



**UNIVERSITY OF CALIFORNIA, DAVIS, SCHOOL OF MEDICINE
UNIVERSITY OF CALIFORNIA, DAVIS, MEDICAL CENTER**

**PULMONARY AND CRITICAL CARE MEDICINE
FELLOWSHIP TRAINING PROGRAM**

Thank you for your interest in the Pulmonary and Critical Care Medicine Fellowship Training Program at the University of California, Davis (UCD). The goal of our program is to produce skilled pulmonary and critical care clinicians, teachers, and investigators. An individualized curriculum with a minimum of eighteen months of clinical service provides patient care experience with a broad range of diseases, and hands-on experience in all diagnostic and therapeutic procedures. The balance of the three-year program is available for clinical and basic science research activities. An educational curriculum running the duration of the three-year program provides exposure to radiology, pathology, current literature, related disciplines, and research interests of division colleagues as well as collaborators in the UCD Center for Comparative Respiratory Biology and Medicine. Training in molecular and cellular biology, genetics, biochemistry, physiology, and immunology is available. Clinical research opportunities include patient- and disease-oriented studies and epidemiologic investigations. An optional fourth year of fellowship training may be available to those individuals desiring additional protected research time.

TRAINING SITES

- UC Davis Medical Center
 - Primary teaching hospital for UC Davis School of Medicine
 - 260,000 outpatient visits and 22,000 admissions per year
 - 455-bed inpatient facility with 76 adult ICU beds
 - Regional referral center for inland Northern California and neighboring states
 - Level I Trauma Center
 - Multi-Organ Transplant Services
 - Regional Burn Center
 - Region Poison Control Center
- Sacramento Veterans Administration Medical Center at Mather Field
 - 60-bed inpatient facility with 10 adult ICU beds
 - Sacramento Veteran's Administration Outpatient Clinic
 - 2000 Outpatient Pulmonary Clinic Visits Annually
- UCD School of Medicine and School of Veterinary Medicine
- UCD California Regional Primate Research Center
- UCD Center for Comparative Respiratory Biology and Medicine
UCD Institute for Toxicology and Environmental Health

FACULTY

The division's faculty members include clinician-teachers, clinical investigators and basic science researchers. Collaborative arrangements are in place with investigators in other divisions and departments in the UCD School of Medicine, the UCD School of Veterinary Medicine, and at other universities in California and Europe.

STRUCTURE

The first fellowship year includes short rotations in pulmonary physiology, anesthesia, thoracic radiology, and research. The balance of the year is spent on clinical service on the MICU, Consult, and VA Services to provide a broad experience in clinical aspects of pulmonary and critical care medicine. Extensive training in diagnostic and therapeutic techniques such as flexible bronchoscopy, lung and pleural biopsy, tube thoracostomy and all critical care procedures is provided. During the first year, the fellow chooses a research advisor who assists in preparation of a research grant application and helps to plan the second and third year experiences.

The second and third fellowship years are primarily devoted to research experience under the guidance of the fellow's chosen research advisor. This can be basic or clinical research carried out at any of the training sites. Fellows also complete the remaining clinical requirements for board certification in Pulmonary and Critical Care Medicine with a combination of electives and rotations at the Veteran Administration Hospital, and on the MICU and Consult services at UCDMC. This curriculum is individualized in consultation with the Program Director and research mentor. Clinically focused fellows generally spend a somewhat greater proportion of their time involved in clinical rotations.

Fellows attend clinics 1-2 times weekly throughout the training program. The outpatient experience in the first fellowship year is focused on the VA, and in the second and third years a University-based continuity clinic is added to the ongoing VA continuity clinic experience. Brief additional rotations through the various more specialized clinics are included in the first year. Clinically-focused fellows spend additional time in these specialty clinics in the second and third years.

Fellows have 24 days of paid vacation or educational leave each year. Fellow salary for the first year is currently \$45,300 and increases to \$49,900 in the third year. Fellows are not responsible for funding during their first three years of training, but are expected to apply for research funding during their first year with assistance from their research advisor.

CONFERENCES

Weekly:

- Center for Comparative Respiratory Biology and Medicine Basic Science/Research Seminar
- Current Lung Pathology
- Fellows' Conference (core topics in Pulmonary and Critical Care Medicine and case based discussions)
- Internal Medicine Grand Rounds
- Multidisciplinary Thoracic Oncology Patient Management Conference

Monthly:

- Combined Case Management Conference (with Thoracic Surgery)
- Community Case Review
- CXR Review
- Interdisciplinary Critical Care Conference
- Journal Club
- Literature Review
- MICU/CQI Meeting

Several part-time and volunteer (community-based) pulmonary medicine faculty members assist the full-time clinical teaching faculty in the teaching and service responsibilities of the Division. In addition, we have a monthly journal club with our colleagues at Kaiser Permanente Medical Group.

RESEARCH FUNDING

The Division has fellows, graduate students, and research postdoctoral scholars supported by:

- The National Institutes of Health
- The American Lung Association
- The American Heart Association
- The Cystic Fibrosis Foundation
- Intramural Funding
- Tobacco-Related Disease Research Program

NIH/NHLBI TRAINING GRANT

The Division of Pulmonary and Critical Care Medicine, Center for Comparative Respiratory Biology and Medicine has been awarded a National of Institutes of Health Training Grant in Comparative Lung Biology and Medicine. Reen Wu, Ph.D. and Carroll E. Cross, M.D. are the Director/Co-Director of the NRSA training grant funded for 27-years. This program is designed to provide opportunities for pre-doctoral and postdoctoral trainees to become independent investigators in lung biomedical-related research. Below is a list of participating faculty:

