

Who Will Benefit

The UCSF Thoracic Oncology Program embodies UCSF's three-fold mission:

Patient care As a regional, national and international referral center for lung cancer, mesothelioma and other thoracic malignancies, patients receive compassionate, state-of-the-art treatment from a multidisciplinary team of specialists.

Research Laboratory and translational research provides breakthroughs in our fundamental understanding of lung cancer, mesothelioma and other thoracic malignancies, while clinical research provides hope and new treatments for patients suffering from these diseases.

Teaching The Thoracic Surgery Residency Program provides trainees the opportunity to specialize and hone their skills in the rapidly evolving area of cardiothoracic surgery, producing some of the most distinguished leaders in the field.

If you are interested in participating in a clinical trial, please call the UCSF Helen Diller Family Comprehensive Cancer Center at (877) 827-3222.

If you would like to support the UCSF Thoracic Oncology Program, please contact Regan Botsford, Director of Development, at (415) 502-1573 or rbotsford@support.ucsf.edu.

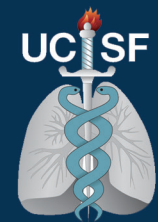
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The Thoracic Oncology Program at UCSF



Thoracic Oncology
Program

To bring the latest therapies to patients who would otherwise not have access to them, the UCSF Thoracic Oncology Program established the Institute for Molecular Oncology. This institute partners with Sequoia Hospital in Redwood City to enroll patients in clinical trials, and is about to expand to other hospitals in San Francisco and the South Bay.

Overview

Lung cancer is the leading cause of cancer death worldwide and the UCSF Thoracic Oncology Program is poised to conquer it. UCSF provides state-of-the-art care to patients with lung cancer, mesothelioma, esophageal cancer, sarcoma and cancer that has metastasized to the chest. Founded in 1995 by thoracic surgeon David M. Jablons, M.D. and thoracic oncologist Thierry Marie Jahan, M.D., UCSF's Thoracic Oncology Program has been at the forefront of groundbreaking laboratory research, innovative clinical trials, and compassionate, expert care for patients with lung cancer, mesothelioma, esophageal cancer and other thoracic malignancies.

Patients receive treatment from a dedicated multidisciplinary team of specialists. At UCSF, one of the world's leading biomedical research centers, patients also have access to clinical trials for promising new drugs. The Thoracic Oncology Program also collaborates with other world-class scientists and institutions to develop better treatments, and eventually a cure, for these deadly diseases.



Clinical Research

Led by principal investigator Thierry Jahan, M.D., the Thoracic Oncology Program hosts a broad menu of clinical trials with the most promising targeted and combinational therapies for lung cancer, mesothelioma, esophageal cancer and sarcoma. A sampling of the current trials offered include:

Chemotherapy and Bevacizumab

Principal Investigator:
Thierry Marie Jahan, M.D.

Monoclonal antibodies such as bevacizumab (Avastin) may stop the growth of tumor cells by blocking blood flow to the tumor. Giving chemotherapy together with bevacizumab post-surgery may kill any tumor cells that remain after surgery.

Radiation, Chemotherapy and Cetuximab in Inoperable Stage III Non-Small Cell Lung Cancer

Principal Investigator:
Sue S. Yom, M.D., Ph.D.

Monoclonal antibodies, such as cetuximab (Erbix) can block the ability of tumor cells to grow and spread. It is not yet known whether high-dose radiation therapy is more effective than standard-dose therapy in combination with chemotherapy and cetuximab in patients with non-small cell lung cancer.

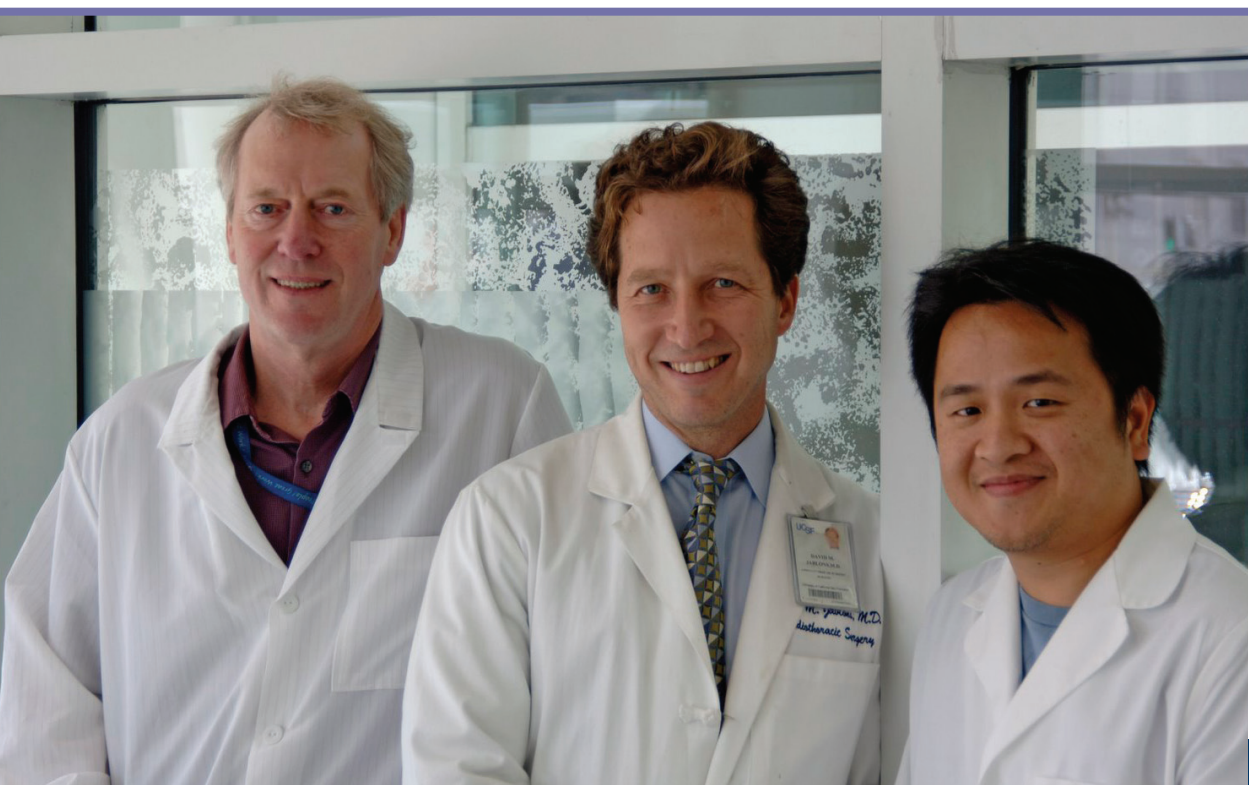
Pemetrexed Disodium as Maintenance Therapy in Malignant Pleural Mesothelioma

