

**University of California San Francisco
CURRICULUM VITAE**

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Position: Associate Professor, Step I
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EDUCATION

1995-99	University of California, Los Angeles	BS	Biology (Magna Cum Laude)
2001-09	University of Illinois College of Medicine Medical Scholars Program (MD/PhD)	MD	Medicine
2001-06	University of Illinois at Urbana-Champaign (Advisor: Ziwei Huang, PhD)	PhD	Biochemistry
2004-05	Sanford Burnham Prebys Medical Discovery Institute	Research Fellow	Biochemistry
2009-10	University of California, San Francisco	Resident	Ob/Gyn
2010-11	Scripps Research Institute (Advisor: Donald E. Mosier, MD, PhD)	Postdoctoral Research Fellow	Immunology
2011-15	University of Washington	Resident	Pathology (AP/CP)
2015-16	University of California, San Francisco	Fellow	GI/Liver Pathology

PRINCIPAL POSITIONS HELD

2016-2021	University of California, San Francisco	Assistant Professor	Pathology
2021-Present	University of California, San Francisco	Associate Professor	Pathology

LICENSES AND CERTIFICATION

2012-15	Medical licensure, Washington
2014-Present	Medical licensure, California
2015-Present	Board Certification, Anatomic and Clinical Pathology

HONORS AND AWARDS

2001-02	University of Illinois Research Fellowship, University of Illinois at Urbana-Champaign
2002-04	NIH Molecular Biophysics Training Grant, University of Illinois at Urbana-Champaign

2008	Teachers Ranked as Excellent by Their Students (in Human Anatomy), University of Illinois College of Medicine at Urbana-Champaign
2009	Excellence in Ob/Gyn Award, University of Illinois College of Medicine at Urbana-Champaign
2011	Young Investigator Award, 19 th Conference on Retroviruses and Opportunistic Infections
2018	<u>Senior author</u> , Rodger C. Haggitt Gastrointestinal Pathology Society Abstract Award (Runner Up): “Indefinite for Dysplasia” in Inflammatory Bowel Disease: Aneuploidy as a Diagnostic and Prognostic Marker of High-Grade Dysplasia or Colorectal Cancer
2018	<u>Senior author</u> , F. Stephen Vogel Award for a Research Publication “Use of DNA Flow Cytometry in the Diagnosis, Risk Stratification, and Management of Gastric Epithelial Dysplasia” in <i>Modern Pathology</i> (2018) 31(10):1578-1587
2021	<u>Senior author</u> , Rodger C. Haggitt Gastrointestinal Pathology Society Abstract Award (Runner Up): Persistent or Recurrent Barrett’s Neoplasia After Endoscopic Therapy is Associated with DNA Content Abnormality Detected by DNA Flow Cytometric Analysis of Paraffin-Embedded Tissue

KEYWORDS/AREAS OF INTEREST

DNA flow cytometry, Barrett's esophagus, inflammatory bowel disease, gastric dysplasia/polyp, ampullary dysplasia, duodenal dysplasia, liver pathology, bile duct adenoma, cholangiocarcinoma, pancreaticobiliary tumors, HIV-1, AIDS, chemokine receptors (CXCR4 and CCR5), chemokines

CLINICAL AND BASIC SCIENCE RESEARCH ACTIVITIES:

CLINICAL SERVICES

2009-10	Ob/Gyn Resident, UCSF Medical Center
2011-15	Pathology Resident (AP/CP), University of Washington Medical Center
2015-16	Clinical Fellow in GI/Liver Pathology, UCSF Medical Center
2016-2021	Assistant Professor in Pathology, UCSF Medical Center
2021-Present	Associate Professor in Pathology, UCSF Medical Center

RESEARCH

2001-09	MD/PhD Student, University of Illinois College of Medicine at Urbana-Champaign <u>Thesis title:</u> Biochemical characterization of CXC chemokine receptor 4 (CXCR4) interactions with HIV-1, natural Ligands, and <i>de novo</i> designed inhibitors
2004-05	Research Fellow, Sanford Burnham Prebys Medical Discovery Institute <u>Research title:</u> Neuronal apoptotic signaling pathways probed and intervened by synthetically and modularly modified (SMM) chemokine
2010-11	Postdoctoral Research Fellow, Scripps Research Institute <u>Research title:</u> CCR5 mutations distinguish N-terminal modifications of RANTES (CCL5) with agonist versus antagonist activity

