopsy Course, Mauna Loa, Hawaii, August 9-15, 1992.
- Lecture: USCAP: 10th Anniversary Scientific Symposium: Ductal Lavage: Morphology and Update on a Clinical study in High Risk Patients; Washington DC March 22, 2003
- Lecture: FNA Techniques in Diagnosis and Characterization, International Conference Series on Nutrition and Health Promotion, "Breast Cancer Research: Current Issues--Future Directions," Atlanta, GA. April 25-28, 1993.
- 3 Lectures: Introduction to Fine Needle Aspiration Cytology; FNA Cytopathology of Salivary Glands; FNA Cytopathology of Breast. 4 Microscopy sessions, 39th Tutorial on Clinical Cytology, International Academy of Cytology, Chicago, IL. Feb 26-March 5, 1994.
- Faculty, 15th Annual Comprehensive Fine Needle Biopsy Course, Hawaii, August 13-20, 1994.
- Workshop: Fine Needle Aspiration Technique. 42nd Annual Scientific Meeting, American Society of Cytology, Chicago, IL. Nov 1-6, 1994.
- Faculty, 40th Tutorial on Clinical Cytology, University City, CA, Feb 25-Mar 4, 1995.
- Faculty, 16th Annual, Comprehensive Fine Needle Biopsy Course, San Francisco, CA, Aug 12-19, 1995.
- Visiting Professor & Lecture: "Fine Needle Aspiration in Managed Care: How to Make it Work," Dept. Pathology, University of Iowa College of Medicine, Iowa City, IA, Oct. 5-6, 1995.
- Faculty, Cytopathology Dinner Seminar, ASCP National Meeting, Chicago, IL, Apr 7, 1996.
- Faculty, 17th Annual, Comprehensive Fine Needle Biopsy Course, Big Island of Hawaii, Aug 10-17, 1996.
- Panelist, ASC Diagnostic Seminar, "Quality and Adequacy of Fine Needle Aspiration Specimens," 44th Annual Scientific Meeting, American Society of Cytopathology, Denver, CO, Nov 5, 1996.
- John K. Frost Lectureship, 38th Annual Postgraduate Institute for Pathologists in Clinical Pathology, Johns Hopkins University, Baltimore, MD, Mar-Apr, 1997.
- Lecture: "Fine Needle Aspirations of Breast," Grand Rounds, Dept. Pathology, Johns Hopkins Medical School, Baltimore, MD, Apr 24, 1997.
- Faculty, 18th Annual, Comprehensive Fine Needle Biopsy Course, Big Island of Hawaii, Aug 9-16, 1997.
- Conference: National Cancer Institute Conference: The Uniform Approach to Breast Fine-Needle Aspiration Biopsy: Invited lecturer; Chair: Subcommittee on Fine Needle Aspiration Technique; Co-Chair, Training and Credentialing Subcommittee, Washington, DC, Sept 9-10, 1997
- Workshop: FNAB technique, 45th Annual Scientific meeting, ASC, Boston, Nov 4-8, 1997
- 2 Lectures and 1 Workshop: FNA of Breast Lesions (lecture and workshop), FNA of Liver and Pancreas, Maine Society of Cytology, 25th Anniversary Educational Seminar, May 1-2, 1998.
- Faculty, 43rd Tutorial on Clinical Cytology, Chicago, IL, Mar 19-21, 1998
- Faculty, Cytological Society, Maine, May 1-2, 1998
- Faculty, 19th Annual, Comprehensive Fine Needle Biopsy Course, Big Island of Hawaii, Aug 8-16, 1998
- Workshop: FNAB technique, 46th Annual Scientific Meeting, ASC, Nashville, Nov 3-8, 1998
- Moderator, Panel: State of the Art 1998: Fine Needle Aspiration Diagnosis of the Breast, 46th Annual Scientific meeting, ASC, Nashville, Nov 6, 1998
- Faculty, 44th Tutorial on Clinical Cytology, University City, CA, Feb 12-19, 1999
- Faculty, 20th Annual, Comprehensive Fine Needle Biopsy Course, San Francisco, CA, Aug 9-14, 1999.
- Lecture, National Meeting of the American Osteopathic Association, How to Dramatically Improve the Diagnostic Accuracy of FNA, San Francisco, CA, Oct 24-28, 1999.

- Faculty, 45th Tutorial on Clinical Cytology, Chicago, IL, Mar 11-18, 2000.
- Faculty, ASCP/CAP Annual Meeting, San Diego, CA Oct 14-19, 2000.
- Panelist, Current Issues in Cytology: Interfacing Molecular Epidemiology and Diagnostic Cytology of the Breast, ASC 49th Annual Scientific Meeting, Kansas City, MO Nov 6-10, 2001.
- Faculty, AstraZeneca Oncology MIS Breast Cancer Preceptorship, UCSF, San Francisco, CA Nov 13-14, 2001.
- Faculty, Current Controversies in the Pathological Management of Breast Disease, "FNA Biopsy: How does it fit in Current Breast Care?"; Baylor College of Medicine, Houston, TX, April 27, 2002.
- Faculty, ASCP Course: Non-Gynecologic Cytopathology, "Breast Cytopathology"; Las Vegas, NV, Jun 13, 2002.
- Lecture and Panelist, Cytopathology Symposium: "Controversies in Early Detection of Breast Carcinoma"; ASCP/CAP Annual Meeting, Washington, D.C., October 13, 2002.
- Lecture, USCAP 10th Anniversary Scientific Symposium: Ductal Lavage: Morphology and Update on a Clinical study in High Risk Patients; Washington DC, March 22, 2003.
- Invited Expert Participation – NCCN HER2 Testing in Breast Cancer Task Force Meeting. Chicago, IL February 6-7, 2006.
- Invited Expert Participant – NCI, NIH, DHHS Symposium "Ductal Carcinoma in Situ: Strategies for Integrating Tumor Biology and Population Sciences. San Francisco, CA February 1-2, 2007
- Lecture, Accuracy and Usefulness of FNA versus Core Biopsy in Breast Diagnosis. United States Canadian Association of Pathologists, Cytology companion meeting. Invited panelist/speaker San Diego March 24, 2007.
- Invited Expert Participant - NCCN Breast Cancer Guidelines Panel, NCCN, Lansdowne, Virginia June 24-26, 2007
- NCI Thyroid Fine Needle Aspiration State of the Science Conference. Chair of Committee on Training and Credentialing, Bethesda, MD October 22-23, 2007.
- Lecture, NCCN Breast Cancer Guidelines Panel, Park City Utah. Neoadjuvant therapy. "If FNA of clinically positive node performed, and is negative, is further axillary staging necessary? (BINV-11) June 22-24, 2008.
- Tutorial, Thyroid video microscopy 57th Annual Scientific Meeting American Assn of Cytology, November 15, 2009.
- Lectures, NCCN Annual Meeting, Chicago, IL June 28-30, 2009 presented on DCIS CAP standardized reporting and HERmark assay.
- Lecture, 57th Annual meeting American Society of Cytology, Making the case for cytologist performed ultrasound guided FNA.
- Video Microscopy Tutorial, Annual meeting American Society of Cytology, Thyroid Video Microscopy Tutorial. November 15, 2009
- Lectures and workshops: CAP Ultrasound Certification course in Ultrasound Guided Fine Needle Aspiration Biopsy, CAP Annual Meeting, Washington DC October 9-10, 2009
- Lecture, Grand Rounds, Massachusetts General Hospital, Ultrasound Guided FNA by Pathologists, December 10, 2009