Principal Investigator:
Thierry Marie Jahan, M.D.

Pemetrexed disodium (Alimta) may stop the growth of tumor cells by blocking enzymes needed for cell growth. This trial is studying how well pemetrexed disodium works as maintenance therapy in treating mesothelioma patients without progressive disease after first-line chemotherapy.

For more information

If you are interested in participating in a clinical trial, please call the clinical coordinator at the UCSF Helen Diller Family Comprehensive Cancer Center at (877) 827-3222.



Laboratory Research

The era of personalized medicine has dawned in lung cancer research. The traditional classification of a tumor by its gross appearance and staining under a microscope has been supplanted by a new paradigm based on the distinctive molecular characteristics of the tumor. Treatment no longer proceeds on a one-size-fits-all model. Instead, patients receive novel combinations of therapies specifically tailored to their tumor's unique biological footprint.

The Thoracic Oncology Program is a pioneer in personalized medicine, its physicians and scientists working indefatigably to develop novel small molecule inhibitors and monoclonal antibodies keyed to molecularly distinct cancers. The program also is a leader in molecular diagnostics, having recently announced the development of an 14 panel multigene assay that accurately predicts a patient's prognosis after surgery .

The Thoracic Oncology Lab is also home to one of the world's largest thoracic tumor bank biorepositories with over 1,000 specimens of tumor and matched normal tissue. There are high quality, flash-frozen tumor samples exquisitely suited for complex genetic and genomic analysis — from subtle differences in the germline (inherited DNA) to specific types of acquired somatic tumor mutations, the latter due to environmental factors such as smoking or air pollution.

With eight highly dedicated principal investigators, the Thoracic Oncology Lab is aggressively pursuing novel approaches to all forms of personalized therapy: from early detection strategies to diagnostic lab assays to novel drug development. Below are some of the highlights of our research:

Investigation of Cancer Stem Cells

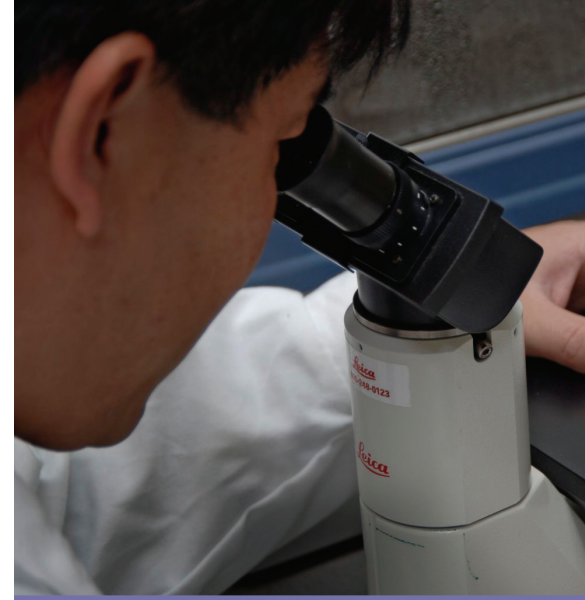
Recent evidence supports the existence of cancer stem cells, distinct cell populations within tumors that have the capacity for infinite self-renewal and differentiation. Principal Investigator Liang You, Ph.D. is studying the mechanism through which CK2 maintains lung cancer stem cells with the goal of elucidating new therapeutic targets for lung cancer and the development of therapeutic agents.

Prognostic and Predictive Diagnostic Assays

Our researchers are investigating the output of gene products within the cancer cell, particularly messenger RNA (mRNA), a molecule that carries the blueprint for production of cellular proteins. The level of mRNA suggests which genes are active in the tumor, serving as a "genetic signature" that can be correlated with clinical outcomes. UCSF recently unveiled a gene-expression test that significantly improves discrimination between low- and high-risk Stage I and IIA lung cancer patients, and identifies which early-stage patients should receive chemotherapy after surgery. The multi-gene assay, based on a panel of 14 genes, significantly outperforms staging based on conventional risk factors, and may have also have utility in predicting response to treatment in addition to prognosis.