Participating Faculty

Charles Bevins, Ph.D. - Innate Immunity; Mucosal Host Defense; Defensins
Alan Buckpitt, Ph.D. - Lung Toxicology and Metabolism
Mary M-J Chang, Ph.D. - Lung Cell Biology and Gene Expression
Carroll E. Cross, M.D. (Co-Director) - Lung Oxidative and Nitrosative Biology and Medicine
Jason P. Eiserich, Ph.D. - Inflammation and Oxidative and Nitrosative Biology
Michelle V. Fanucchi, Ph.D. - Developmental Lung Biology and Toxicology
Laurel J. Gershwin, D.V.M., Ph.D. - Lung Immunology and Asthma
Kishorchandra Gohil, Ph.D. - Oxidative Biology and Genomics
Tzipora Goldkorn, Ph.D. - Lung Cell Biology and Signalling Systems
Richard W. Harper, M.D. - Lung Cell Biology and Oxidative Biology
Dallas M. Hyde, Ph.D. - Comparative Lung Cell Biology and Inflammation
Jesse P. Joad, M.D. - Airway Pathobiology and Lung Nerves
Marc P. Kaufman, Ph.D. - Exercise Physiology and Lung Mediators
Jerold A. Last, Ph.D. - Lung Toxicology and Connective Tissue Biology
Fu-Tong Liu, M.D., Ph.D. - Allergic Inflammation, Glycobiology and Mast Cell Biology
K. C. Kent Lloyd, DVM, Ph.D. - Integrative Physiology, Murine Transgenics and ES Cell Biology
Leslie A. Lyons, Ph.D. - Genomics and Genetic Susceptibility
Lisa Miller, Ph.D. - Lung Immunology and Neonatal Immunity

Kent E. Pinkerton, Ph.D. - Inhalation Lung Toxicology and Injury/Repair
Charles G. Plopper, Ph.D. - Comparative Lung Biology and Remodeling
Edward S. Schelegle, Ph.D. - Lung Pathophysiology and Airway Hypersensitivity
Scott I. Simon, Ph.D. - Inflammation: Focus on Leukocyte-Endothelial Interactions
Laura S. Van Winkle, Ph.D. - Lung Cell Biology, Toxicology and Remodeling
Jonathan Widdicombe, Ph.D. - Lung Cell Biology and Ion Transport
Reen Wu, Ph.D. (Director) - Lung Cell and Molecular Biology

TRAINING RECORD

Since 1968, 22 of our 68 fellows have pursued careers in academic medicine. The remainder have distinguished themselves in clinical practice.

Fellows have received training grant support from many sources, including:

- The National Institutes of Health
- The American Lung Association
- The Lung Association of California
- The Cystic Fibrosis Foundation
- Tobacco-Related Disease Research Program

One-third of recent fellows received research support from one or more of the above funding sources.

CLINICAL ACTIVITIES

- MICU Service, UCDCMC
 - 1,300 admissions per year
- Pulmonary and Critical Care Medicine Consultation Service
 - 1,000 new consults per year
- UCD Health System Chest Outpatient Clinic (9,000 visits per year)
 - Adult Cystic Fibrosis Clinic
 - Amyotrophic Lateral Sclerosis/Neuromuscular Respiratory Diseases Clinic
 - Pulmonary Medicine Clinic (5 practice locations)
 - Multidisciplinary Thoracic Oncology Program Clinic
 - Pulmonary Transplant/End-Stage Lung Disease Clinic
 - Sleep Disorders Clinic
- Sacramento Outpatient VA Chest Clinics
 - 2,000 visits per year
- Comprehensive Pulmonary Services Laboratory, UCDCMC
 - 1,000 bronchoscopies per-year
 - 2,100 pulmonary function tests per year
 - 180 cardiopulmonary exercise tests per year
- Pulmonary Rehabilitation Program, UCDCMC
 - 3,200 patient visits per year
- UCDCMC Center for Sleep Disorders
 - 300 polysomnograms per year
- Invasive Bronchoscopy Program, UCDCMC
 - Bronchoplasty
 - Hi-dose Rate Brachytherapy
 - ND: Yag Laser Bronchoscopy
 - Photodynamic Therapy
 - Rigid Bronchoscopy
 - Tracheobronchial Stent Placement
 - Whole Lung Lavage

FACULTY
AREAS OF INTEREST AND RECENT PUBLICATIONS

TIMOTHY E. ALBERTSON, MD, PhD, FCCP, FACP, FCCM, FACEP, FACMT

Chief, Division of Pulmonary/Critical Care Medicine; Professor of Medicine and Pharmacology, and Anesthesiology; Vice Chair, Department of Internal Medicine

AREAS OF INTEREST

Neurotoxicology; neuropharmacology; hippocampal slice model; kindled amygdaloid seizure model; clinical pharmacology/drug trials; clinical poisonings; critical care/ventilator management; sepsis and septic shock.

RECENT PUBLICATIONS

- 2004 Bair AE, Doherty MJ, Harper R, Albertson TE. An evaluation of a blind rotational technique for selective mainstem intubation. *Acad Emerg Med.*11(10):1105-7.
- 2004 Panacek EA, Marshall JC, Albertson TE, Johnson DH, Johnson S, MacArthur RD, Miller M, Barchuk WT, Fischkoff S, Kaul M, Teoh L, Van Meter L, Daum L, Lemeshow S, Hicklin G, Doig C; Monoclonal Anti-TNF: a Randomized Controlled Sepsis Study Investigators. Efficacy and safety of the monoclonal anti-tumor necrosis factor antibody F(ab')₂ fragment afelimomab in patients with severe sepsis and elevated interleukin-6 levels. *Crit Care Med.* 32(11):2173-82.
- 2005 Marquardt KA, Alsop JA, Albertson TE. Tramadol exposures reported to statewide poison control system. *Ann Pharmacother.* 39(6):1039-44.
- 2005 Kazaks A, Uriu-Adams JY, Stern JS, Albertson TE. No significant relationship between exhaled nitric oxide and body mass index in people with asthma. *J Allergy Clin Immunol.* 116(4):929-30.
- 2006 Pessah IN, Hansen LG, Albertson TE, Garner CE, Ta TA, Do Z, Kim KH, Wong PW. Structure-Activity Relationship for Noncoplanar Polychlorinated Biphenyl Congeners toward the Ryanodine Receptor-Ca(2+) Channel Complex Type 1 (RyR1). *Chem Res Toxicol.* 19(1):92-101

ROBLEE P. ALLEN, MD, FCCP

Professor of Clinical Internal Medicine; Director of Interventional Bronchoscopy; Co-Director of the Medical/Surgical ICU; Co-Director of the UCDCM Lung Transplant Program

AREAS OF INTEREST

Critical care: septic shock; ARDS; immuno-therapy of sepsis; artificial surfactant in ARDS; Pulmonary: lung cancer laser therapy; photodynamic therapy; pulmonary transplant.