Regional:

- Fine Needle Aspiration of Breast, Thyroid, and Prostate. Santa Monica Hospital, Santa Monica. March, 1981.
- "Fine Needle Aspiration of Breast," lecture and workshop. Cytodiagnosis of Medical Practice (workshop). UCLA Extension, UCLA Center for Health Sciences, Los Angeles. February, April, 1981.

- The Thyroid Nodule: Presentation of fine needle aspiration of the thyroid gland (interdepartmental conference). Current Concepts in Surgical Pathology. UCLA Center for Health Sciences, Los Angeles. April, 1981.
- Fine Needle Aspiration of Breast, lecture and workshop. Tutorial on Clinical Cytology. Sheraton-Universal Hotel, North Hollywood. January, 1982.
- Current Evaluation of Fine Needle Aspiration Biopsy of Breast and Other Lesions. 19th Annual Seminar on Controversial Areas in Surgery. Hilton Riviera Hotel, Palm Springs. March, 1982.
- Fine Needle Aspiration of Breast, lecture. Los Angeles Pathology Society, Los Angeles. September, 1982.
- Fine Needle Aspiration of Head and Neck Lesions, lecture. Los Angeles Society of Otolaryngology, Los Angeles. November, 1982.
- Fine Needle Aspiration of Breast, lecture, microscopy workshop, and aspiration technique workshop. California Society of Pathologists, San Francisco. December, 1982.
- Fine Needle Aspiration of Breast, lecture, microscopy workshop and aspiration technique workshop. International Symposium on the Aspiration Biopsy. Annenberg Center for Health Sciences. Rancho Mirage. January, 1983.
- The Changing Management of the Head and Neck Tumor Patient: Fine Needle Aspiration, lecture. Annual Scientific Assembly California Medical Association. Los Angeles. March, 1983.
- Aspiration Cytology of Head and Neck Lesions. Eye, Ear, Nose, and Throat: Current Concepts and Treatment for the Primary Care Physician. UCLA Extension. Los Angeles. March 26, 1983.
- Biopsy Techniques. Twelfth Annual Leo G. Rigler Radiology Symposium. Ultrasound in Medicine - Current Advances. UCLA Extension. Los Angeles. May 22, 1983.
- Fine Needle Aspiration of the Prostate: Technique, complications, and interpretation. Cancer Conference. Daniel Freeman Memorial Hospital. Los Angeles. June 15, 1983.
- Fine Needle Aspiration. National Society for Histochemistry Symposium/ Convention. Anaheim. September 28, 1983.
- Diagnostic Techniques for Salivary Gland Disorders. American Academy of Otolaryngology, Head and Neck Surgery, Annual Meeting. Anaheim. October 25, 1983.
- Fine Needle Aspiration Technique and Interpretation of Breast Lesions. 12th Annual Clinical Conference AMI-Community Hospital of Santa Cruz. February 1, 1984.
- Series of 4 lectures on fine needle aspiration of different body sites. Veterans Administration Hospital, Department of Pathology. Spring, 1984.
- Fine Needle Aspiration of Prostate. Bay Area Seminars in Cytopathology. San Francisco. May 10, 1984.
- Fine Needle Aspiration: Lecture and Workshops. Office proceedings for general practitioners. UCSF Extended Medical Education. San Francisco. September 20-21, 1984.
- Values and Limitations of Fine Needle Aspiration of Breast. Society for the Study of Breast Disease. San Francisco. November 3, 1984.
- Fine Needle Aspiration Biopsy in Organs Other Than the Breast. Extended Programs in Medical Education Clinical Conference. Community Hospital of Santa Cruz. November 28, 1984.
- Fine Needle Aspiration of Breast. Lecture and workshop, Tutorial on Clinical Cytology. Los Angeles. January 25, 1985.
- Fine Needle Aspiration Biopsy Technique. Workshop, Tutorial on Clinical Cytology. Los Angeles. January 25, 1985.
- Fine Needle Aspiration: Comparative Study of May-Grunewald-Giems, Papanicolaou and Hematoxylin and Eosin Stain. Lecture, Tutorial on Cytology. Los Angeles. January 24, 1985.
- Selected Interesting Cases of Fine Needle Aspiration Cytology. Bay Area Seminars in Cytopathology. February 14, 1985.