Inflammation in Lung Carcinogenesis

The Thoracic Oncology Laboratory is investigating the role of inflammation in the development of lung and others cancers. This research focuses on the lineages of abnormal leukocytes (white blood cells) and their mechanism for abnormal activity in the Wnt and Sonic hedgehog signaling pathways — cellular communication processes that regulate growth, and which left unchecked, lead to unregulated cell growth and invasive tumors.



The Thoracic Surgical Oncology Program is the embodiment of the UCSF's three-fold mission of teaching, research and — most important — patient care.

Mutations in the KRAS Pathway

Mutations in the Ras family of genes occur frequently in human cancers with distinctive RAS mutations associated with specific types of cancer. Mutations in gene called KRAS are associated with lung, pancreatic and colon cancers. Minh To, Ph.D., a molecular geneticist in the lab, has made important contributions to the understanding of KRAS mutations in lung cancer. His research is now focused on how and why the KRAS pathway becomes mutated — findings that have major implications for therapeutic interventions based on targeting this mutation.

System Genetics

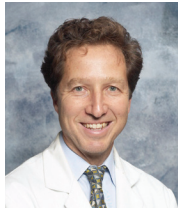
Systems genetics is the utilization of high-throughput genetics and genomics to identify as yet undiscovered diagnostic and therapeutic targets. Dr. Il-Jin Kim, Director of Applied Genomics in the Thoracic Oncology Lab, is harnessing the power of systems genetics in research spanning the entire spectrum of thoracic malignancies. Dr. Kim's approach is multi-faceted and multi-platform, combining analysis of the germline (SNPs), somatic mutations, changes in gene copy number and analysis of gene expression analysis, looking at both normal and matched tumor tissues. The Thoracic Oncology Lab uses state-of-the-art equipment to power scientific discovery using the system genetics paradigm. An Affymetrix GeneTitan microarray system is used for RNA gene expression profiling, and NGS (next-generation sequencing) machines are used for both DNA (Exome) and RNA (transcriptome) sequencing analysis. With these state-of-the-art technologies, Dr. Kim and his team are poised to discover new therapeutic targets, paving the way for novel agents to treat and ultimately cure lung cancer and other thoracic malignancies.

Aberrant Activation of Wnt and Hedgehog Signaling

Wnt and hedgehog proteins are key regulators of early embryonic development. However, after maturity, the aberrant re-activation of Wnt and Hedge signaling may contribute to rampant cell proliferation and failure of defective cells to commit suicide (apoptosis). This aberrant behavior is strongly implicated in the development of non-small cell lung cancer, mesothelioma, and pre-malignant lesions such as high-grade Barrett's esophagus. Principal Investigators Zhidong Xu, Ph.D. and Biao He, Ph.D. are separately investigating various aspects of aberrant Wnt and Hedgehog signaling with the goal of elucidating therapeutic targets and developing novel targeted agents for treatment of these diseases.

Key Faculty

Thoracic Surgeons



David M. Jablons, M.D., FACS

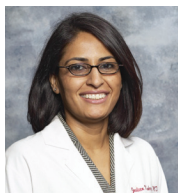
Professor and Chief, General Thoracic Surgery
Program Leader, Thoracic Oncology Program
Ada Distinguished Professor of Thoracic Oncology
Director, Thoracic Oncology Laboratory

David M. Jablons, M.D., FACS is Chief of General Thoracic Surgery and Program Leader of the Thoracic Oncology Program. Dr. Jablons received his medical

degree from Albany Medical College of Union University. As an intern, he served as commander and Chief of Thoracic Surgery at Oak Knoll Naval Hospital in Oakland. He completed his general surgery residency at Tufts University and thoracic surgery residency at New York Hospital-Cornell University Medical Center (now Weill Cornell University Medical Center). His education was further enhanced by several prestigious fellowships: 1) surgical oncology at the National Cancer Institute (NCI), 2) lung transplantation at Brigham and Women's Hospital, and 3) thoracic surgery at New York Hospital/Memorial Sloan Kettering Cancer Center.

In 1995, UCSF recruited Dr. Jablons to build a world-class program in thoracic surgery and oncology. Under his leadership, the program has grown dramatically to become the largest on the West Coast and an leading regional, national and international referral center. The Jablons Lab has also expanded to become the Thoracic Oncology Lab, a bench-to-bedside enterprise that is home to eight principal investigators. The lab is strongly focused on the investigation of Wnt and Hedgehog signaling pathways, most notably in lung cancer and mesothelioma. The lab also collaborates with other leading principal investigators to facilitate advances in cancer stem cells, inflammation and molecular diagnostics.

Dr. Jablons is world-renowned for his dedication to the fields of lung cancer and mesothelioma — as a clinician, as a researcher and for his deep and abiding commitment to patients, many of whom, inspired by his example, have become passionate advocates for the cause. In 2006, Dr. Jablons co-founded the Bonnie J. Addario Lung Cancer Foundation (BJALCF). In 2009, he was selected as co-Chair of the 13th World Conference on Lung Cancer in 2009, the seminal event in the field. And in 2011, he was inducted into the prestigious American Surgical Society, an organization reserved for the nation's most well-respected and highly skilled surgeons.