RECENT PUBLICATIONS

- 2001 Hardin, K.A., T.E. Albertson and R.P. Allen. An endobronchial cyst with squamous metaplasia at the location of an airway stent. *Journal of Bronchology* 8:193-196.
- 2001 Talebian, M., K.Y. Yoneda and R.P. Allen. Treatment of malignant airway obstruction with YAG laser photo resection. *Journal of Bronchology* 8:207-208.
- 2004 Chan, A.L. and R.P. Allen. Bronchiolitis obliterans: An update. *Current Opinion in Pulmonary Medicine* 10:133-141.
- 2004 Avdalovic, M., C. Sandrock, A. Hoso, R. Allen and T.E. Albertson. Epoprostenol in pregnant patients with secondary pulmonary hypertension: Two case reports and a review of the literature. *Treat Resp Med* 3:29-34.
- 2004 Chan, A.L., M.M. Juarez, T.E. Albertson, B.M. Morrissey, R.P. Allen, and F.J. Meyers. Laser treatment of endobronchial renal cell carcinoma. *Journal of Bronchology* 11:92-97
- 2005 Chan, A.L., M. Juarez, R. Allen, W. Volz, and T. Albertson. Pharmacokinetics and clinical effects of Mono-L-aspartyl Chlorin e6 (NPe6) photodynamic therapy in adult patients with primary or secondary cancer of the skin and mucosal surfaces. *Photodermatology Photoimmunology & Photomedicine* 21:72-78.

H. WILLIAM BONEKAT, DO

Professor of Medicine and Neurology; Co-Director of the Center for Sleep Disorders

AREAS OF INTEREST

Sleep disordered breathing; abdominal muscle recruitment in COPD; neuromuscular disease and respiratory evaluation

RECENT PUBLICATIONS

- 2000 Sherrill DL, K.A. Griffith, P.L. Enright, T. Manolio, H.W. Bonekat. The predictors of loss of lung function in elderly. The Cardiovascular Health Study. *American Journal of Respiratory and Critical Care Medicine* 63:61-68.
- 2001 Shahar, E, C.W. Coralyn, W. Whitney, S. Redline, E.T. Lee, A.B. Newman, F. J. Nieto, G.T. O'Connor, L.L. Boland, J.E. Schwartz, and J.M. Samet for the Sleep Heart Health Study Research Group. Sleep-disordered breathing and cardiovascular disease. Corss-sectional results of the Sleep Heart Health Study. *American Journal of Respiratory and Critical Care Medicine* 163:19-25.
- 2003 Hardin, K. A. and Bonekat, H.W. Upper airway obstruction during sleep. *Clinical Reviews in Allergy and Immunology* 25:191-210.
- 2005 Quan, S. F. and Bonekat, H.W., et al. Factors associated with incidence and remission of symptoms of disturbed sleep in an elderly cohort: The Cardiovascular Health Study. *Amer J of Med Sci.* 329:163-172.
- 2004 Hardin, K. A. and Bonekat, H.W., et al Sleep in Critically – ill chemically paralyzed patients on mechanical ventilation. (to be submitted)

ANDREW CHAN, MD, FACP, FCCP

Assistant Professor of Clinical Internal Medicine

AREAS OF INTEREST

Interventional bronchology, including lasers and stents, photodynamic therapy, end stage, lung disease, critical care medicine, interstitial lung disease (especially IPF) and alpha-1 antitrypsin disease.

SELECTED PUBLICATIONS

- 2003 Chan, A. L., K. Y. Yoneda, R. P. Allen, and T. E. Albertson. Advances in the management of endobronchial lung malignancies. *Current Opinions in Pulmonary Medicine* 9:301-308.
- 2003 Evans, S. J., R. P. Allen, S. S. Aghili, and A. L. Chan. Bronchoscopic management of an endobronchial primary paraganglioma. *Journal of Bronchology* 10:118-121.
- 2003 Chan, A. L., K. Y. Yoneda, R. P. Allen, and T. E. Albertson. Advances in the management of endobronchial lung malignancies. *Current Opinion in Pulmonary Medicine* 9:301-308.
- 2003 Laohaburanakit, P. A.L. Chan, R.P. Allen. Bronchiolitis obliterans. *Clinical Reviews in Allergy & Immunology* 25:259-274.
- 2004 Strieter, R., K. Starko, R. Enelow, I. North, V. Valentine, and the other members of The Idiopathic Pulmonary Fibrosis (IPF) Biomarkers Study Group. Effects of interferon gamma-1b on biomarkers in patients with idiopathic pulmonary fibrosis: a randomized, double-blind study. *American Journal of Respiratory and Critical Care Medicine*.
- 2004 Mendoza, M.D., B.M. Morrissey and A.L. Chan. The case of the coughing cowgirl. *The Journal of Respiratory Diseases* 25:479-487.
- 2005 Tomashefski, J.F., R.G. Crystal, H.P. Wiedemann, E. Mascha, J.K. Stoller, and the Alpha 1-Antitrypsin Deficiency Registry Study Group. The Bronchopulmonary pathology of alpha-1 antitrypsin (AAT) deficiency: Findings of the Death Review Committee of the National Registry for individuals with severe deficiency of apha-1 antitrypsin. *Human Pathology* 35:1452:1461.
- 2005 Chan, A.L., M. Juarez, R. Allen, W. Volz, and T. Albertson. Pharmacokinetics and clinical effects of Mono-L-aspartyl Chlorin e6 (NPe6) photodynamic therapy in adult patients with primary or secondary cancer of the skin and mucosal surfaces. *Photodermatology Photoimmunology & Photomedicine* 21:72-78.