- The Use of Fine Needle Aspiration Cytology as a Diagnostic Tool in Gynecologic Oncology. Lecture. 5th Annual Current Approaches to Radiation Oncology, Biology and Physics. UCSF. San Francisco. March 14, 1985.
- Fine Needle Aspiration of Prostate Nodules: Technique, Interpretation, and Advantages Over Needle Biopsy. Lecture. Current Issues in Anatomic Pathology. UCSF. San Francisco. May 23, 1985.
- The Benefits and Limitations of Fine Needle Biopsy of Breast, Thyroid and Salivary Gland. Lecture. 40th Annual Seminar: Medicine 85. Samuel Merritt Hospital. Oakland, CA. September 25, 1985.
- Fine Needle Aspiration Biopsy of Head and Neck Lesions. Head and Neck Radiology: Advanced Techniques in Diagnostic Imaging. Lecture. Department of Radiology, UCSF. San Francisco. October 19, 1985.
- Fine Needle Aspiration of Breast Lesions. Oakland Naval Hospital. November 12, 1985
- Fine Needle Aspiration of the Thyroid. Bay Area Seminars in Cytopathology. Extended Programs in Medical Education. San Francisco. March 13, 1986
- Fine Needle Aspiration for Diagnosis of Head and Neck Lesions. Lecture, Department of Otolaryngology, UCSF, San Francisco. March 31, 1986.
- Fine Needle Aspiration Biopsy in the Diagnosis of Salivary Gland Tumors. Lecture. Current Issues in Anatomic Pathology. San Francisco. May 22-23, 1986.
- Fine Needle Aspiration Cytology. Lecture. Advances in Internal Medicine. San Francisco. May 23 and June 27, 1986.
- Fine Needle Aspiration Cytology of the Prostate. Sixth Annual Symposium on Fine Needle Aspiration. Extended Programs in Medical Education, San Francisco. August 10-16, 1986.
- Comparative Advantages of the May-Gruenwald-Giemsa vs. Papanicolau Technique. Lecture and Workshop. 30th Tutorial on Clinical Cytology. Universal City, CA. January 24-31, 1987.
- Fine Needle Aspiration, Selected Cases. Bay Area Seminars in Cytopathology. Extended Programs in Medical Education, San Francisco, CA. March 12, 1987.
- Aspiration Cytology of the Prostate Gland. Workshop. American Society of Cytology, Annual Meeting. San Francisco, CA. March 27, 1987.
- Fine Needle Aspiration of Borderline Lesions of Breast. Current Issues in Anatomic Pathology, Annual Meeting. San Francisco, CA. May 21-22, 1987.
- Fine Needle Aspiration of Borderline Breast Lesions. Current Concepts in Surgical Pathology. Stanford University Medical Center. June 19, 1987.
- FNA for Diagnosis of Breast and Prostate Cancer. Current Concepts of Common Carcinomas--Breast, Colon, and Prostate. Primary Care Update. UCSF School of Medicine. San Francisco, CA. October 29-30, 1987.
- FNA of Breast, Thyroid, and Prostate. Lecture, St. Francis Memorial Hospital, San Francisco, CA. November, 1987.
- Fine Needle Aspiration of Prostate. Lecture, Oak Knoll Naval Hospital, Oakland, CA. March 22, 1988.
- Fine Needle Aspiration of Malignant Tumors in the Breast Other than Primary Epithelial Types. Bay Area Seminars in Cytology. San Francisco, CA. April 14, 1988.
- Fine Needle Aspiration of Selected Soft Tissue Lesions. Lecture, Current Issues in Anatomic Pathology: 1988. San Francisco, CA. May 26, 1988.
- Lecture: Fine Needle Aspiration of Breast Lesions, Bay Area Tumor Institute, Oakland, CA. September 29, 1988.
- Faculty, Annual Advanced Seminar in Urologic Surgery "Urologic Oncology," Department of Urology, UCSF, San Francisco, CA. September 30-October 1, 1988.
- Lecture: Fine Needle Biopsy in Ocular Oncology. Advances and Controversies in the Management of Ocular and Periocular Malignancies, Department of Ophthalmology, UCSF; San Francisco, CA. December 8-9, 1988.

- Workshop, Fine Needle Aspiration of Borderline Breast Lesions, American Society of Cytology. San Francisco, CA March 4, 1989.
- The Use of Fine Needle Aspiration Biopsy in Head and Neck Cancer. Ninth Annual Current Approaches to Radiation Oncology, Biology, and Physics. UCSF. San Francisco, CA. March 8-10, 1989.
- FNA of the Head and Neck. Bay Area Seminars in Cytopathology, UCSF, San Francisco, CA. April 13, 1989.
- FNA of Breast, Naval Hospital, Oakland, CA. May 16, 1989.
- FNA of Prostate, Current Issues in Anatomic Pathology, UCSF, San Francisco, CA. May 25, 1989.
- Tutorial on Fine Needle Aspiration, Postgraduate training for pathologists: Breasts, prostate, lymph nodes, liver and pancreas. UCSF, San Francisco, CA. May 27, 1989.
- Lecture and Workshop on Breast FNA, VA Hospital, San Diego, CA. June 24, 1989.
- Fine Needle Aspiration Tutorials, Squaw Valley, CA. March 12-17, 1990
- Lecture and Workshop, California Association of Cytotechnologists, 26th Annual Workshop Seminar, San Francisco, CA. May 31-June 3, 1990.
- Lecture to Radiation Therapy Technologist Students: Pathology at UCSF. UCSF, September 11, 1990.
- Lecture: The Role of FNA in the Evaluation of Neck Masses. UCSF Otolaryngology Update, San Francisco, CA. November 9, 1990.
- Lecture: FNA of the Eye and Orbit, Naval Hospital, Oakland, CA. January 8, 1991.
- Case Presentations: Bay Area Seminars in Cytopathology, UCSF, February 14, 1991.
- Seventh Annual Current Issues in Anatomic Pathology, UCSF, May 23-24, 1991.
- Lectures on Breast, Liver, Salivary Gland FNA, and Aspiration/Smearing Techniques, Basic Fine Needle Aspiration Tutorial, XVI, UCSF, May 25, 1991
- Lecture: Fine Needle Aspiration: Importance of Biopsy Technique Accuracy, UCSF Dept. Oral & Maxillofacial Surgery, Grand Rounds, October 22, 1991.
- Lecture: Cytology of Liver, Spleen, and Pancreas; and Panel Discussion, UCSF Dept of Radiology seminar: Abdominal Imaging in the 90's: Liver, Pancreas, & GI Tract, San Francisco, CA, January 15-17, 1992.
- Lecture: Stereotactic FNA of Nonpalpable, Mammographically-Detected Lesions in Breast, UCSF Surgery Grand Rounds, January 22, 1992.
- Lecture: Fine Needle Aspiration of Breast, Thyroid, and Liver: Accuracy, Technical Problems, and Expectations, Hospital Grand Rounds, California Pacific Medical Center, San Francisco, CA, February 4, 1992.
- Lecture: Predicting Outcome in Breast Carcinoma - Cell Proliferation, Update in Diagnostic Pathology Conference, Division of Surgical Pathology, UCSF, May 11, 1992.
- 2 Lectures: Recent UCSF Experience with Stereotactic Breast Localization Procedures; Cytopathologic Diagnosis of Breast Cancer, San Francisco Radiological Society, Spring Meeting, May 27, 1992.
- Lecture: Quality Control for Fine Needle Aspiration of Breast Lesions, Postgraduate Course in General Surgery, UCSF, April 21-23, 1994.
- Lecture: Role of FNA in the Evaluation of Breast Masses, Dept. Ob/Gyn, UCSF, April 26, 1994.
- Lecture: Cancer Pathology, 2nd Meeting of the Society of Magnetic Resonance, San Francisco. August 6-12, 1994
- Lecture: FNA of Breast Lesions, Breast Cancer Symposium, UCSF, Sept. 26, 1994.
- Lecture: FNA Cytology: Problem Areas and Pitfalls, Los Gatos Community Hospital, Los Gatos, CA Jan 19, 1995.
- Lecture: Pearls and Pitfalls of Fine Needle Aspiration, Grand Rounds, Dept. Otolaryngology, UCSF, Mar 20, 1995.
- Lecture: Fine Needle Aspiration--Thin Needle, Fat Savings, Peninsula Hospital, Burlingame, CA, Mar 21, 1995.