PROFESSIONAL ACTIVITIES:

PROFESSIONAL MEMBERSHIPS

2011-Present	College of American Pathologists
2011-Present	American Society for Clinical Pathology
2014-Present	Rodger C. Haggitt Gastrointestinal Pathology Society
2014-Present	United States and Canadian Academy of Pathology
2015-16	Washington State Society of Pathologists
2015-Present	Korean Pathologists Association of North America

2018-Present Hans Popper Hepatopathology Society

SERVICE TO PROFESSIONAL ORGANIZATIONS

2018 Moderator, Platform Session on Gastrointestinal Pathology, United States and Canadian Academy of Pathology Annual Meeting, Vancouver, Canada

2019-2020 Member, Abstract Review Committee, Korean Pathologists Association of North America

2020-Present Co-Chair, Education Committee, Korean Pathologists Association of North America

2021 Speaker Introduction, “Career Development in Pathology”, Korean Pathologists Association of North America Fall Virtual Seminar

2023-2024 Course Director, USCAP Short Course on “Non-Conventional Dysplastic Lesions of the Upper and Lower Gastrointestinal Tract: A Review of Their Morphologic, Clinicopathologic, and Molecular Characteristics”, United States and Canadian Academy of Pathology Annual Meeting, New Orleans, Louisiana

SERVICE TO PROFESSIONAL PUBLICATIONS

2012-Present Ad hoc referee for Journal of Medicinal Chemistry (2 papers in 9 years)

2013-Present Ad hoc referee for Journal of the European Academy of Dermatology and Venereology (1 paper in 8 years)

2014-Present Ad hoc referee for Experimental Biology and Medicine (1 paper in 7 years)

2015-Present Ad hoc referee for JAMA Dermatology (1 paper in 6 years)

2015-Present Ad hoc referee for Clinical and Translational Gastroenterology (2 papers in 6 years)

2016-Present Ad hoc referee for Diagnostic Pathology (12 papers in 5 years)

2016-Present Ad hoc referee for Clinical Gastroenterology and Hepatology (3 papers in 5 years)

2017-Present Ad hoc referee for Human Pathology (6 papers in 4 years)

2017-Present Ad hoc referee for Modern Pathology (5 papers in 4 years)

2018-Present Ad hoc referee for American Journal of Clinical Pathology (1 paper in 3 years)

2018-Present Ad hoc referee for Gut (1 paper in 3 years)

2019-Present Ad hoc referee for American Journal of Gastroenterology (5 papers in 2 years)

2019-Present Ad hoc referee for Inflammatory Bowel Diseases (5 papers in 2 years)

2020-Present Ad hoc referee for Archives of Pathology & Laboratory Medicine (2 papers in 1 year)

2020-Present Ad hoc referee for Gastroenterology (1 paper in 1 year)

PRESENTATIONS

INTERNATIONAL

2012 19th Conference on Retroviruses and Opportunistic Infections (1 poster)

2015 United States and Canadian Academy of Pathology Annual Meeting (3 posters)

2016 United States and Canadian Academy of Pathology Annual Meeting (1 poster)

2017 United States and Canadian Academy of Pathology Annual Meeting (2 platforms, 2 posters)

2018 United States and Canadian Academy of Pathology Annual Meeting (1 platform, 2 posters)

2018 Lecture: Updated AJCC Staging of Hepatobiliary Cancers, Korean Pathologists Association of North America Spring Seminar, Vancouver, Canada

2019 United States and Canadian Academy of Pathology Annual Meeting (1 platform, 4 posters)

2019 Digestive Disease Week (1 platform, 1 poster)

2019 Pathology Grand Rounds: Neoplastic Lesions of the GI and Liver, Samsung Medical Center, Seoul, South Korea

2020 United States and Canadian Academy of Pathology Annual Meeting (2 platforms, 6 posters)

2020 Keynote Lecture: Non-Conventional Dysplastic Subtypes in Inflammatory Bowel Disease – A Review of Their Diagnostic Characteristics and Potential Clinical Implications, 72nd Annual Fall Meeting of Korean Society of Pathologists, Seoul, South Korea