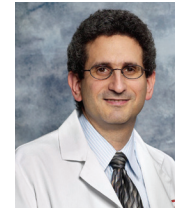


Jasleen Kukreja, M.D., M.P.H.

Assistant Professor of Surgery
Surgical Director of Lung Transplantation

Jasleen Kukreja, M.D., M.P.H. is a thoracic surgeon who performs procedures for lung cancer, esophageal cancer, mediastinal and tracheal tumors, and mesothelioma, often using minimally invasive techniques. Dr. Kukreja also

treats patients with worsening emphysema and cystic fibrosis that require lung volume reduction surgery (LVRS) or lung transplantation. Recently, Dr. Kukreja was named Surgical Director of Lung Transplantation at UCSF. Dr. Kukreja received her M.D. from UCLA and M.P.H. from Harvard University School of Public Health. She completed her general surgery residency at UCLA and thoracic surgery residency at UCSF. While at Brigham and Women's Hospital, she received advanced cardiothoracic training including a fellowship in clinical trial design.



Michael Mann, M.D.

Associate Professor of Surgery

Michael Mann, M.D. is a cardiothoracic surgeon who performs procedures for lung and related thoracic malignancies, mesothelioma, and sarcoma. Dr. Mann received his M.D. from Stanford. He completed his general surgery residency at Stanford University, and Brigham and Women's Hospital/ Harvard Medical School, and his thoracic surgery residency at UCSF. Dr. Mann is Director of the

Cardiothoracic Translational Research Laboratory, which is focused on discovering cellular and molecular therapies to treat the ravages of heart failure. He has also pioneered several novel drug and delivery technologies.



Pierre R. Theodore, M.D.

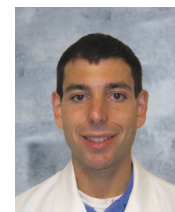
Associate Professor of Surgery

Van Auken Endowed Chair in Thoracic Oncology

Pierre Theodore, M.D. is a thoracic surgeon and the first recipient of the Van Auken Endowed Chair in Thoracic Oncology. Dr. Theodore joined the UCSF faculty in 2004. He performs surgery, often using minimally invasive techniques, for lung cancer, esophageal cancer, mediastinal and tracheal tumors, and

mesothelioma. Dr. Theodore received his M.D. from University of Virginia, and completed both his general surgery residency and thoracic surgery residency at Johns Hopkins. He also completed a fellowship in transplant biology at Harvard University and one in cardiothoracic surgery at La Pitie-Salpêtrière Hospital in Paris. Dr. Theodore also performs lung transplants and was the first in California to perform a non-heart-beating lung donor (NHBD) harvest, a breakthrough that holds great promise for alleviating organ shortages.

Medical Oncologists



Trever G. Bivona, M.D., Ph.D.

Assistant Professor of Medicine

Trever G. Bivona, M.D., Ph.D. is a thoracic medical oncologist. His overarching goal is to develop paradigm-shifting treatment strategies that target the aberrant signal transduction pathways fueling tumor growth. He is Director of the Bivona Lab, a bench-to-bedside research enterprise investigating the molecular pathogenesis of human cancers, primarily lung cancer. In pursuit of

that goal, the Bivona Lab uses interdisciplinary approaches and next-generation functional genomics methodologies, highly relevant cell line and tumor model systems, and human tumor specimens and clinical outcomes data. These help to define and elucidate the molecular events driving human lung cancer growth.

Dr. Bivona received his M.D. and Ph.D. from the joint Medical Scientist Training Program at NYU School of Medicine. He completed his residency in internal medicine at Brigham and Women's Hospital followed by advanced training at Memorial Sloan-Kettering Cancer Center as a medical oncology fellow, and research fellow in the Laboratory of Charles Sawyers, Human Oncology and Pathogenesis Program.



Matthew A. Gubens, M.D., M.S.
Assistant Clinical Professor of Medicine

Matthew Gubens, M.D., M.S. is a thoracic medical oncologist who treats patients with lung cancer, mesothelioma and other thoracic malignancies. Dr. Gubens also has particular expertise in the diagnosis and treatment of thymoma and thymic carcinoma, rare tumors of the lung, on which he has written and lectured extensively. Dr. Gubens earned his medical degree at Stanford, completed an internal medicine residency at UCSF, followed by a medical oncology fellowship at Stanford. He also holds an M.S. degree in Health Policy and Management from Harvard School of Public Health.



Thierry Marie Jahan, M.D.
Associate Professor of Medicine
Bonnie J. and Anthony Addario Endowed Chair in Thoracic Oncology

Thierry Jahan, M.D. is co-founder of the Thoracic Oncology Program and one of the Bay Area's most highly-regarded thoracic oncologists and sarcoma specialists. Dr. Jahan is beloved by patients and their families for his empathy and compassion, and experienced clinical judgment. As director of the thoracic oncology clinical trials program and Principal Investigator on numerous studies, Dr. Jahan's goal is to offer UCSF patients a broad menu of clinical trials, providing them access to the most promising targeted and combinational therapies for lung cancer, mesothelioma, sarcoma and other thoracic malignancies.