- Lecture: Fine Needle Aspiration in Managed Care: How to Make it Work, Primary Care Grand Rounds, Dept. Medicine, UCSF, Apr 6, 1995.
- Panel Discussant: Quality Improvement in Breast Cancer Care, Grand Rounds, Dept. Surgery, UCSF, Mar 24, 1995.
- Lecture: Fine Needle Aspiration Biopsy, Kaiser Permanente Medical Center, Santa Clara, CA Nov 1, 1995.
- Lecture: FNA Cytology of the Pancreas, Grand Rounds, Dept. of Pathology, UCSF, Jan 10, 1996.
- Lecture: FNA Biopsy Technique: Impact of Training and Experience on Success, Bay Area Seminars in Cytopathology, UCSF, Feb 18, 1996.
- Workshop: FNA and Managed Care, 32nd Annual Workshop/Seminar Program, California Association of Cytotechnologists, Millbrae, CA, June 7-9, 1996.
- Lecture: Pathology of Cancers, Radiologic Oncology Technology course, City College of San Francisco, Sept. 3, 1996.
- Lecture: Fine Needle Aspiration and Pathologic Diagnosis of the Breast Mass, Annual Review Course, Primary Care for the Practicing Gynecologist, UCSF, Oct 25, 1996.
- Lecture: Pancreas FNA, CPMC, Oct 28, 1996.
- Lecture: Fine Needle Aspiration of the Breast, Annual Review Course, Primary Care for the Practicing Gynecologist, UCSF, Oct 17, 1997.
- Lecture: Abdominal Fine Needle Aspiration, Bay Area Seminars in Cytopathology, UCSF, Apr 9, 1998.
- Lecture: The Impact of Operator Training and Caseload on the Efficacy of Fine Needle Aspiration Biopsy of the Breast, Northern California Chapter of the American College of Surgeons, San Francisco, CA, May 16, 1998
- Lecture: Sensitivity and Specificity of Intraoral Fine Needle Biopsy, Grand Rounds, Dept. Oral and Maxillofacial Surgery, UCSF, Dec 15, 1998.
- Lecture: Annual Course, Fine Needle Aspiration Cytology of the Breast, California College of Podiatry, San Francisco, CA, Feb 23, 1999.
- Lecture: FNA of Liver and Pancreas, Grand Rounds, Dept. of Pathology, Sept 21, 1999.
- Lecture: Annual Course, Fine Needle Aspiration Cytology of the Breast, California College of Podiatry, San Francisco, CA, Mar 1, 2000.
- Lecture: Current Issues in Breast Disease, joint lecture with Z. Werb, Departments of Pathology and Laboratory Medicine Grand Rounds, UCSF, May 9, 2000.
- Faculty, Conducting Successful Clinical Trials, UCSF Office of Research Affairs, September 15, 2000.
- Lecture: Ductal Lavage Cytology Findings and Histologic Follow-up in Selected Cases. UCSF Comprehensive Cancer Center, Breast Oncology Program Annual Retreat Training Day, San Francisco, CA, Feb 8, 2001.
- Lecture: Training day for San Francisco Advocacy Core, Breast cancer early diagnosis, May 2, 2001.
- Faculty, Improving FNA Technique and Smear Preparation, UCSF Cytology Workshop, May 23, 2001.
- Faculty, Komen Foundation Breast Fellowship, UCSF, 2001-2002.
- Lecture: Early Breast Cancer: Histologic and Genetic Correlation, Grand Rounds joint lecture with F. Waldman, Dept. of Pathology, Jan 22, 2002.
- Lecture: The Houston Society of Clinical Pathologists. Current Controversies in the Pathological Management of Breast Disease: Fine Needle Aspiration Biopsy: How Does it fit in Current Breast Care? Saturday, April 27, 2002, Houston, Texas.
- Lecture: Salick Health Care Inc., Building a Tissue Resource: Importance for Clinical Trials Collecting Biological Materials: Consent and Infrastructure, the New Technology of Tissue Evaluation. Berkeley, CA. September 20-21, 2002.
- Lecture: UCSF Department of Pathology Resident Conference, "FNA of Deep Lesions"; San Francisco, CA, Apr 10, 2002.

- Lecture: Joint lecture with Vicky Felstein (Radiology); Ultrasound Guidance of Procedures, San Francisco, CA March 19, 2003. Crowne Plaza Hotel.
- 4 Lectures: How to maximize the diagnostic power of very small specimens, Pros and Cons of Thin-Prep technology for Non-GYN specimens, Review of interesting and challenging cytopathology cases in multiheaded scope settings, Fine-Needle Aspiration biopsy technique, University of Hawaii at Manoa, April 2005.
- Lecture: Prognostic Factors, National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology Symposium Breast Cancer, Palo Alto, CA May 19, 2006.
- Lecture: UCSF ENT , Grand Rounds November 27, 2006
- Lecture: UCSF Head and Neck Endocrine Surgery, San Francisco, CA October 27-28, 2006
- Lecture: UCSF Thyroid FNA October 10, 2007
- Lecture: UCSF 2007 Cancer: Bench to Bedside, San Francisco, CA March 2008
- Invited Talk: American College of Surgeons Thyroid and Parathyroid Ultrasound Skills Oriented Course, Head and Endocrine Surgery, Thyroid FNA and Cytopathology October 24-25, 2008
- Lecture: UCSF Radiology sponsored Breast Disease Symposium, The role of cytology and histology in the work up of new breast lesions at UCSF, October 11, 2008
- Lecture: UCSF Department of Otolaryngology, Head and Neck Surgery. Technical Tidbits and Terminology in Thyroid FNA: Report from October 2007 NCI Conference on the State of the Science. November 17, 2008
- Lecture: UCSF Department of Radiology. Image guided Fine Needle Aspiration. July 13, 2009