MARY M-J CHANG, PHD

Assistant Research Biologist

AREAS OF INTEREST

Mucous gene regulation, its relationship with Rad, a Ras-like GTPase that shows suppression on both the secretion and gene expression of mucin. Signal transduction, gene expression regulation and structural functional relationships of the Rad gene are the focus of the study.

RECENT PUBLICATIONS

- 2001 Harper, R., K. Wu, M. M. J. Chang, K. Yoneda, R. Pan, S. P.-M. Reddy, and R. Wu. Activation of nuclear factor- κ B transcriptional activity in airway epithelial cells by thioredoxin but not by N-acetylcysteine and glutathione. *American Journal of Respiratory Cell and Molecular Biology* 25:178-185.
- 2001 Yoneda, K., K. Peck, M. M.-J. Chang, K. Chmiel, Y.-P. Sher, J. Chen, P.-C. Yang, Y. Chen, and R. Wu. Development of high-density DNA microarray membrane for profiling smoke- and hydrogen peroxide-induced genes in a human bronchial epithelial cell line. *American Journal of Respiratory and Critical Care Medicine* 164:S85-S89.
- 2002 Krig, S. R., R. A. S. Chandraratna, M. M.-J. Chang, R. Wu, and R. H. Rice. Gene-specific TCDD suppression of RAR α - and RXR-mediated induction of tissue transglutaminase. *Toxicological Sciences* 68:102-108.
- 2003 Yoneda, K., M. M.-J. Chang, K. Chmiel, Y. Chen and R. Wu. Application of high- density DNA microarray to study smoke- and hydrogen peroxide-induced injury and repair in human bronchial epithelial cells. *Journal of the American Society of Nephrology* 14:S284-S289.

CARROLL E. CROSS, MD, FCCP

Professor of Medicine and Human Physiology; Director of the Pulmonary Research Training Program; Co-Director, UC Davis Adult Cystic Fibrosis Program

AREAS OF INTEREST

Inhalation toxicology; air pollution; oxidants; free-radicals. Oxides of nitrogen including nitric oxide, nitrogen dioxide, peroxyxynitrite, white cell oxidants; ozone.

RECENT PUBLICATIONS

- 2004 Corbacho AM, G Valacchi, L Kubala, E Olano-Martin, BC Schock, TP Kenny, CE Cross. Tissue-specific gene expression of prolactin receptor in the acute phase response induced by lipopolysaccharides. *Am J Physiol Endocrinol Metab.* 287:E750-7.
- 2004 Schupp C, E Olano-Martin, C Gerth, BM Morrissey, CE Cross and JS Werner. Lutein, zeaxanthin, macular pigment, and visual function in adult cystic fibrosis patients. *Am J Clin Nutr.*;79:1045-52.
- 2004 Schock BC, J Koostra, S Kwack, RM Hackman, A Van Der Vliet and CE Cross. Ascorbic acid in nasal and tracheobronchial airway lining fluids. *Free Radic Biol Med.* 1;37:1393-401.
- 2005 Leonard SW, E Paterson, JK Atkinson, R Ramakrishnan, CE Cross and MG Traber. Studies in humans using deuterium-labeled α - and γ -tocopherols demonstrate faster plasma γ -tocopherol disappearance and greater γ -metabolite production. *Free Radic Biol Med.* 38:857-6.
- 2005 Traber MG, Siddens LK, Leonard SW, Schock B, Gohil K, Krueger SK, Cross CE, Williams DE. Alpha-tocopherol modulates Cyp3a expression, increases gamma-CEHC production, and limits tissue gamma-tocopherol accumulation in mice fed high gamma-tocopherol diets. *Free Radic Biol Med.* 38:773-85.

KISHORCHANDRA GOHIL, PhD

Assistant Research Biochemist

AREAS OF INTEREST

Oxidative stress and global gene expression. Role of environmental oxidants and dietary antioxidants on regulation of mRNA metabolism.

RECENT PUBLICATIONS

- 2004 Gohil K., Chakraborty A.A. Applications of microarray and bioinformatics tools to dissect molecular responses of the central nervous system to antioxidant micronutrients. *Nutrition*, 2004 20 50-55
- 2004 Gohil K. Functional Genomics identifies novel and diverse molecular targets of nutrients *in vivo*. *Biol.Chem.*, Vol. 385, pp691-696.
- 2004 Gohil K., Godzdzank R, O'Roakr, Schock B.C., Kaini R.R., Packer L, Cross C.E. and Traber M. α -tocopherol transfer protein deficiency in mice causes multi-organ deregulation of gene-networks and behavioral deficits with age. *New York Acad.Sci.*, 1031 109-126.

- 2004 Lim Y, Schock BC, Gohil K, Leonard SW, Packer L, Cross CE, Traber MG. Gene-Nutrient Interactions Exemplified by the {alpha}-Tocopherol Content of Tissues from {alpha}-Tocopherol Transfer Protein-Null Mice Fed Different Dietary Vitamin E Concentrations. *Ann N Y Acad Sci.* 1031:328-9
- 2005 Traber MG, Siddens LK, Leonard SW, Schock B, Gohil K, Krueger SK, Cross CE, Williams DE. Alpha-tocopherol modulates Cyp3a expression, increases gamma-CEHC production, and limits tissue gamma-tocopherol accumulation in mice fed high gamma-tocopherol diets. *Free Radic Biol Med.* 38(6):773-85.
- 2005 Last JA, Mathrani VA, Gohil K, Kenyon N. Systemic Responses to Inhaled Ozone in Mice: Cachexia and Down-Regulation of Liver Xenobiotic Metabolizing Genes. *Toxicology and Applied Pharmacology* in press

TZIPORA GOLDKORN, PhD

Professor of Medicine

AREAS OF INTEREST

Research interests stress modulation of tyrosine kinase receptors, sphingomyelin pathways and apoptosis in normal and malignant epithelial cells, sphingolipids as regulators of novel mechanisms in signal transduction; ceramide as an endogenous regulator of apoptosis and growth suppression; ceramide target proteins: isolation cloning and characterization; fumonisins elerangement of ceramide metabolism in primary and transformed epithelia cells.