2021 Lecture: Use of Molecular Analysis and Immunohistochemistry in the Diagnosis of Hepatocellular and Pancreaticobiliary Tumors, Korean Pathologists Association of North America Spring Virtual Seminar

2021 United States and Canadian Academy of Pathology Annual Meeting (2 platforms, 4 posters)

2022 United States and Canadian Academy of Pathology Annual Meeting (2 platforms, 5 posters)

2023 USCAP Short Course: “Non-Conventional Dysplastic Lesions of the Upper and Lower Gastrointestinal Tract: A Review of Their Morphologic, Clinicopathologic, and Molecular Characteristics”, United States and Canadian Academy of Pathology Annual Meeting, New Orleans, Louisiana

NATIONAL

2003 18th American Peptide Society Symposium (1 poster)
2005 19th American Peptide Society Symposium (3 posters)
2013 College of American Pathologists Annual Meeting (1 poster)
2018 Lecture: Selected Updates on Cancer Reporting – Changes and Updates in the Pathologic Staging of Colorectal Cancer, American Society for Clinical Pathology, Baltimore, Maryland
2022 Lecture: Diagnosis, Management, and Reporting of Non-Conventional Dysplastic Subtypes and Serrated Epithelial Change in Inflammatory Bowel Disease, College of American Pathologists Annual Meeting, New Orleans, Louisiana (1 lecture scheduled in October)

REGIONAL AND DEPARTMENTAL

2002 Annual Biochemistry Conference, University of Illinois at Urbana-Champaign (1 poster)
2002 Molecular and Cellular Biology Graduate Recruiting Weekend, University of Illinois at Urbana-Champaign (2 posters)
2003 Annual Biophysics Symposium, University of Illinois at Urbana-Champaign (1 poster)
2003 Biochemistry Qualifying Examination Seminar, University of Illinois at Urbana-Champaign (oral presentation)
2003 Molecular and Cellular Biology Graduate Recruiting Weekend, University of Illinois at Urbana-Champaign (1 poster)
2004 Department of Biochemistry Wednesday Seminar, University of Illinois at Urbana-Champaign (oral presentation)
2004 Molecular Biophysics Training Grant Seminar, University of Illinois at Urbana-Champaign (oral presentation)
2004 Molecular and Cellular Biology Graduate Recruiting Weekend, University of Illinois at Urbana-Champaign (1 poster)
2006 Molecular Biophysics Training Grant Seminar, University of Illinois at Urbana-Champaign (oral presentation)
2006 PhD Final Defense Seminar, University of Illinois at Urbana-Champaign (oral presentation)
2012 Medicine Autopsy Conference, University of Washington Medical Center (oral presentation)
2012 Neuropathology Autopsy Conference, University of Washington Medical Center (oral presentation)
2014 Laboratory Medicine Research Conference: A Retrospective Outcome Study of “Indefinite for Dysplasia” in Barrett’s Esophagus and Its Implications for Treatment – Correlation with Histology, Flow Cytometry, Surveillance Intervals, and Endoscopic Findings, University of Washington Medical Center
2014 Laboratory Medicine Grand Rounds: Targeting the CXC Chemokine Receptor 4 (CXCR4) for Treatment of HIV-1 Infection and Other Human Diseases, University of Washington Medical Center
2014 Lecture: Topics in Clinical Chemistry – Digestive Biomarkers, University of Washington Medical Center
2015 Laboratory Medicine Research Conference: Abnormal Flow Cytometric DNA Content is a Significant Predictor of Early Detection of Neoplasia in Barrett’s Esophagus and Inflammatory Bowel Disease, University of Washington Medical Center
2015 Pathology Grand Rounds: “Indefinite for Dysplasia” in Barrett’s Esophagus – Inflammation and DNA Content Abnormality are Significant Predictors of Early Detection of Neoplasia, University of Washington Medical Center
2015 Faculty Candidate Seminar: “Indefinite for Dysplasia” in Barrett’s Esophagus and Inflammatory Bowel Disease – DNA Content Abnormality is a Significant Predictor of Early Detection of Neoplasia, Dartmouth-Hitchcock Medical Center
2017 Tutorial: Neoplastic Lesions of the Upper GI and Liver, 33rd Annual Current Issues in Anatomic Pathology, San Francisco, California