CME COURSES ATTENDED *[Last 5 years]*

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| 2008 | Ultrasound Course |
| 2007 | College of American Pathologists, Mock Proficiency Test PAPME1-A |
| 2007 | UCSF, Selective Sentinel Lymphadenectomy and Breast Ultrasound Course |
| 2007 | College of American Pathologists, Mock Proficiency Test PAP MPTA |
| 2006 | UCSF, Anatomic Pathology and Laboratory Medicine, Mechanisms of Disease Conference Part II |
| 2006 | UCSF, Anatomic Pathology and Laboratory Medicine, Mechanisms of Disease Conference |
| 2006 | UCSF/Mt. Zion Challenges of Managing Pain |
| 2006 | UCSF – Breast Oncology Program Scientific Meeting |
| 2006 | College of American Pathologists, Mock Proficiency Test PAPME1-A |
| 2006 | College of American Pathologists, Mock Proficiency Test NGC-C |
| 2006 | College American Pathologists, Mock Proficiency Test NGC-D |
| 2006 | UCSF/Breast Oncology |
| 2006 | California Society of Pathologists – Annual Convention |
| 2006 | UCSF/Head and Neck Endocrine Surgery |
| 2005 | University of Hawaii at Manoa - Conference |
| 2005 | South Bay Pathology Society – Tumors of Soft Tissue and Bone |
| 2005 | UCSF/Mt. Zion – Challenges of Managing Pain Symposium |
| 2005 | College of American Pathologists, Mock Proficiency Test PAM C-D |
| 2005 | American Society of Cytopathology, Annual Scientific Meeting |
| 2005 | UCSF – Department of Pathology – Mechanisms of Disease Parts I, II |
| 2005 | UCSF – School of Medicine – Breast Oncology Program Scientific Meeting |
| 2004 | UCSF – School of Medicine - Lymphatic/Breast Ultrasound |
| 2004 | CPMC – Surg Path of Breast & Thoracic Tumors, Infections Disease & NonGynecologic Cytology |
| 2004 | UCSF – Grand Rounds, ENT |
| 2004 | UCSF – Department of Lab Medicine and Pathology Mechanisms of Disease |
| 2004 | UCSF – Grand Rounds - Department of Lab Medicine |
| 2004 | UCSF – Mechanisms of Disease Conference (M02043) - School of Medicine |

- 2007 American Society of Cytopathology – 51st Annual Scientific Meeting, Orlando, FL
- 2003 Midwest Institute for Medical Education – Cytoquest – Thinprep Gyn Cytology
- 2003 UCSF – Mechanisms of Disease Conference (0000302) - School of Medicine
- 2003 UCSF - Anatomic Pathology (MAP03001)
- 2003 UCSF - Diagnostic Radiology RAD03029
- 2003 USCAP – 92nd Annual Meeting
- 2003 South Bay Pathology Society – Problems in Pathology of the Head & Neck
- 2002 UCSF Grand Rounds – Early Breast Neoplasia: Histologic and Genetic Correlations
- 2002 UCSF Grand Rounds – Department of Pathology and Laboratory Medicine – MGR03020
- 2002 The College of American Pathologists – 2002 Interlaboratory Comparison Program in Cervicovaginal Cytopathology – PAPM-D November, 2002
- 2002 The College of American Pathologists – 2002 Interlaboratory Comparison Program in Cervicovaginal Cytopathology – PAPM-A April, 2002
- 2002 California Society of Pathologists – 55th Annual California Seminars in Pathology
- 2002 American Society for Clinical Pathology - #3501 Non-Gynecologic Cytopathology
- 2002 Salick Health Care ResearchGroup Annual Meeting Fall 2002, Berkeley
- 2002 USCAP - #3202 Cytopathology Symposium: Controversies in Early Detection of Breast Carcinoma, Panelist
- 2002 Baylor College of Medicine – Management of Breast disease
- 2001 The College of American Pathologists – Interlaboratory Comparison Program in Cervico-Vaginal Cytopathology 2001-PAPM-D
- 2001 Midwest Institute for Medical Education – Cytoquest / Thinprep Gyn Cytology
- 2001 American Society of Cytopathology – 49th Annual Scientific Meeting of the American Society of Cytopathology, Kansas
- 2001 UCSF Grand Rounds – Department of Pathology, Laboratory Medicine Grand Rounds
- 2001 College of American Pathologists – 2002 Interlaboratory Comparison Program in Cervico-Vaginal Cytopathology PAP-B
- 2001 South Bay Pathology Society Annual Conference – Current Concepts in Surgical Pathology

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

- 1988 Consultant on Special Study Section, NIH. Division of Research Grants, Houston Baker, PH.D., Chair.
- 1989 Ad Hoc Grant review, Illinois Cancer Council, Comprehensive Cancer Center for the State of Illinois
- 1991 Evaluated proposal from the Pediatric Division of the Cooperative Human Tissue Network (CHTN), and the Gynecologic Oncology Group, NCI, NIH.
- 1992 Evaluated proposal: "CHTN Supplement: Ovarian Tumor Repository," CHTN, NCI, NIH
- 1995 NIH Study section, "Tissue Procurement"
- 1995 Interlaboratory Comparison Survey, College of American Pathologists
- 1996-present Papanicolaou Society (2004, Program Development Task Force)
- 1997 Panel Member, NIH sponsored consensus conference on Uniform practice of Fine Needle Aspiration of Breast
- 1998 Member, CCE Council on Cytopathology, ASCUS Project, Jan, 1998.
- 1998 Contributor, 1998 Resident In-Service Exam, ASCP, Jun, 1998.
- 1998 Review of project for the Breast Cancer Fund, Aug, 1998.

- 1998 Chaired panel: Recent Advances in Cytopathology, American Society of Clinical Pathology Educational Matrix Meeting, Oakbrook IL, Nov 20-21, 1998.
- 1998-present Member, NCI National Specimen Resources Committee, Bethesda, MD
- 1999 Member of ASC Task Force to Review ACGME Fellowship Requirements
- 1999 NIH Grant Review Panel, Philadelphia, PA, October 18-20, 1999.
- 1999 Chaired panel: Improvement of Training Standards in Cytopathology, American Society of Clinical Pathology Educational Matrix Meeting, Chicago IL, Nov 19-20, 1999.
- 2000 Chaired panel: CCE, American Society of Clinical Pathology Educational Matrix Meeting, Oakbrook, IL, Nov 17-18, 2000.
- 2002-present Member, National Comprehensive Cancer Network (NCCN) Breast Cancer Panel, Annual meetings
- 2002 Consultant, ProDuct Health, Inc.
- 2002- present Member, NCCN Breast Cancer Panel, Rockledge, PA
- 2002 Consultant, Applied Imaging Corp
- 2003 Contributed check sample to ASCP
- 2005 Member, NCCN HER2 Testing in Breast Cancer Task Force
- 2006 Member, CBCTR (Cooperative Breast Cancer Tissue Resource) Research Evaluation Board NCI
- 2007 Chaired Committee for Papanicoulau Society for 2007 award.
- 2007 Committee Chair NIH sponsored Conference on State of the Art of Fine Needle Aspiration of Thyroid gland
- 2008 HER2 Testing in Breast Cancer: NCCN Task Force Report and Recommendations
- 2008/09 CAP served as expert in developing certification course for Pathologist performed guided FNA.
- 2009 GlaxoSmithKline International Ethnic Research Committee, External Steering Committee Review Meeting, Seattle, WA January 9-10.
- 2009 California Biorepository Research Network, member representing UCSF Cancer Center Research Tissue Core
- 2009 CAP Member Market Research Panel Participant
- 2009 Papanicoulou Society of Cytology Chair, Committee on Standards of Practice Guidelines

TEACHING AND MENTORING

POSTDOCTORAL FELLOWS AND RESIDENTS DIRECTLY SUPERVISED OR MENTORED:

Dates	Name	Fellow	Faculty Role	Current Position
2008-09	Alyssa Throckmorton	Breast Surgery Fellow	Mentor/ Supervision	Breast Surgery Fellow
2008-09	Maria Serrano-Correa	Clinical Instructor	Mentor/Supervision	Clinical Instructor
2008-09	Veronica Velasco	Cytology Fellow	Mentor/Supervision	Fellow
2008-09	Joan Bernard	Cytology Fellow	Mentor/Supervision	Fellow
2007-08	Agnes Radzio	Breast Surgery Fellow	Mentor/Supervision	Kaiser Permanente, San Rafael
2007-08	Rebecca Swain	Cytology Fellow	Mentor/Supervision	Private Practice
2007-08	AnneMieke VanZandt	Cytology Fellow	Mentor/Supervision	Assistant Professor, UCSF

2006	Longwen Chen	Staff Pathologist Cleveland Clinic	Mentor/Supervision	Staff Pathologist Cleveland Clinic
2006-07	Ian Jaffee	Cytology Fellow	Mentor/Supervision	Staff Pathologist, CPMC
2006-07	Judy Pang	Cytology Fellow	Mentor/Supervision	Clinical Pathology Trng
2005-06	Kristen Jensen	Cytology Fellow	Mentor/Supervision	Assistant Professor, Stanford
2005-06	Mathew Greenberg	Cytology Fellow	Mentor/Supervision	Quest Diagnostics, Denver
2004-05	Robert Hass	Cytology Fellow	Mentor / Supervision	Private Practice
2004-05	Erik Schwartz	Cytology Fellow	Mentor / Supervision	Assistant Professor, Stanford
2003-04	Phillip Holsten	Cytology Fellow	Mentor/Supervision	Deceased
2003-04	Dawn Darbonne	Cytology Fellow	Mentor/Supervision	Private Practice, Cytopathology
2002-03	Joseph T. Rabban	Cytology Fellow	Mentor / Supervision	Asst. Prof. of Clinical Pathology UCSF
2002-03	Lorelle E. Carley	Cytology Fellow	Mentor / Supervision	Cytologist/Pathologist – Private Practice
2001-02	Carol A. Trujillo	Cytology Fellow	Mentor / Supervision	Cytologist/Pathologist Private Practice
2001-02	Frederick Baehner	Cytology Fellow	Mentor / Supervision	Asst.Prof.of Clin.Pathology, UCSF
2000-01	James H.Bainton	Cytology Fellow	Mentor / Supervision	Cytologist/Pathologist SSF Kaiser
1999-00	Brenda Ng	Cytology Fellow	Mentor / Supervision	Partner / Pathologist Private Practice
1999-00	Lisa Tai	Cytology Fellow	Mentor / Supervision	Cytologist/ Pathologist SFGH - SF
1999-00	Ronald Ballassanian	Cytology Fellow	Mentor / Supervision	Cytologist / Surgical Pathology Harvard Med School, Boston

TEACHING MATERIALS / TEACHING AIDS

- 1990 DVD, FNAB Technique – 1 hour long, comprehensive review of FNA sampling and sample preparation. DVD is used extensively throughout the US and internationally
- 2008 DVD technique video has been added on the Papanicolaou Society website <http://www.papsociety.org/index.html>
- 2004 PBL case: Mrs. Moore
- 1985-present – Ongoing production and updating of several thousand histology correlated studysets of instructional cytologic cases, including written description of morphologic features (average of 15 cases/month contributed).
- 2009 In response to the new GME requirement for anatomic pathology residents to review at least 1500 cases in the course of training I am taking on a leadership role in putting extensive tutorial materials together to be housed at VAMC for residents to utilize during their rotation there. These materials include female specific cases in short supply at VAMC such as Pap-smears, breast FNA and other unusual and interesting cases generated through the busy cytology service at the Mt Zion campus. The materials include slide based material as well as various imaging based resources.

OTHER

Developed and implemented universal consent for donation of tissue for research. The consent has been endorsed by NCI and adopted in many academic institutions in similar form.

TEACHING AND MENTORING

As the director of the Cytopathology fellowship program I have designed and continue to revise the one-year fellowship program with two positions. I serve as the faculty advisor for both candidates as they spend about 40% of their rotation time at the Mt. Zion campus where I work. I specifically train the fellows on fine-needle aspiration sampling technique and supervise their work in the clinic with patients on a daily basis particularly in the first half of the year. I also review current and teaching cases in the microscope one-on-one, gradually developing their interpretative skills. As aids in the process, I have designed and produced an hour-long video on sampling technique and a large number of study set cases for microscopic review. The study-set cases typically consist of cytologic samples with follow-up corresponding histologic material from instructional cases encountered over the years at UCSF.

The cases include written descriptions of pertinent morphologic findings in each case. Many hundreds of these cases are available for review in the division of cytology. One of the learning experiences for the fellows is to add new cases to the collection in collaboration with faculty members.

I also mentor the fellows in creative activities and strongly encourage a project aiming at peer reviewed publication during the fellowship year. My mentoring also includes strategies for application of cytology skills after training, including building new/expanded fine-needle aspiration services in their future positions. I have stayed in touch with several former fellows, as they have taken on positions as directors of cytology services in academic institutions including: Dr. Kong of Stanford University and Dr. Sudilovsky at the University of Pittsburgh.

MEDICAL STUDENT AND POST-DOCTORAL TEACHING

2002-03	778 hours of teaching (including preparation)	778 hours
	Formal class or course, medical students	8 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours
2003-04	780 hours of teaching	780 hours
	Formal class or course, medical students	10 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours
2004-05	780 hours of teaching	778 hours
	Formal class or course, medical students	8 hours
	Mentoring hours	50 hours

	Informal teaching hours	720 hours
2005-06	780 hours of teaching	780 hours
	Formal class or course, medical students	10 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours
2006-07	780 hours of teaching	780 hours
	Formal class or course, medical students	10 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours
2008-09	780 hours of teaching	780 hours
	Formal class or course, medical students	10 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours
2009-10	780 total anticipated hours	780 hours
	Formal class or course, medical students	10 hours
	Informal teaching hours	720 hours
	Mentoring hours	50 hours

POST GRADUATE AND OTHER COURSES

See Invited Presentations – page 6

FACULTY MENTORING

As senior faculty in the division of Cytopathology, I mentor the more junior faculty, particularly in their first five years. In the last five years, I have primarily worked with Drs. Daniel Sudilovosky, Frederick Baehner and Gioia Iezza, as they have been active in the same campus as myself. The mentoring is mostly informal, since we are a small division, and consists of general encouragement, frequent consulting on difficult and interesting cases, as well as, exchange of creative ideas. I also discuss career planning and make sure that the junior faculty knows what is expected and what resources are available. I am currently mentoring Drs. Jeff Simko, Elham Khanafshar, Annemieke Van Zante and Laura Tabatabai.