RECENT PUBLICATIONS

- 2005 Goldkorn T, Ravid T, Khan EM. Life and death decisions: Ceramide generation and EGF receptor trafficking are modulated by oxidative stress. *Antioxidant & Redox Signaling*, 7:119-128.
- 2005 Medina EA, Afsari RR, Ravid T, Castillo SS, Erickson KL, Goldkorn T. TNF α decreases Akt protein levels in 3T3-L1 adipocytes via the caspase-dependent ubiquitination of Akt. *Endocrinology*: 146: 2726-35.
- 2005 Barak A., Goldkorn T, Morse LS. Laser induces apoptosis and ceramide production in human retinal pigment epithelial cells. *Invest Ophthalmol Vis Sci.* 46:2587-91.
- 2005 Khan EM, Heidinger JM, Levy M, Lisanti MP, Ravid T, Goldkorn T. EGF receptor exposed to oxidative stress undergoes SRC- and caveolin-1 phosphorylation-dependant preinuclear trafficking. *J Biol Chem*, *Accepted*.
- 2005 Castillo SS, Levy M, Wang C, Vihás J, Lanir R, Goldkorn T. A dual role for acidic SMase in reactive nitrogen species- induced apoptosis in airway epithelial cells. *J Biol Chem*, *Submitted*
- 2005 Levy M, Castillo SS, Vihás J, Hoye E, Goldkorn T. Rafts-mediated ceramide induced apoptosis is modulated by nSMase2 trafficking under oxidative stress. *In Preparation*
- 2005 Khan EM, Ravid T, Voss J, Goldkorn T. Mechanisms of EGF receptor activation under oxidative stress. *In Preparation*

KIMBERLY A. HARDIN, MD

Assistant Professor of Clinical Internal Medicine

AREAS OF INTEREST

Sleep and sedation in the critically ill; Obesity and sleep apnea; diagnostic techniques; COPD quality of life.

RECENT PUBLICATIONS

- 2001 Hardin K, Kallas H, and McDonald R. Pharmacologic management of the hospitalized pediatric asthma patient. *Clinical Reviews in Allergy and Clinical Immunology* June 20(3): 296-326.
- 2001 Hardin K, Albertson T, and Allen R. An endobronchial cyst with squamous metaplasia at the location of an airway stent. *The Journal of Bronchology* 8(3): 193-196.
- 2002 Hardin K, and Louie S. A case of sudden hemoptysis. *Bronchoscopy Clinic* 23(2): 83-91.
- 2002 Hardin KA, Louie S. Occult tracheobronchial injury: a subsegmental location. *Journal of Bronchology* 9:290-293.
- 2003 Bonekat HW, and Hardin KA. Severe upper airway obstruction during sleep. *Clinical Reviews in Allergy and Immunology* 25(2):191-210.

RICHART W. HARPER, MD

Assistant Professor in Residence

AREAS OF INTEREST

Signal transduction in airway epithelium, the function of thioredoxin in airway epithelium, signal pathways and gene regulation after exposure to cigarette smoke.

RECENT PUBLICATIONS

- 2005 Harper RW, Soucek K, Xu C, Setiadi H, and Eiserich, JP. A Reappraisal of the genomic organization of human Nox1 and its splice variants. *Archives of Biochemistry and Biophysics*. 435(2): 323-30.
- 2005 Harper RW, Morrissey B, Kwack S, Yoneda K. Cogan's Syndrome with diffuse thoracic lymphadenopathy. *Journal of Respiratory Disease*. 26(7): 304-307.
- 2005 Black H, Sigal D, Barnes D, Felisky C, Follette D, Harper RW. A 25-year-old patient with spontaneous pneumothorax. *Chest*. In press.
- 2005 Harper RW, Xu C, Chen Y, Kao R, Thai P, Eiserich JP, Setiadi H, Wu R. Differential Regulation of Dual NADPH Oxidases/Peroxidases, Duox1 and Duox2, by Th1 and Th2 Cytokines in Respiratory Tract Epithelium. *FEBS Letters*. 529: 4911-4917.
- 2006 Phung AD, Soucek K, Kubala L, Harper RW, Bulinski JC, and Eiserich JP. α -tubulin Detyrosination: A Molecular Switch for Regulating Vascular Smooth Muscle Cell Proliferation. *JBC*. Submitted.
- 2006 Soucek K, Kamaid A, Phung AD, Kubala L, Bulinski JC, Harper RW, and Eiserich JP. Normal and Cancer Epithelial Cells of the Prostate Display Distinct Molecular Profiles of α -tubulin Posttranslational Modifications. *The Prostate*. Submitted.
- 2006 Eiserich JP, Corbacho AM, Baldus S, Phung AD, Arnold RS, Lambeth JD, Freeman BA, and Harper RW. Nox1 and Nox4 function as redox-based regulatory switches for proinflammatory gene expression. In preparation.
- 2006 Harper RW, Xu C, Kao R, Thai P, Wu R. IL-17-mediated Duox2 Regulation in Human Respiratory Tract Epithelium Occurs via a Novel AKT-dependent, PI3K-independent Signaling Pathway. In preparation.
- 2006 Harper RW, Xu C, Eiserich JP. IFN- γ induces Duox2-specific peroxidase activity in respiratory tract epithelium; role of Duox2 in rhinovirus host defense. In preparation.