- 2017 Pathology Grand Rounds: Diagnosis and Risk Stratification of Barrett's Dysplasia By Flow Cytometric DNA Analysis of Paraffin-Embedded Tissue, UCSF Medical Center
- 2018 Lecture: Dysplasia in Barrett's Esophagus and Inflammatory Bowel Disease – Diagnosis, Biomarkers, and Implications, 34th Annual Current Issues in Anatomic Pathology, San Francisco, California
- 2018 2nd Annual Pathology Research Day: Use of DNA Flow Cytometry in the Diagnosis, Risk Stratification, and Management of Gastric Dysplasia, UCSF Medical Center
- 2022 Lecture: Non-Conventional Dysplastic Subtypes in Inflammatory Bowel Disease – A Review of Their Diagnostic Characteristics and Potential Clinical Implications, 36th Annual Current Issues in Anatomic Pathology, San Francisco, California (1 lecture scheduled in May)

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

- 2010-16 Professional Advisory Board Member and Contributing Editor for Central Illinois Breast Cancer Awareness Association (CIBCAA) (<http://cibcaa.org>)
- 2013-Present Medical Editorial Board for DoveMed (<http://dovemed.com>)

UNIVERSITY AND PUBLIC SERVICE:

UCSF CAMPUSWIDE

- 2016-Present Member, Tissue Utilization Committee for Pancreatic Tissue, UCSF Medical Center

DEPARTMENTAL SERVICE

- 2015 Faculty candidate interview and recruitment for a gastrointestinal/liver pathologist position (Dr. Gregory Lauwers, Massachusetts General Hospital, Harvard Medical School)
- 2016-Present Active role in organizing cluster P1 rotation, including providing a monthly orientation to residents and fellows
- 2016-Present Review clinical research requests for archived tissue
- 2017 Prepared a donor liver tutorial for residents and fellows
- 2017 Updated UCSF cancer synoptics on esophageal, gastric, and anal cancers
- 2017 Faculty candidate interview and recruitment for a surgical pathologist position with expertise in gastrointestinal pathology (Dr. Kwun Wah Wen, UCSF Medical Center)
- 2017-Present Residency candidate interview and recruitment
- 2018 Department chair candidate interview
- 2018 Faculty candidate interview and recruitment for a physician scientist position (Dr. Matthew Stachler, Brigham and Women's Hospital, Harvard Medical School)
- 2018-Present Gastrointestinal/liver fellowship candidate interview and recruitment
- 2018-Present Prepare and present complex surgical cases at the GI tumor board
- 2018-19 Member, UCSF Pathology Website Development Committee
- 2018-Present Director, UCSF Pathology Website and Web Strategy
- 2018-Present Member, Residency Clinical Competency Committee
- 2019-Present Surgical pathology fellowship candidate interview and recruitment
- 2020-21 New GI/liver faculty proctoring (Dr. Amir Qorbani)
- 2021-Present Member, Pathology Strategic Initiatives Committee in Computational Pathology
- 2021-Present New GI/liver faculty proctoring (Dr. Christopher Bowman)
- 2021-Present GI/liver consultation service

TEACHING AND MENTORING:

FORMAL MEDICAL, GRADUATE, AND UNDERGRADUATE STUDENT TEACHING

UCSF SCHOOL OF MEDICINE

- 2017-18 Ground School (6 small group discussions)

- 2018-19 Teaching Contribution: Taught medical students on the topics of inflammation, ischemic injury, and neoplasia, as well as renal, gastrointestinal, and liver pathology
Ground School (6 small group discussions)
- 2020 Teaching Contribution: Taught medical students on the topics of inflammation, ischemic injury, and neoplasia, as well as renal, gastrointestinal, and liver pathology
Ground School (2 small group discussions)
- Teaching Contribution: Taught medical students on the topics of renal and liver pathology

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

- 2002 Course Title: Current Topics in Biochemistry
Teaching Contribution: Prepared and supervised two laboratory sessions
- 2005 Course Title: Biochemical and Physical Basis of Life
Teaching Contribution: Prepared and led two discussion sessions
- 2006 Course Title: Experimental Techniques in Cell Biology
Teaching Contribution: Prepared and supervised two laboratory sessions
- 2006-07 Course Title: Human Gross Anatomy I and II
Teaching Contribution: Prepared and led Anatomy laboratory and discussion sessions; and prepared and proctored Anatomy skills examinations