In order to encourage independence and leadership, I encourage initiative in teaching and research. I assist them with connections within and outside the department and gradually delegate tasks.

TEACHING AWARDS AND NOMINATIONS

Award for “Outstanding Lecture,” UCSF School of Medicine Class of 1996

Award for Best Abstract Presentation by Senior Faculty Member, UCSF Clinical Research Program, 2000

Nominee “Outstanding Lecture”, “Outstanding Lecture Series,” UCSF School of Medicine Class of 2003

RESEARCH AND CREATIVE ACTIVITIES

EXTRAMURAL SUPPORT:

Current

1. NCI/NIH P30 CA82103-08 1999-2012
Cancer Center Support Grant – Tissue Core
Dr. Ljung will be paid 10% effort as Director of Tissue Core. Grant for Dr. McCormick
2. NIH/NCI 1 P50 CA5820-147 1992-07(FY) yr 2
Bay Area Cancer Translational Research Program; "SPORE in Breast Cancer," 7% support, P.I., Core 2: Human Fresh Tissue Bank. Grant for Dr. Gray
3. MSRG-06-264-01-CCE 2006-2012
American Cancer Society
Molecular Markers of Thyroid Cancer 5% effort donated.

Past

4. NCI/NIH PO1 CA107584-01 A-1 2006-2011
Core C - Tissue Core Dr. Ljung was paid 5% effort.
Grant for Thea Tlsty
5. DAMD17-03-1-0481 7/1/03-6/30/07 - / yr 1
Dr. Ljung will be paid 5% effort (uncapped on a new DOD Grant for Laura Esserman, MD
6. PACIFIC MED CTR AG05407 1/03-7/06 (FY) / yr 3
The SOF at UCS CPMC is establishing a subcontract With UCSF Dennis Black as PI (Epidemiology) 2% funding
7. NIH/NCI P30 CA82103 1999-07(FY) / yr 5
Cancer Center Support Grant, 10% support, P.I., Tissue Core. McCormick, P.I. of CCSG. 556168-29610
8. NIH 444939-59725 1987-95(FY) yr 7
Program Project in Breast Cancer; P.I. Subproject, 20% 20% support, Clinical Core; H. Smith, P.I. of program project.
9. NIH, RO1 EY07504 1988-92(FY)

Uveal Melanoma Cell Biology; 5% support, P.I. Devron Char.

10. NIH/NCI 1 P50 CA58207 1992-03(FY)
Bay Area Cancer Translational Research Program; "SPORE in Breast Cancer," 10% support, P.I., Core 2: Human Fresh Tissue Bank
11. NCI 1 U10 CA60138 1993-98(FY)
Cancer and Leukemia Group B, 5% effort (no salary), P.I.: I. Craig Henderson
12. NIH 5 P01 CA44768 1996-01(FY)
Program Project in Breast Cancer: Molecular/Cellular Approaches to Breast Cancer Diagnosis and Prognosis; 15% support, P.I. Clinical Core, F. Waldman, P.I. of program project.
13. US Army MMC DAMD 17-96-6260 1996-00(FY)
A New Vision for Integrated Prognosis, 8.5% support, PI, Breast Core
14. UC BCRP 2 RB-0197 1996-01(FY)
Predictors of Recurrent Breast Tumors in Women with DCIS, 5% effort (no salary since 1998), P.I. K. Kerlikowske.
15. NIH/NCI P30 CA82103 1999-02(FY)
Cancer Center Support Grant, 10% support, P.I., Tissue Core, F. McCormick, P.I. of CCSG.
16. CCRP 00-91135 2000-03 (FY)
CCRP 00-91135, Molecular Pathology of Neoplasia, 10% effort (no salary), P.I. T. Tlsty

PEER REVIEWED PUBLICATIONS:

(* = Supervising senior author with resident or fellow)

1. Auer G, Nordenskjold B, Wallgren A, Gustavsson S, Silfversward C, Arrhening E, Ljung BM. Nuclear DNA distribution and estrogen receptor content in human mammary carcinoma. *Anal Quant Cytol* 2:4, 1980.
2. Clark OH, Gooding GAW, Ljung BM. Locating a parathyroid adenoma by ultrasonography and aspiration biopsy cytology. *West J Med* 135:154-158, 1981.
3. Ljung BM. Fine needle aspiration of the thyroid gland. *Ann Int Med* 96:223-226, 1982.

4. Nordenskjold B, Skoog L, Wallgren A, Silfversward C, Gustavsson S, Ljung BM, Westerberg H, Gustavsson J-A, Wrangé O. Measurement of DNA synthesis and estrogen receptor in needle aspirates are powerful methods in the management of mammary carcinomas. *Advances in Enzyme Regulation* 19:489-495, 1980.
5. Kaufman JS, Ljung BM, Walther P, Waisman J. Aspiration biopsy of the prostate. *Urology* XIX:587-591, 1982.
5. Van Herle AJ, Rich P, Ljung BM, Ashcraft MW, Solomon DH, Keller EB. The Thyroid Nodule. *Annals of Internal Medicine*. 1982;96:221-232.
7. Jobst SB, Ljung BM, Gilkey F, Rosenthal DL. Cytologic diagnosis of olfactory neuroblastoma: A case report with multiple diagnostic parameters. *Acta Cytol* 27:299-305, 1983.
8. Freedman A, Ehrlic RM, Ljung BM. Prevention of cyclophosphamide cystitis with 2-mercaptoethane sodium sulfonate: A histologic study. *J Urol* 132:580-582, 1984.
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51. Buxton, MB, Carey, LA, DeMichele, A, Dorsey, KC, Dressler, L, Gray, JW, Haqq, CM, Ljung, BM, Perou, C, Petricoin, EF, I SPY Clinical Investigators Au, Alfred, Bondi, SM, Crothers, J, Edmiston, SN, Harden, AT, Madhavan, S, Petrillo, L, Hylton, N and Esserman, L. Methods to optimize tissue collection and assay performance from 16-gauge core biopsies in the I SPY TRIAL 2006
52. Jensen, K, Ljung, BMm Radiologic, Cytologic and Histologic Correlation of Ultrasound-Guided Fine Needle Aspiraton Biopsies of Breast” poster presentation 54th Annual Scientific Meeting of the American Society of Cytopathology, Toronto, Canada November 3-8 2006.
53. Woolf KMW, Jensen KC, Ljung BE and Kong CS. Criteria for the Cytologic Disease of Papillary Breast Lesions: A Logistic Regression Analysis. USCAP Annual Meeting November 2007.