NICHOLAS J. KENYON, MD

Assistant Professor in Residence

AREAS OF INTEREST

Airway inflammation and fibrosis; lung physiology; environmental effects on lung function; the role of nitric oxide in airway diseases; asthma; COPD; lung injury.

RECENT PUBLICATIONS

- 2003 Kenyon NJ, Ward RW, Mc Grew G, Last JA. TGF- β 1 causes airway fibrosis and increased collagen I and III mRNA in mice. *Thorax* 58:1-6.
- 2003 Kenyon NJ, Jarjour NN. Severe Asthma. *Clinical Rev in Allergy and Immunology* 25:131-149.
- 2004 Kenyon, NJ and S Louie. Asthma. In *Allergy and Immunology Secrets 2nd Ed*. Ed: S. Naguwa and M. E. Gershwin Hanley and Belfus, Philadelphia.
- 2004 Last JA, Ward R, Temple R, Pinkerton KE, Kenyon NJ. Ovalbumin-induced airway inflammation and fibrosis in mice also exposed to ultrafine particles. *Inhalational Toxicology* 16: 93-102.
- 2004 Last JA, Ward R, Temple R, Kenyon NJ. Ovalbumin-induced airway inflammation and fibrosis in mice also exposed to ozone. *Inhalation Toxicology* 16: 33-43.
- 2005 Kenyon NJ, Last JA. Reversible and irreversible airway inflammation and fibrosis in mice exposed to inhaled ovalbumin. *Inflamm Res*. 54:57-65.

JEROLD A. LAST, PhD

Professor of Medicine and Biochemistry; Director of the University of California Systemwide Toxic Substances Research and Teaching Program

AREAS OF INTEREST

Biochemistry; toxicology; lung structure and function; lung disease; protein synthesis; protein structure; air pollution; collagen; ozone; fibrosis; asthma; acid rain and acid fog; transgenic mice; scientific writing; gene array; toxic wastes; molecular biology, DNA, RNA; monoclonal antibodies; polymerase chain reaction (PCR).

RECENT PUBLICATIONS

- 2004 Last J.A., Ward R., Temple L., Kenyon N.J. Ovalbumin-induced airway inflammation and fibrosis in mice also exposed to ozone. *Inhalation Toxicology*, 16:33-43.
- 2004 Ellahueñe, M.F., Pérez-Alzola, L.P., Farfán-Urzuá, M., González-Hormazabal, P. Garay, M., Olmedo, M.I., and Last, J.A. Preliminary evaluation of DNA damage related with the smoking habit measured by the Comet assay in whole blood cells. *Cancer Epidemiology, Biomarkers & Prevention*, 13:1223-1229.
- 2004 Rufo C., Hammock B.D., Gee S.J., Last J.A., Gonzalez-Sapienza G. Robust and Sensitive Monoclonal Enzyme-Linked Immunosorbent Assay for the Herbicide Molinate. *Journal of Agricultural and Food Chemistry*, 52:182-187.
- 2004 Last, J.A., Ward, R., Temple, L., Pinkerton, K.E., and Kenyon, N. J. Ovalbumin-Induced Airway Inflammation and Fibrosis in Mice Also Exposed to Ultrafine Particles. *Inhalation Toxicology*, 16:93-102.
- 2005 Kenyon, N.J. and Last, J.A. Reversible and Irreversible Airway Inflammation and Fibrosis in Mice Exposed to Inhaled Ovalbumin. *Inflammation Research*, in press.

SAMUEL LOUIE, MD, FCCP

Professor of Clinical Internal Medicine; Medical Director of the Pulmonary Services Lab and Pulmonary Rehabilitation; Director, University of California Asthma Network (UCAN)

AREAS OF INTEREST

Antioxidant interventions in oxidative lung injury; effects of lung nutrition in oxidative lung injury; free radical mechanisms in lung injury; pulmonary rehabilitation; asthma; COPD.

RECENT PUBLICATIONS

- 2001 Harper RW, Louie S, Albertson TE, Tharatt RS. The case of the tattooed assault victim. *Bronchoscopy Clinic. J Respir Dis* 22: 119-125.
- 2001 Kretzler ML and Louie S. Pharmacologic treatment of the adult hospitalized asthma patient. *Clin Rev Allergy Immunol* 20: 357-384.
- 2001 Louie, S and Lillington, G.A. Neoplasms of the Lung. *Curr Prac Med* 1:17:24.
- 2002 Hardin K, and Louie S. A case of sudden Hemoptysis. *J Respir Dis* 23:83-91.
- 2002 Hardin K, and Louie S. Occult Tracheobronchial Injury. *J Bronch* 9:290-293.
- 2003 Yoneda K.Y., Harper R.W., and Louie S. Severe chronic obstructive pulmonary disease. *Clin Rev Allergy Immunol* 25: 151-163.
- 2003 Kendall K.A., and Louie, S. Severe obstructive airway disorders and diseases: Vocal cord dysfunction. *Clin Rev Allergy Immunol* 25: 221-231.
- 2004 Lin H.C., Tsai K., Chang B.L., Liu J., Young M., Hsu W., Louie S, Nicholas H.B., and Rosenquist G.L. Prediction of tyrosine sulfation sites in animal viruses. *Biochem and Biophys Res Com* 312: 1154-1158.