FORMAL RESIDENT AND FELLOW TEACHING

UCSF MEDICAL CENTER

- 2016 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2017 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2017 Lecture: Non-Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2017 Lecture: Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2018 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2018 Lecture: Non-Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2018 Lecture: Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2019 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2019 Lecture: Non-Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2019 Lecture: Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2020 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2020 Lecture: Non-Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2020 Lecture: Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2021 Lecture: Esophageal Pathology, Anatomic Pathology Teaching Conference
- 2021 Lecture: Non-Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference
- 2021 Lecture: Neoplastic Gastric Pathology, Anatomic Pathology Teaching Conference

INFORMAL RESIDENT, FELLOW, AND MEDICAL STUDENT TEACHING

UCSF MEDICAL CENTER

- 2015 Cluster B Educational Conference: “Indefinite for Dysplasia” in Barrett’s Esophagus and Inflammatory Bowel Disease – DNA Content Abnormality is a Significant Predictor of Early Detection of Neoplasia
- 2015 Cluster B Educational Conference: “Idiopathic” Sclerosing Cholangitis in Adults – Role of MDR3 Mutations
- 2015 Radiology/Pathology/Surgery Joint Conference (once with surgery residents and fellows in December 2015)
- 2015-16 Liver Pathology Conference (three times with clinical liver fellows in September 2015, December 2015, and March 2016)
- 2015-16 Pediatric Pathology Conference (weekly with pediatricians in September 2015, December 2015, March 2016, and June 2016)
- 2016 Course Title: Colorectal Cancer – Gross Anatomy, Pathology, and Histopathology Laboratory
Teaching Contribution: Taught the gross and histologic appearance of adenomatous colonic polyps and invasive adenocarcinoma
- 2016 Cluster B Educational Conference: Interesting USCAP Posters

- 2016 Cluster B Educational Conference: Grading of Acute and Chronic Pancreas Allograft Rejection
- 2018 Cluster B Educational Conference: Duplication of the Muscularis Mucosae in Barrett's Esophagus
- 2020 Cluster B Educational Conference: Non-Conventional Dysplasia in Inflammatory Bowel Disease
- 2020 Pathology Student Interest Group Lunchtime Talk: Life as a Surgical Pathologist

UNIVERSITY OF WASHINGTON

- 2011-12 Autopsy Conference and Organ Review, VA Puget Sound Health Care System (weekly with medicine internists in August 2011, May 2012, and June 2012)
- 2011-12 GI Conjoint Conference, Anatomic Pathology, University of Washington Medical Center (twice with anatomic pathology residents and fellows in October 2011 and January 2012)
- 2012 Cytology Conference, Anatomic Pathology, University of Washington Medical Center (monthly with anatomic pathology residents and fellows in March and April 2012)
- 2011-13 Blue Box Conference, Anatomic Pathology, University of Washington Medical Center (three times with anatomic pathology residents and fellows in October 2011, January 2012, and March 2013)
- 2013-15 Call Rounds, Laboratory Medicine, University of Washington Medical Center (monthly with clinical pathology residents and fellows)
- 2014 Test of the Week, Laboratory Medicine, University of Washington Medical Center (weekly with clinical pathology residents and fellows in June 2014)
- 2014 Molecular Virology Diagnostic Case Conference, Laboratory Medicine, University of Washington Medical Center (once with clinical pathology residents and fellows in April 2014)
- 2014 Interesting Surgical Cases, CellNetix Pathology (monthly with surgery residents and fellows in November and December 2014)
- 2014-15 Molecular Diagnosis Case Conference, Laboratory Medicine, University of Washington Medical Center (three times with clinical pathology residents and fellows in February 2014, March 2014, and May 2015)