Radiation Oncology



Sue S. Yom, M.D., Ph.D.
Assistant Professor of Radiation Oncology

Sue Yom, M.D., Ph.D. is a radiation oncologist who specializes in the treatment of lung, and head and neck cancers. Dr. Yom received her M.D. from the University of Pennsylvania in 2002, and completed her residency training at M.D. Anderson Cancer Center. Dr. Yom's areas of clinical expertise include the delivery of non-invasive stereotactic CyberKnife radiation for early-stage lung cancer and chemoradiation therapy for advanced-stage disease. Her research focuses on efforts to quantify the risks of pneumonitis and esophagitis radiation, and the use of intensity-modulated radiation therapy (IMRT) in to gain local control of advanced lung cancer.

Pulmonology

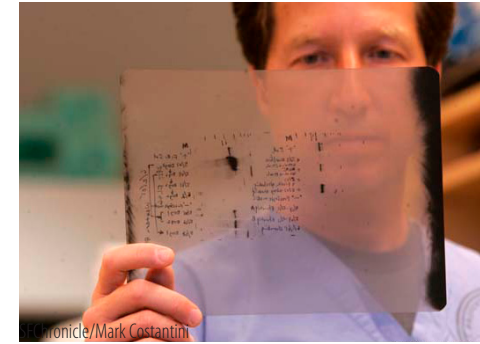


Lorriana Leard, M.D.
Associate Professor of Medicine

Lorriana Leard, M.D. is a pulmonologist who specializes in the care of patients with lung cancer, and patients with advanced lung disease who are candidates for a lung transplant. Dr. Leard also led the effort to establish a Lung Cancer Screening Program at UCSF. Dr. Leard performs advanced bronchoscopic procedures, including Endobronchial Ultrasound (EBUS), tracheobronchial dilatation, tracheal and bronchial stent placement, transbronchial needle aspiration and biopsies, and gold fiducial placement in preparation for Cyberknife therapy. She received her undergraduate degree from Stanford University and her M.D. from the University of California San Diego. After completing an Internal Medicine residency at the University of Texas Southwestern in Dallas, she completed fellowships at UCSF in Pulmonary and Critical Care, and Lung Transplantation before joining the faculty in 2006.

“Cancer is an individual disease for every patient. We believe that the key to better outcomes and treatments lie in a personalized approach. The Thoracic Oncology Program has been on the forefront of cutting-edge cancer treatments and is now poised to bring the molecular revolution to the clinic at UCSF.”

David M. Jablons, M.D.



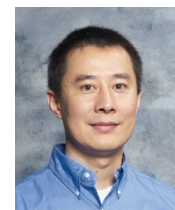
Pathology



Kirk D. Jones, M.D.
Associate Professor of Pathology

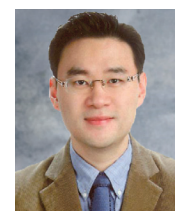
Kirk D. Jones, M.D. is a thoracic pathologist with expertise in pulmonary and cytopathology. With more than a decade of experience in interpreting lung tumors biopsies, Dr. Jones plays a critical role in developing treatment strategies at the multidisciplinary thoracic tumor board conference. Dr. Jones also interprets the majority of the lung transplant biopsies at UCSF. Dr. Jones received his medical degree from UCSF where he also completed his residency and fellowships in surgical pathology and cytopathology. Dr. Jones also completed a postdoctoral fellowship in pulmonary pathology at the Mayo Clinic.

Principle Investigators



Biao He, Ph.D.
Associate Adjunct Professor of Surgery

Biao He, Ph.D. is a molecular geneticist and Principal Investigator in the Thoracic Oncology Laboratory. His goal is to improve the limited understanding of the molecular biology of lung cancer and mesothelioma and to develop targeted therapies for them. Dr. He received his Ph.D. in Molecular Genetics from the University of Virginia. He was a postdoctoral researcher and molecular biologist at UCSF before joining the faculty in 2004. Dr. He's research focuses on three areas: 1) defining the roles of the Wnt and Hedgehog signaling pathways, and inflammation in human lung cancer and malignant mesothelioma, 2) elucidating the key mechanisms of crosstalk and other oncogenic pathways such as EGFR, and 3) developing small molecule inhibitors that target aberrant signaling pathways active in the development and progression of lung cancer and malignant mesothelioma.



Il-Jin Kim, Ph.D.
Assistant Adjunct Professor of Surgery

Dr. Il-Jin Kim, Ph.D. is Director of Applied Genomics and Principal Investigator in the Thoracic Oncology Laboratory. Dr. Kim's work focuses on the identification of novel diagnostic and therapeutic markers in lung cancer and mesothelioma using a systems genetic approach. Dr. Kim graduated the College of Veterinary Medicine, Seoul National University with a B.S. and D.V.M., and an M.S. and Ph.D.

in Tumor Biology from the College of Medicine at Seoul National University. In 2008, Dr. Kim came to UCSF as a post-doctoral fellow and recently joined the faculty. The Kim lab which studies genome-wide gene expression, DNA copy number, mutation, fusions, and any other genetic changes in lung cancer. His lab has identified several novel molecular targets in normal and matched adenocarcinoma tissue, and is now working on functional and biological validation of these markers. This research will be used to develop novel therapeutic drugs and diagnostic assays for lung cancer.



Hassan Lemjabbar-Alaoui, Ph.D.