BRIAN MORRISSEY, MD

Assistant Professor of Clinical Internal Medicine; Co-Director, UC Davis Adult Cystic Fibrosis Program

AREAS OF INTEREST

Nitric oxide and oxidant mediated airway diseases; genetic lung diseases; cystic fibrosis, osteoporosis in lung disease

RECENT PUBLICATIONS

- 2003 Morrissey BM, Schock BC, Marelich GP, Cross CE. Cystic fibrosis in adults: current and future management strategies. *Clin Rev Allergy Immunol*. 25(3):275-87.
- 2004 Ryan AG, Morrissey BM, Newcombe RG, Halpin SF, Hourihan MD. Are T1 weighted images helpful in MRI of cervical radiculopathy? *Br J Radiol*. 77(915):189-96.
- 2004 Morrissey BM, Harper RW. Bronchiectasis: sex and gender considerations. *Clin Chest Med*. 25(2):361-72.
- 2004 Ziboh VA, Naguwa S, Vang K, Wineinger J, Morrissey BM, Watnik M, Gershwin ME. Suppression of leukotriene B4 generation by ex-vivo neutrophils isolated from asthma patients on dietary supplementation with gammalinolenic acid-containing borage oil: possible implication in asthma. *Clin Dev Immunol*. 11(1):13-21.

- 2004 Schupp C, Olano-Martin E, Gerth C, Morrissey BM, Cross CE, Werner JS. Lutein, zeaxanthin, macular pigment, and visual function in adult cystic fibrosis patients. *Am J Clin Nutr.* 79(6):1045-52.
- 2005 Morrissey BM, Eiserich JP. Nebulized nitric oxide/nucleophile adduct: Donating nitric oxide to the lung. *Crit Care Med.* 33(3):691-2.
- 2005 Mansoor JK, Morrissey BM, Walby WF, Yoneda KY, Juarez M, Kajekar R, Severinghaus JW, Eldridge MW, Schelegle ES. L-arginine supplementation enhances exhaled NO, breath condensate VEGF, and headache at 4,342 m. *High Alt Med Biol.* 6(4):289-300.

SUSAN MURIN, MD, MsC, FACP, FCCP

Associate Professor of Clinical Internal Medicine; Vice Chair for Clinical Affairs, Department of Internal Medicine; Director of the Pulmonary and Critical Care Medicine Fellowship Program

AREAS OF INTEREST

Metastatic disease of the lung; cost effectiveness in clinical medicine; venous thromboembolism; smoking-related lung diseases.

RECENT PUBLICATIONS

- 2004 Moores L, Bilello KL, Murin S. Sex and gender issues and venous thromboembolism. *Clin Chest Med.* 25(2):281-97.
- 2004 White H, Murin S. Is the current classification of venous thromboembolism acceptable? No. *J Thromb Haemost.* (12):2262-3.
- 2005 White RH, Zhou H, Murin S, Harvey D. Effect of ethnicity and gender on the incidence of venous thromboembolism in a diverse population in California in 1996. *Thromb Haemost.* 93(2):298-305.
- 2005 Murin S. Smoking cessation before lung resection. *Chest.* 2005 Jun;127(6):1873-5.
- 2005 Murin S, Bilello KS. Respiratory tract infections: another reason not to smoke. *Cleve Clin J Med.* 72(10):916-20.

GIBBE H. PARSONS, MD, FACP, FCCP

Professor of Medicine; Hospital Medical Director

AREAS OF INTEREST

Pulmonary: pulmonary vascular disease and physiology, respiratory therapy, intensive care, procedures in ICU's invasive monitoring; management of respiratory failure; mechanical ventilation; bronchial circulation; asthma. Primary pulmonary hypertension; pulmonary thromboendarterectomy. Managed care. Medical Staff Administration; graduate medical education; risk management.

RECENT PUBLICATIONS

- 1999 White, S. W., K. Pitsillides and G. Parsons. Airways internal diameter assessment (AIDA) sonomicrometer: a novel instrument for the continuous measurement of airways dimensions and blood flow in awake animals. *Proceedings of the Australian Physiological and Pharmacological Society* 30(2):67P.
- 2000 Porges WL, Hennessy EJ, Quail AW, Cottee DB, Moore PG, McIlveen SA, **Parsons GH**, White SW. Heart-lung interactions: the sigh and autonomic control in the bronchial and coronary circulations. *Clin Exp Pharmacol Physiol.* 27(12):1022-7.
- 2001 White SW, Pitsillides KF, **Parsons GH**, Hayes SG, Gunther RA, Cottee DB. Coronary-bronchial blood flow and airway dimensions in exercise-induced syndromes. *Clin Exp Pharmacol Physiol.* 28(5-6):472-8.
- 2002 EnglandBG, **Parsons GH**, Possley RM, McConnell DS, Midgley AR. Ultrasensitive semiautomated chemiluminescent immunoassay for estradiol. *Clin Chem.* 48(9):1584-6.
- 2006 **Parsons GH**, Bommer WJ, Siefkin AD, Brock J, Lantz BM. Drainage routes of bronchial blood flow in anaesthetized sheep. *Pulm Pharmacol Ther.* [Epub ahead of print]

ALLAN D. SIEFKIN, M., FACP, FCCP

Professor of Clinical Internal Medicine; Associate Director for Clinical Affairs/Executive Director, UCDMG

AREAS OF INTEREST

Obstructive lung disease; clinical pulmonary and critical care medicine; clinical affairs administration, including healthcare contracting, medical group administration and managed care.

RECENT PUBLICATIONS

- 1998 Foulke GF, Bell RA, AD Siefkin, Kravitz RL. Attitudes and behavioral intentions regarding managed care: A comparison of academic and community physicians. *American Journal of Managed Care* (4):555-563.
- 1998 Lazarus GS, Foulke G, Bell RA, AD Siefkin, Keller K, Kravitz R. The effects of a managed care education program on faculty and trainee knowledge, attitudes, and behavior intentions. *Academic Medicine* 73:1107-1113.
- 1998 Chapman RW and AD Siefkin. Understanding health care finance models and delivery systems. In: *Understanding Today's US Health Care System, How Health Care Finance May Affect Your Future; A Curriculum Guide for Academic Medical Centers* (Chapman and Lazarus, Eds). Sierra Health Foundation, Sacramento, 28-39.
- 2001 Bair YA, Garcia JA, Romano PS, Siefkin AD, Kravitz RL. Does "mainstreaming" guarantee access to care for medicaid recipients with asthma? *J Gen Intern Med.* 16(7):475-81.
- 2006 Parsons GH, Bommer WJ, Siefkin AD, Brock J, Lantz BM. Drainage routes of bronchial blood flow in anaesthetized sheep. *Pulm Pharmacol Ther.* [Epub ahead of print]