MENTORING

RESIDENTS AND FELLOWS MENTORED AT UCSF MEDICAL CENTER

- 2016-18 Kwun Wah Wen, MD, PhD (pathology fellow) – Research and Career Mentorship
- 2016-18 Daniel Graham, MD (pathology fellow) – Research and Career Mentorship
- 2018-20 Hannah Lee, DO (pathology resident) – Research and Career Mentorship
- 2018-21 Christopher Bowman, MD, PhD (pathology fellow) – Research and Career Mentorship
- 2019-20 Rachael Fels-Elliott Daffolyn, MD, PhD (pathology fellow) – Research and Career Mentorship
- 2019-Present Ruth Zhang, MD (pathology fellow) – Research and Career Mentorship
- 2019-21 Nebil Mohammed, MD (pathology resident) – Research and Career Mentorship
- 2020-21 Nigar Khurram, MD (pathology fellow) – Research and Career Mentorship
- 2020-Present Eric Nguyen, MD, PhD (pathology resident) – Research and Career Mentorship
- 2020-Present Dorukhan Bahceci, MD (pathology resident) – Research and Career Mentorship
- 2021-Present Naoki Akanuma, MD, PhD (pathology resident) – Research and Career Mentorship
- 2021-Present Fahire Goknur Akarca, MD (pathology resident) – Research and Career Mentorship

FACULTY MENTORED AT UCSF MEDICAL CENTER

- 2018-Present Kwun Wah Wen, MD, PhD (Assistant Professor, Department of Pathology, UCSF Medical Center) – Research and Career Mentorship

VISITING FACULTY MENTORED AT UCSF MEDICAL CENTER

- 2016-17 Jia-Huei Tsai, MD (National Taiwan University Hospital, Department of Pathology, Taipei, Taiwan) – Research Mentorship

VISITING RESIDENTS MENTORED AT UCSF MEDICAL CENTER

- 2018 Milim Kim, MD (Seoul National University Bundang Hospital, Department of Pathology, Seoul, South Korea) – Career Mentorship
- 2018 Sooyeon Lee, MD (Korea University Guro Hospital, Department of Pathology, Seoul, South Korea) – Career Mentorship
- 2018 HyunSik Bae, MD (Samsung Medical Center, Department of Pathology, Seoul, South Korea)

- Career Mentorship
- 2019 Bokyoung Ahn, MD (Korea University Anam Hospital, Department of Pathology, Seoul, South Korea) – Career Mentorship
- 2019 Eojin Kim, MD (Korea University Anam Hospital, Department of Pathology, Seoul, South Korea) – Career Mentorship
- 2019 Hyun Jung Kwon, MD (Seoul National University Bundang Hospital, Department of Pathology, Seoul, South Korea) – Career Mentorship
- 2019 Sangjoon Choi, MD (Samsung Medical Center, Department of Pathology, Seoul, South Korea) – Career Mentorship

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

- 2003-04 Student Mentor for Future Medical Research Investigators Pre-MD/PhD Club, University of Illinois College of Medicine at Urbana-Champaign
- 2007-09 Peer Mentor Program, University of Illinois College of Medicine at Urbana-Champaign
- 2008-09 Student Mentor for Future Medical Research Investigators Pre-MD/PhD Club, University of Illinois College of Medicine at Urbana-Champaign

RESEARCH AND CREATIVE ACTIVITIES:

PEER REVIEWED PUBLICATIONS (* indicates the first, senior, and/or corresponding author)