Assistant Adjunct Professor of Surgery

Hassan Lemjabbar-Alaoui, Ph.D. is a biomedical scientist and Principal Investigator in the Thoracic Oncology Laboratory. Dr. Alaoui received his Ph.D. from the University of Paris XII. His research is focused the role of the epidermal growth factor receptor (EGFR) in lung carcinogenesis as well as reactivation of embryonic signaling pathways such as Wnt signaling. Dr. Alaoui is currently investigating

two extracellular regulators of Wnt signaling, Sulf-1 and Sulf-2, as new therapeutic targets and their role in promoting cell proliferation, survival, and angiogenesis, and in resistance to chemotherapy. Characterized a decade ago in the lab of Dr. Steven Rosen, these enzymes act on extracellular heparan sulfate. Sulfs remove specific internal sulfate residues from heparan sulfate proteoglycans (HSPGs) on both the cell surface and within the extracellular matrix.



Carlo C. Maley, Ph.D.

Associate Adjunct Professor of Surgery
Director, UCSF Center for Evolution and Cancer

Carlo Maley, Ph.D. is an evolutionary cancer biologist, and Principal Investigator in the Thoracic Oncology Laboratory. Dr. Maley received an M.Sc. in evolutionary theory from University of Oxford and a Ph.D. in computer science (computational biology) from MIT. He joined the UCSF faculty in 2010 and was recruited to lead

the new Center for Evolution and Cancer at the UCSF Helen Diller Family Comprehensive Cancer Center. The Maley Lab is exploring the fundamental dynamics of neoplastic progression (the process by which normal tissue becomes cancerous) and the evolution of therapeutic resistance. The lab also studies the process by which Barrett's esophagus progresses to esophageal cancer. The ultimate goal of the research is to improve methods of cancer prevention and develop more effective therapeutic interventions. Dr. Maley also studies large, long-lived mammals such as whales and elephants to determine how their mechanisms of cancer suppression are superior to the mechanisms in humans.



Minh To, Ph.D.

Assistant Adjunct Professor of Surgery

Minh To, Ph.D. is a molecular geneticist/biologist and Principal Investigator in the Thoracic Oncology Laboratory. Dr. To earned his Ph.D. in Molecular and Medical Genetics from the University of Toronto. He completed a postdoctoral fellowship at UCSF and joined the faculty in 2008. Dr. To's research utilizes mouse models to study the mechanism of lung cancer susceptibility and biology with the goal of

translating basic science discoveries into demonstrable clinical benefit. Dr. To has made important contributions to understanding how mutations in the KRAS pathway drive lung carcinogenesis. He is also a collaborator on the Systems Genetics project with Drs. Allan Balmain, David Jablons, and Il-Jin Kim, one that employs large scale molecular analysis of human lung cancers to identify novel therapeutic targets.



Zhidong Xu, Ph.D.

Associate Adjunct Professor of Surgery

Zhidong Xu, Ph.D. is a molecular biologist and Principal Investigator in the Thoracic Oncology Laboratory. Dr. Xu's research is focused on the molecular biology of non-small cell lung cancer and mesothelioma, and development of novel targeted therapeutics. Dr. Xu earned an M.S. in Biology/Cytogenetics from Western Illinois University and a Ph.D. from the University of Texas

in molecular mutagenesis. His areas of investigation include the role of methylation in lung carcinogenesis and as a marker in early lung cancer; novel molecular mechanisms in the Wnt Signaling Pathway; and differential gene expression profiling. Dr. Xu also played an important role in forging international ties with the Chinese Medical Institute for lung cancer research.



Liang You, Ph.D.

Associate Adjunct Professor of Surgery

Liang You, Ph.D. is a molecular biologist and Principal Investigator in the Thoracic Oncology Laboratory. Dr. You received his M.D. from Jinzhou Medical College in China and Ph.D. in pathology from Medical College of Ohio. After working at the National Cancer Institute (NCI), Dr. You joined the thoracic oncology lab and helped transform it from a fledgling research effort

into a thriving molecular genomics laboratory. Among his accomplishments: 1) demonstrating the relationship of p14ARF tumor suppressor deletions to the p53 pathway in mesothelioma, 2) the discovery of novel mechanisms for the activation of upstream WNT pathways, and 3) development with chemist Dr. Naoaki Fujii of a small molecule Wnt pathway inhibitor, FJ9, that disrupts the interaction between the Frizzled receptor and Dishevelled, a Wnt signal transducer. In 2010, Dr. You received a five-year NIH/R01 grant to investigate the role of Cul4A in tumor development and progression to cancer.

“Building on fifteen years of collaborative work with leading scientists in China, the Thoracic Oncology Program founded the China Clinical Trials Consortium (CCTC) to offer potentially life-saving therapies through clinical trials to thousands of Chinese lung cancer patients. In China, epidemiologists have predicted a veritable pandemic of new lung cancer cases due to widespread smoking, industrial pollution, and poorly-regulated asbestos use. These clinical trials will be greatly accelerate the pace of discovery of novel therapies for lung cancer. Ultimately, the consortium will expand, opening trials for mesothelioma, esophageal cancer and other thoracic malignancies.”

Key Collaborators

Allan Balmain, Ph.D., FRSE

Barbara Bass Bakar Distinguished Professor in Cancer Genetics

Allan Balmain, Ph.D., FRSE is one of the world's leading molecular geneticists. Dr. Balmain received his Ph.D. in Organic Chemistry from the University of Glasgow, and completed postdoctoral fellowships at the University of Strasbourg in France and the German Cancer Research Centre in Heidelberg. Dr. Balmain and the Thoracic Oncology lab are collaborators on the Lung Cancer System Genetics project. Data from the studies are being used to construct networks that include gene expression profiles of lung tumors, and capture the complexity of somatic events intrinsic to the tumor, layered over the genetic background inherent to the individual. This will allow for more accurate prediction of clinical outcomes.