RESEARCH PROGRAM

1. Meng HM, Ben Y, Zheng Li, Chew K, Ljung BM, Lagios MD, Dairkee S. Breast Cancer susceptibility gene aberrations occur early in sporadic breast tumor and in the acquisition of breast epithelial immortalization. *Genes Chromosomes Cancer*, 2004 Nov; 41(3):214-22.
 - Participated in design and planning of study. Collected and performed detailed pathologic review of all cases. Revised the manuscript.
2. Brogi, E, Miller MJ, Casadio C, Ljung BM, Montgomery Leslie. Paired ductal lavage and fine needle aspiration specimens from patients with breast carcinoma. *Diagnostic Cytopathology* 3:370-5, 12/2005
 - As an expert on breast ductal lavage, I was invited to independently review all cases in the study. Major role in revising the manuscript. Participated in study design including set of criteria used.
3. Ljung BM, Chew K, Moore DH, King EB. Cytology of Ductal Lavage Fluid of the Breast. *Diagnostic Cytopathology*, Vol:(30)3, 2004.

- Initiated and designed study. Principal writer of manuscript and provided all illustrations.
4. Hwang SE, Devries S, Chew KL, Moore D, Kerlikowske K, Thor A, Ljung BM, Waldman FM. Patterns of Chromosomal Alterations in Breast Ductal Carcinoma In situ. *Clinical Cancer Res.* 10:5160-7, Aug/2004.
 - Banked all specimens and provided detailed microscopic review of all cases. Participated in study design and manuscript revisions.
 5. Khan SA, Wiley EL, Rodriguez N, Baird C, Ramakrishnan R, Nayar R, Bryk M, Bethke KB, Staradub VL, Wolfman J, Rademaker A, Ljung BM and Morrow M. Ductal lavage findings in women with known breast cancer undergoing mastectomy. *Journal National Cancer Institute* 96: 1510-7, Oct/2004.
 - Participated in study design. As a known expert in breast ductal lavage, provided independent interpretations of all cytologic specimens. Participated in manuscript revisions.

CURRENT RESEARCH INTEREST

As the director for the UCSF Comprehensive Cancer Center Research Tissue Bank, I am interested in optimizing collection, processing, storing and distribution of surplus tissue generated during surgery for diagnostic or therapeutic purposes. This involves keeping up with evolving regulatory tissues including patient consent, bridging between clinical and research personnel, as well as, optimizing collection, and processing and storage of tissue to best serve current and future research in cost-effective manner. As part of this work, I have spearheaded and implemented a universal patient consent form for banking of surplus tissue for research purposes. This was done in close collaboration with our local IRB and with the NCI. In recent years, this consent form has been adopted or used as a guide by numerous institutions across the country, including most recently UCLA.

In April of 2009 I was asked to join a new statewide effort in tissue banking as a charter member representing UCSF in the California Biorepository research Network. It is a partnership between several UC campuses and The California Cancer Registry. It is anticipated that the effort will be funded by NCI and grant writing is under way. The goal is to facilitate population based research involving tissue use.

I serve as Chair of the UCSF Comprehensive Cancer Center Tissue Shared Resource Oversight Committee. This Committee oversees all tissue banks associated with the Cancer Center and ensures compliance with regulations. The Committee also serves as a forum to exchange ideas for improvements, sharing of resources and collaborations.

I continue to have an interest in breast disease. Recently, ductal lavage was introduced as a novel technique to access the breast duct system with implications for both diagnosis and research studies. I was one of the two expert reviewers of the initial study of 500 patients with high risk of developing breast cancer. I recently participated in several more collaborative studies involving ductal lavage.

I am also involved in several projects studying molecular events in early breast neoplasia, including proliferative lesions in in situ cancer and associated invasive disease.

- In Collaboration with the Department of Radiology a database of 8000 consecutive cases of thyroid disease with ultrasound and/or cytologic/histologic findings is in process of data analysis and several publications are planned. Population based cancer registry follow-up has been secured.
- A database of paired image guided cytologic material and histologic findings in 300 breast cases is being analyzed. One abstract has been published and the first manuscript is in final stages of preparation.

Five Most Significant Recent Publications

108. Carlson RW, Moench SJ, Hammond ME, Perez EA, Burstein HJ, Allred DC, Vogel CL, Goldstein LJ, Somlo G, Gradishar WJ, Hudis CA, Jahanzeb M, Stark A, Wolff AC, Press MF, Winder EP, Paik S, Ljung BM; NCCN HER2 Testing In Breast Cancer Task Force. *J Natl Compr Canc Netw* 2006 Jul;4 Suppl 3:S1-22. Review.

I served as senior author on this manuscript that is an extensive review of Her2/neu testing and impact on the management of breast cancer. This manuscript was written as part of the activities of the NCCN (National Comprehensive Cancer Network) breast cancer panel where, at the time, I served as the only pathologist. I contributed review of the literature, personal knowledge of the field and participated in reviewing and revising the manuscript.

113. Ljung, BM. Thyroid Fine-Needle Aspiration: Smears Versus Liquid-based Preparations. *Cancer*: 2008 25;114(3):144-8.

This was a commentary conceived and written by me alone. The topic is highly controversial at this time and the choice of method for preparing specimens has profound impact on the specificity of thyroid FNA diagnosis and important implications for patient care, morbidity and cost.

115. Ljung BM, Langer J, Mazzaferri EL, Oertel YC, Wells SA, Waisman J. Invited Review: Training, Credentialing and Re-Credentialing for the Performance of Thyroid FNA: A Synopsis of the National Cancer Institute Thyroid Fine-Needle Aspiration State of the Science Conference. *Diagnostic Cytopathology* 2008 36(6):400-6.

This paper was written as part of documentation of the 2007 NCI sponsored State of the Art conference on thyroid FNA. I chaired the committee charged with dealing with Training, Credentialing and Performance of the procurement part of thyroid FNA. I wrote the first draft of the manuscript and all the subsequent drafts and final version based on input from the other 4 committee members.

117. Shyyan R, Sener SF, Anderson BO, Garrote LM, Hortobagyi GN, Ibarra JA Jr, Ljung BM, Sancho-Garnier H, Stalsberg H; Breast Health Global Initiative Diagnosis Panel. *Cancer*. 2008 Oct 14;113(8Suppl):2257-68.

I participated in the 2007 international conference in Budapest on Breast Health Global Initiative. I served on the diagnosis panel and wrote parts of the manuscript and provided input and review for other parts. My contributions were focused on the parts pertaining to the use of FNA and core biopsies primarily.

120. Poller D, Ljung BM, Gonda P. Use of streamed internet video for cytology training and education: www.PathLab.org. *Diagn Cytopathol*. 2009 Feb 3 [Epub ahead of print]

I conceived, produced, wrote and acted in the video/DVD that was the basis for this paper. The video/DVD is now available on the internet for free and is used widely in the United States in most training programs teaching FNA technique and in many countries worldwide.