1. Tian S*, **Choi WT***, Liu D, Pesavento J, Wang Y, An J, Sodroski JG, and Huang Z. Distinct Functional Sites for Human Immunodeficiency Virus Type 1 and Stromal Cell-Derived Factor-1 α on CXCR4 Transmembrane and Helical Domains (***These authors contributed equally to this work**). *Journal of Virology*. 2005. Oct;79(20):12667-12673. PMID: 16188969.
2. **Choi WT***, Tian S, Dong CZ, Kumar S, Liu D, Madani N, An J, Sodroski JG, and Huang Z. Unique Ligand Binding Sites on CXCR4 Probed By A Chemical Biology Approach: Implications for the Design of Selective Human Immunodeficiency Virus Type 1 Inhibitors. *Journal of Virology*. 2005. Dec;79(24):15398-15404. PMID: 16306611.
3. Dong CZ, Kumar S, **Choi WT**, Madani N, Tian S, An J, Sodroski JG, and Huang Z. Different Stereochemical Requirements for CXCR4 Binding and Signaling Functions as Revealed by an Anti-HIV, D-Amino Acid-Containing SMM-Chemokine Ligand. *Journal of Medicinal Chemistry*. 2005. Dec;48(25):7923-7924. PMID: 16335916.
4. Kumar S*, **Choi WT***, Dong CZ*, Madani N, Tian S, Liu D, Wang Y, Pesavento J, Wang J, Fan X, Yuan J, Fritzsche WR, An J, Sodroski JG, Richman DD, and Huang Z. SMM-Chemokines: A Class of Unnatural Synthetic Molecules as Chemical Probes of Chemokine Receptor Biology and Leads for Therapeutic Development (***These authors contributed equally to this work**). *Chemistry & Biology*. 2006. Jan;13(1):69-79. PMID: 16426973.
5. Wang J, Kumar S, **Choi WT**, Dong C, and Huang Z. Design and Synthesis of Novel Chemokine Analogs Derived from vMIP-II. *Protein Peptide Letters*. 2006. May;13(5):499-501. PMID: 16800805.
6. **Choi WT***, Kaul M, Kumar S, Wang J, Kumar IM, Dong CZ, An J, Lipton SA, and Huang Z. Neuronal Apoptotic Signaling Pathways Probed and Intervened by Synthetically and Modularly Modified (SMM) Chemokines. *Journal of Biological Chemistry*. 2007. Mar;282(10):7154-7163. PMID: 17218311.
7. Liu D, Madani N, Li Y, Cao R, **Choi WT**, Kawatkar SP, Lim MY, Kumar S, Dong CZ, Wang J, Russell JD, Lefebure CR, An J, Wilson S, Gao YG, Pallansch LA, Sodroski JG, and Huang Z. Crystal Structure and Structural Mechanism of a Novel Anti-Human Immunodeficiency Virus and D-Amino Acid-Containing Chemokine. *Journal of Virology*. 2007. Oct;81(20):11489-11498. PMID: 17686848.
8. **Choi WT*** and An J. Biology and Clinical Relevance of Chemokines and Chemokine Receptors CXCR4 and CCR5 in Human Diseases. *Experimental Biology and Medicine*. 2011. June;236(6):637-647. PMID: 21565895.
9. Dong CZ, Tian S, Madani N, **Choi WT**, Kumar S, Liu D, Sodroski JG, Huang Z, and An J. Role of CXCR4 Internalization in the Anti-HIV Activity of Stromal Cell-Derived Factor-1 α Probed by a Novel Synthetically and Modularly Modified-Chemokine Analog. *Experimental Biology and Medicine*. 2011. Dec;236(12):1413-1419. PMID: 22101518.