V. Courtney Broaddus, M.D.

Professor of Medicine

V. Courtney Broaddus, M.D. is a pulmonologist and Associate Director of the Lung Biology Center at SFGH. Her lab investigates apoptosis (programmed cell-death) in mesothelioma and lung cancer cell lines as a model for highly resistant solid tumors. Dr. Broaddus received her M.D. from the University of Pennsylvania, and completed her residency at the Hospital of the University of Pennsylvania. She completed her Pulmonary Disease fellowship at UCSF, and later joined the faculty. Since 1998, she has served as Chief of the Division of Pulmonary and Critical Care Medicine at San Francisco General Hospital (SFGH).

George H. Caughey, M.D.

Professor of Medicine

George Caughey, M.D. is a pulmonologist and the Julius and Lillian Nadel Endowed Chair and Chief of the Pulmonary and Critical Care Medicine Section at the San Francisco VA Medical Center. Dr. Caughey received his M.D. from Stanford. After medicine and pulmonary subspecialty training at University of Pennsylvania Hospital and UCSF, he trained in lung research at the UCSF Cardiovascular Research Institute and at Genentech, joining the UCSF pulmonary faculty in 1986. His lab research focuses on how extracellular proteases influence the pathology of lung diseases.

Harold A. Chapman, M.D.

Professor of Medicine

Chief, Pulmonary and Critical Care Division, Department of Medicine, UCSF

Harold Chapman, M.D. is a pulmonologist and Director of the Chapman Lab, which is focused on basic and biomedical aspects of lung injury and lung tissue remodeling. Dr. Chapman received his M.D. from the University of Alabama in 1972. After internal medicine, pulmonary subspecialty, and research training at the University of Utah, he joined the faculty of Harvard Medical. He later moved to UCSF and became Chief of the Pulmonary Division in 2000. The Chapman lab is analyzing blood and tissue samples from patients to test similarities with recent findings in mouse models of disease, hoping to find biomarkers of disease progression for several important lung diseases: lung cancer, pulmonary fibrosis, and interstitial pneumonias.

Brett M. Elicker, M.D.

Assistant Clinical Professor of Clinical Radiology

Chief, Cardiac & Pulmonary Imaging

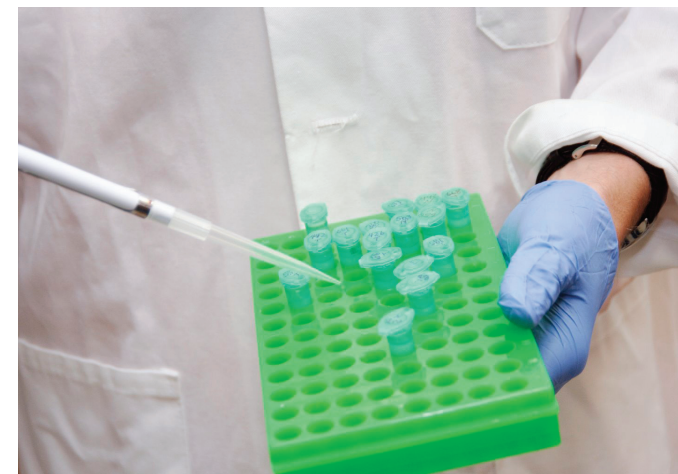
Brett M. Elicker, M.D. is a thoracic radiologist and Chief of Cardiac and Pulmonary Imaging Section in the Department of Radiology at UCSF. He plays an important role in the multidisciplinary evaluation of patients with lung and esophageal cancer, mediastinal and

tracheal tumors, and mesothelioma. Dr. Elicker earned a medical degree at New York Medical College. He completed a residency in diagnostic radiology at Yale University and a fellowship in thoracic imaging at UCSF before joining UCSF Medical Center as a radiologist and the UCSF School of Medicine as Assistant Clinical Professor of Radiology.

Alexander R. Gottschalk, M.D., Ph.D.

Associate Professor of Radiation Oncology
Director of the UCSF Cyberknife
Radiosurgery Program

Alexander Gottschalk, M.D., Ph.D. is a radiation oncologist who treats sarcoma and lung cancer, among many cancers. Dr. Gottschalk earned his M.D. and Ph.D. at the University of Chicago and completed a residency in radiation oncology at UCSF Medical Center. Dr. Gottschalk is Director of the UCSF Cyberknife Radiosurgery Program, a valuable intervention in treating lung cancer and brain metastases.



Passi Janne, M.D., Ph.D.

Assistant Professor, Department of Medicine, Harvard Medical School
Dana-Farber Cancer Institute

Passi Janne, M.D., Ph.D. is a thoracic oncologist and leading authority on the role of the epidermal growth factor receptor (EGFR) mutation in non-small cell lung cancer (NSCLC) and its relationship to EGFR inhibitors such as Erlotinib and Gefitinib. Although EGFR mutations occur in only ten-percent of lung cancers, patients with the mutation have a high response rate to treatment with EGFR inhibitors. Dr. Janne's lab is studying mechanisms of resistance to these new agents and seeking to identify ways to overcome the resistance.

Andrew H. Ko, M.D.