R. STEVEN THARRATT, MD, MPVM, FACP, FACEP, FCCP, FCCM, FACMT

Professor of Clinical Internal Medicine; Chief of the Section of Clinical Pharmacology and Medical Toxicology; Medical Director of Sacramento County Emergency Medical Services; Associate Medical Director of the California Poison Control System

AREAS OF INTEREST

Terrorism and Public Policy, Management and treatment of severe respiratory failure in both adults and children. Innovations in the field of mechanical ventilation. Medical management of chemical/biological terrorism and hazardous materials exposures. Pre-hospital care, including emergency medical services, fire operations, special operations and tactical medicine.

RECENT PUBLICATIONS

- 2000 Abraham E, Papadacos PJ, Tharratt RS, Hall JB, Williams GJ. Effects of Propofol Containing EDTA on Mineral Metabolism in Medical ICU Patients with Pulmonary Dysfunction. *Intensive Care Med.* 26:S422-S432.
- 2001 Harper RW, Louie S, Albertson TE, Tharratt RS. The Case of the Tattooed Assault Victim. *Journal of Resp. Dis.*; 22:119-125.
- 2001 Afzal M, Tharratt RS. Mechanical Ventilation in Severe Asthma. *Clin Rev Allerg Immuno.* 20:385-397.
- 2002 Tharratt RS, Case JT, Hird DW. Perceptions of State Health Officers and State Veterinarians Regarding Risks Posed By Bioterrorism: A National Survey. *J Am Vet Med Assoc*; 220:1782-1787.
- 2004 Albertson TE, Tharratt RS, Alsop J, Marquardt K, Heard S. Regional variations in the use and awareness of the California Poison Control System. *J Toxicol Clin Toxicol.* 42(5):625-33.

REEN WU, PhD

Professor of Medicine, Pharmacology, and Toxicology

AREAS OF INTEREST

Cell differentiation and neoplastic cell development; mucus cell differentiation and retinoid; gene expression and regulation in airway epithelium; oxidant stress and injury/repair mechanism.

RECENT PUBLICATIONS

- 2005 Harper, R W, Xu C, Eiserich JP, Kao CY, Thai P, Setiadi H, and **Wu, R.** Differential regulation of dual NADPH oxidase/oxidase, Duox 1 and Duox 2, by Th1 and Th2 cytokines in respiratory tract epithelium. *FEBS Letter*, 579: 4911-4917.
- 2005 Kao CY, Huang F., Chen Y., Thai P, Wachi, S, Kim C, Tam L and **Wu R.** Up-regulation of CC chemokine ligand 20 expression in human airway epithelium by IL-17 through a JAK-independent but MEK/NF-kappaB-dependent signaling pathway. *J. Immunol.* 175: 6676-6685.
- 2005 Thai, P., Chen Y, Dolganov G, and **Wu, R.** Differential regulation of MUC5AC/Muc5ac and hCLCA-1/mGob-5 expression in airway epithelium. *American J. Respir. Cell Mol. Biol.* 33(6):523-30.
- 2005 Wachi S., Yoneda K, and **Wu R.** Interactome-transcriptome analysis reveals the high centrality of genes differentially expressed in lung cancer tissues. *Bioinformatics*, 21(23):4205-8.

- 2006 Chen, Y., Hamati, E., Lee, W.M., Wachi, S., Schnurr, D., Shigeo, Y., Dolganov, G., Boushey, H., and **Wu, R.** Transcriptional profiling of gene expression in rhinovirus infected human primary airway epithelial cells: Elevation of innate defense molecules through both dsRNA and interferon dependent pathways. *Am. J. Respir. Cell Mol. Biol.* 34: 192-203.

KEN Y. YONEDA, MD

Assistant Professor of Medicine in Residence

AREAS OF INTEREST

Tobacco smoke related gene regulation in respiratory epithelial cells; high altitude, sepsis, ARDS; idiopathic pulmonary fibrosis.

RECENT PUBLICATIONS

- 2003 Yoneda, K. Y., M. M. J. Chang, K. Chmiel, Y. Chen, and R. Wu. Application of High Density DNA Microarray to Study Smoke- and Hydrogen Peroxide-Induced Injury and Repair in Human Bronchial Epithelial Cells. *J Am Soc Nephrol.* 14 Suppl 3:S284-9.
- 2003 Chan, A. L., K. Y. Yoneda, R. P. Allen, and T. E. Albertson. Advances in the management of endobronchial lung malignancies. *Current Opinions in Pulmonary Medicine.* 9(4):301-8.
- 2003 Wood, S., T. Norboo, M. Lilly, K. Yoneda, and M. Eldridge. Cardiopulmonary Function in High Altitude Residents of Ladakh. *High Altitude Medicine & Biology.* Volume 4, Number 4, pp: 445-454
- 2003 Yoneda KY, Harper RW, Louie S. Severe chronic obstructive pulmonary disease. *Clin Rev Allergy Immunol.* 25(2):151-63.
- 2005 Eldridge MW, Braun RK, Yoneda KY, Walby WF. Effects of altitude and exercise on pulmonary capillary integrity: Evidence for subclinical high altitude pulmonary edema. *J Appl Physiol* [Epub ahead of print]
- 2005 Mansoor JK, Morrissey BM, Walby WF, Yoneda KY, Juarez M, Kajekar R, Severinghaus JW, Eldridge MW, Schelegle ES. L-arginine supplementation enhances exhaled NO, breath condensate VEGF, and headache at 4,342 m. *High Alt Med Biol.* 6(4):289-300.