10. **Choi WT***, Duggineni S, Xu Y, Huang Z, and An J. Drug Discovery Research Targeting the CXC Chemokine Receptor 4 (CXCR4). *Journal of Medicinal Chemistry*. 2012. Feb;55(3):977-994. PMID: 22085380.
11. Dong CZ, Tian S, **Choi WT**, Kumar KS, Liu D, Xu Y, Han X, Huang Z, and An J. Critical Role in CXCR4 Signaling and Internalization of the Polypeptide Main Chain in the Amino Terminus of SDF-1 α Probed by Novel N-methylated Synthetically and Modularly Modified Chemokine Analogues. *Biochemistry*. 2012. July;51(30):5951-5957. PMID: 22779681.
12. **Choi WT***, Nedellec R, Coetzer M, Colin P, Lagane B, Offord RE, Hartley O, and Mosier DE. CCR5 Mutations Distinguish N-terminal Modifications of RANTES (CCL5) with Agonist Versus Antagonist Activity. *Journal of Virology*. 2012. Sep;86(18):10218-10220. PMID: 22787219.
13. **Choi WT***, Kumar KS, Madani N, Han X, Tian S, Dong CZ, Liu D, Duggineni S, Yuan J, Sodroski JG, Huang Z, and An J. A Novel Synthetic Bivalent Ligand to Probe Chemokine Receptor CXCR4 Dimerization and Inhibit HIV-1 Entry. *Biochemistry*. 2012. Sep;51(36):7078-7086. PMID: 22897429.
14. **Choi WT***, Stetsenko GY, Zhang J, Olerud JE, Argenyi ZB, and George E. Cutaneous Angiosarcoma Clinically Presenting as Progressive Solid Facial Edema in a 43-Year-Old Male. *Dermatology Online Journal*. 2013. Nov;19(11):20409. PMID: 24314784.
15. **Choi WT***, Yang Y, Xu Y, and An J. Targeting Chemokine Receptor CXCR4 for Treatment of HIV-1 Infection, Tumor Progression, and Metastasis. *Current Topics in Medicinal Chemistry*. 2014. Aug;14(13):1574-1589. PMID: 25159167.
16. **Choi WT***, Emond MJ, Rabinovitch PS, Ahn J, Upton MP, and Westerhoff M. "Indefinite for Dysplasia" in Barrett's Esophagus: Inflammation and DNA Content Abnormality are Significant Predictors of Early Detection of Neoplasia. *Clinical and Translational Gastroenterology*. 2015. Mar;6:e81. PMID: 25761942.
17. **Choi WT***, Rabinovitch PS, Wang D, and Westerhoff M. Outcome of "Indefinite for Dysplasia" in Inflammatory Bowel Disease: Correlation with DNA Flow Cytometry and Other Risk Factors of Colorectal Cancer. *Human Pathology*. 2015. July;46(7):939-947. PMID: 25962315.
18. **Choi WT***, Swanson PE, Grieco VS, Wang D, and Westerhoff M. The Outcome of "Atypical" Bile Duct Brushings in the Identification of Pancreaticobiliary Tumors: Risk Stratification of "Atypical" Diagnoses and Follow-Up Analysis of Surgical Resection Specimens. *Diagnostic Cytopathology*. 2015. Nov;43(11):885-891. PMID: 26221777.
19. **Choi WT***, Chang TT, and Gill RM. Gastrointestinal Zygomycosis Masquerading as Acute Appendicitis. *Case Reports in Gastroenterology*. 2016. Apr;10(1):81-87. PMID: 27403107.
20. **Choi WT***, Cherian S, and Soma L. Significance of CD10 Positive Clonal B-Cell Populations Identified by Flow Cytometry in Histologically Benign Gastric Biopsies. *Journal of Hematopathology*. 2016. June;9(2):59-66.
21. **Choi WT***, Jen KY, Wang D, Tavakol M, Roberts JP, and Gill RM. Donor Liver Small Droplet Macrovesicular Steatosis is Associated with Increased Risk for Recipient Allograft Rejection. *American Journal of Surgical Pathology*. 2017. Mar;41(3):365-373. PMID: 28059835.
22. **Choi WT***, Ramachandran R, and Kakar S. Immunohistochemical Approach for the Diagnosis of a Liver Mass on Small Biopsy Specimens. *Human Pathology*. 2017. May;63:1-13. PMID: 28087475.
23. **Choi WT*** and Kakar S. Immunohistochemistry in the Diagnosis of Hepatocellular Carcinoma. *Gastroenterology Clinics of North America*. 2017. June;46:311-325. PMID: 28506367.
24. Whitcomb E, **Choi WT**, Jerome KR, Cook L, Landis C, Ahn J, Te HS, Esfeh J, Hanouneh IA, Rayhill SC, Gibson W, Plesec T, Koo J, Wang HL, Hart J, Pai RK, and Westerhoff M. Biopsy Specimens From Allograft Liver Contain Histologic Features of Hepatitis C Virus Infection After Virus Eradication. *Clinical Gastroenterology and Hepatology*. 2017. Aug;15(8):1279-1285. PMID: 28501538.
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OTHER CREATIVE ACTIVITIES

1. **Development of UCSF pathology website:** As the director of UCSF Pathology Website, I led the effort to develop a new UCSF Pathology website with a simple user interface, modern design, enhanced functionality, and accurate website content. The project started in July 2018, and we have successfully launched the public (pathology.ucsf.edu) and internal/intranet (pathology-internal.ucsf.edu) sites in November 2019. I continue to oversee all website-related issues, including developing and updating new website content (for instance, <https://pathology-internal.ucsf.edu/covid19>).

2. **DNA flow cytometry:** I have been working on the development and implementation of DNA flow cytometry using paraffin-embedded tissue for clinical uses (for both in-house and consultation cases in the division of GI/liver pathology).