Andrew H. Ko, M.D. is a medical oncologist who specializes in the treatment of esophageal, stomach, colorectal, pancreatic, and hepatobiliary cancers. Dr. Ko graduated magna cum laude from Brown University and received his medical degree from Johns Hopkins School of Medicine. After an internship and residency at Beth Israel Hospital in Boston, he completed a fellowship in medical oncology at Stanford University before joining the UCSF faculty in 2001. Dr. Ko is a frequent lecturer in the GI cancer field and has served as Principal Investigator for trials using novel agents in esophageal and GI cancers.

W. Michael Korn, M.D.

Associate Professor of Medicine

W. Michael Korn, M.D. is a medical oncologist and gastroenterologist who treats GI diseases including high-grade Barrett's esophagus and esophageal cancer. Dr. Korn serves as Principal Investigator in clinical trials for esophageal and other gastrointestinal cancers. His laboratory research is geared to the development of combination therapies for gastrointestinal and breast cancer, using data from the analysis of signal transduction pathways. A native of Germany, Korn earned a medical degree at the University of Marburg and the University of Dusseldorf in Germany. He completed a medical internship at the University of Bern in Switzerland and concluded training at Ev. Krankenhaus Dinslaken in Germany and the University of Essen's West German Cancer Center.

Richard M. Krieg, M.D.

Clinical Professor of Radiation Oncology

Richard Krieg, M.D. is a radiation oncologist who treats patients with lung and gastrointestinal cancers. Dr. Krieg plays a key role at the multidisciplinary thoracic tumor board conference in developing treatment strategies. Radiation therapy is used as either definitive treatment, to gain local control of the tumor, or as a palliative intervention.

Frank McCormick, Ph.D., FRS

David A. Wood Distinguished Professorship of Tumor Biology and Cancer Research

Director, UCSF Helen Diller Family Comprehensive Cancer Center
Associate Dean, UCSF School of Medicine

Frank McCormick, Ph.D., FRS is a basic scientist whose research is focused on signal transduction pathways in cancer cells. Dr. McCormick has collaborated with the Thoracic Oncology Program on numerous projects and peer-reviewed manuscripts. The Ras pathway has been Dr. McCormick's primary interest. When aberrantly activated in lung cancer, patients are found to have worse a prognosis. Dr. McCormick's lab is also interested in metabolic differences between cancer and normal cells, and defects in cancer proteins related to mitotic checkpoints.

Michelle M. Milic, M.D.

Assistant Clinical Professor of Medicine

Michelle Milic, M.D. specializes in pulmonary and critical care medicine. She received her M.D. from Wright State University School of Medicine followed by a residency at Rush-Presbyterian-St. Luke's Medical Center and pulmonary and critical care fellowship at Boston Medical Center. She provides care for general pulmonary conditions, as well as comprehensive symptom management and palliative care for lung cancer patients.

Stanley J. Rogers, M.D., FACS

Associate Clinical Professor of Surgery

Ruth M. Dunn Endowed Chair in Minimally Invasive Surgery

Stanley Rogers, M.D., FACS is a general surgeon who operates on high-grade Barrett's esophagus and esophageal cancer patients in tandem with thoracic surgeons. Dr. Rogers received a B.A. in Zoology and Physiology from the University of Wyoming and his M.D. from the University of Utah School of Medicine. Dr. Rogers did his surgical training, including his residency, and a fellowship in laparoscopic surgery, surgical sonography and GI endoscopy at UCSF.

Steven Rosen, Ph.D.

Professor and Vice-Chair, Department of Anatomy, UCSF

Steven Rosen, Ph.D. is a basic scientist and Vice-Chair of the Department of Anatomy at UCSF. His research is focused on Wnt ligands, a developmental signaling pathway and one of the ligand families regulated by the Sulfs. When reactivated, Wnt promotes cell proliferation and survival. Using pancreatic and non-small cell lung cancer lines, Dr. Rosen and others have shown that the Sulfs facilitate Wnt signaling in these cells and, in so doing, promotes cell proliferation and survival in vitro and tumorigenicity in nude mice. Since the Sulfs are extracellular enzymes, they could emerge as therapeutic targets for the treatment of pancreatic and lung carcinomas. Dr. Hassan Lemjabbar-Alaoui of the Thoracic Oncology Lab is also investigating the role of Sulfs in promoting cell proliferation, survival, and angiogenesis, and in resistance to chemotherapy.

Charles J. Ryan, M.D.

Associate Professor of Clinical Medicine

Charles J. Ryan, M.D. is a medical oncologist who treats patients with non-small cell lung cancer, small cell lung cancer, BAC, mediastinal tumors and pulmonary metastases as well as urologic malignancies. Dr. Ryan earned his medical degree at the University of Wisconsin School of Medicine, where he also completed a residency in internal medicine. He then completed a clinical fellowship at Memorial Sloan-Kettering Cancer Center (MSKCC) where he received advanced training in medical oncology.

Sunny Wang, M.D.

Assistant Clinical Professor of Medicine

Sunny Wang, M.D. is a medical oncologist specializing in the treatment of lung cancer. Dr. Wang treats patients at both UCSF Mt. Zion and the San Francisco VA Medical center. Dr. Wang also conducts research aimed at the discovery of new lung cancer therapies and on outcomes of patients with co-morbid non-cancer health conditions. Wang earned a bachelor's degree at Harvard University and a medical degree at the University of Pennsylvania School of Medicine. She completed her internal medicine residency, and a hematology and oncology fellowship at UCSF.

