UNIVERSITY OF SOUTH FLORIDA

Division of Allergy and Immunology

Department of Internal Medicine

Joy McCann Culverhouse Airway Disease Research Center

and The James A. Haley V.A. Medical Center

Tampa, Florida

13000 Bruce B. Downs Blvd., (111D)
Tampa, Florida 33612
Phone: (813) 972-7631
Fax: (813) 910-4010

2015
Annual Report

http://health.usf.edu/medicine/internalmedicine/allergy/index.htm

Contents

1994
Richard F. Lockey, MD, David W. Talmage, MD (deceased), Robert A. Good, MD, PhD (deceased)

Dedicated to Drs. Talmage and Good

MORSANI COLLEGE OF MEDICINE

UNIVERSITY OF SOUTH FLORIDA

DIVISION OF ALLERGY AND CLINICAL IMMUNOLOGY (A/I)
DEPARTMENT OF INTERNAL MEDICINE
V.A. MEDICAL CENTER
13000 BRUCE B. DOWNS BOULEVARD (111D)
TAMPA, FLORIDA 33612
(813) 972-7631
FAX: (813) 910-4041

March 30, 2016

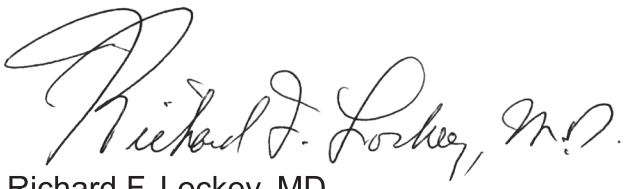
I. GREETINGS!

The late Samuel C. Bukantz, M.D., founded the University of South Florida College of Medicine, Department of Internal Medicine, Division of Allergy and Immunology in 1972. Richard F. Lockey, M.D. succeeded Dr. Bukantz in 1983 and is the current Director of the Division. Mrs. Joy McCann Culverhouse endowed the Division in 1997 and The Joy McCann Culverhouse Airway Disease Research Center was dedicated in February 1998. In 1998, Mabel and Ellsworth Simmons endowed the Division with a grant for education and research.

The goals of the Division are: first, to provide care to patients with allergic and immunologic diseases at the University of South Florida College of Medicine, Tampa General Hospital, James A. Haley V.A. Medical Center, All Children's Hospital, and H. Lee Moffitt Cancer Center; second, to train students, residents, and fellows in the subspecialty of allergy and immunology; and third, to conduct basic and clinical research in allergy, asthma, and immunology.

Individuals interested in collaborating with members of the Division may contact Richard F. Lockey, M.D. or any faculty member at (813) 972-7631 (email: rlockey@health.usf.edu).

Mandel Sher, M.D., Professor of Pediatrics & Interim Division Chief, 2015, Allergy and Immunology, Department of Pediatrics, may be contacted at (727) 553-1258 (email: drmrsher@aol.com). Jolan Walter, M.D., Ph.D., Associate Professor of Pediatrics, assumed the position of Division Chief, Pediatric Allergy & Immunology, February 29, 2016, and she can be contacted at (813) 259-8705 (email: jolanwalter@health.usf.edu).



Richard F. Lockey, MD
Distinguished University Health Professor
Professor of Medicine, Pediatrics & Public Health
Joy McCann Culverhouse Chair of Allergy and Immunology
Director, Division of Allergy and Immunology
University of South Florida Morsani College of Medicine
Department of Internal Medicine

Division of Allergy and Immunology

1982

Front row (left to right): John J. Stablein, M.D., Sadahiro Asai, M.D. Judy Bien, Steve Louie, M.D., Irene Baird-Warren, Ginger Montuoro

Second row (left to right): R. Lawrence Siegel, M.D., Samuel C. Bukantz, M.D., Richard F. Lockey, M.D., Saber Samaan, Ph.D., Roger W. Fox, M.D., Gerald A. Bucholtz, M.D.

II. FACULTY AND STAFF

Core Faculty

Richard F. Lockey, M.D., University Distinguished Health Professor; Professor of Medicine, Pediatrics, and Public Health; Division Director; Joy McCann Culverhouse Chair of Allergy and Immunology

Thomas B. Casale, M.D., Professor of Medicine

Roger W. Fox, M.D., Professor of Medicine, Pediatrics and Public Health

Dennis K. Ledford, M.D., Professor of Medicine and Pediatrics; Mabel & Ellsworth Simmons Professor

Mark C. Glaum, M.D., Ph.D., Associate Professor of Medicine and Pediatrics

Narasaiah Kolliputi, Ph.D., Associate Professor of Medicine & Pediatrics

Michael Teng, Ph.D., Associate Professor of Medicine & Pediatrics

Blanca Camoretti-Mercado, Ph.D., Assistant Professor of Medicine

Seong H. Cho, M.D., Assistant Professor of Medicine

Farnaz Tabatabaian, M.D., Assistant Professor of Medicine

Jia-Wang Wang, Ph.D., Assistant Professor of Medicine & Pediatrics

Joint Faculty

Mandel R. Sher, M.D., Interim Division Chief; Clinical Professor of Pediatrics and Medicine

Mark Ballow, M.D., Professor of Pediatrics and Internal Medicine; Director, Pediatric Allergy & Immunology

Noorbibi K. Day-Good, Ph.D., Professor Emeritus; Pediatrics, Medicine & Public Health

Gary W. Litman, Ph.D., Professor of Pediatrics and Medicine; University Distinguished Health Professor; Andrew and Ann Hines Chair in Pediatrics

Jennifer Leiding, M.D., Assistant Professor of Pediatrics and Medicine

Panida Sriaroon, M.D., Assistant Professor of Pediatrics and Medicine

Clinical Faculty

Enrique Fernandez-Caldas, Ph.D., Clinical Professor of Medicine

Nathan Tang, M.D., Clinical Professor of Pediatrics and Medicine

Brett E. Stanaland, M.D., Clinical Associate Professor of Medicine

G. Edward Stewart II, M.D., Clinical Associate Professor of Medicine

Hugh H. Windom, M.D., Clinical Associate Professor of Medicine

Rosa Codina, Ph.D., Clinical Assistant Professor of Medicine

Mary L. Jelks, M.D., Clinical Assistant Professor of Medicine

Thomas L. Johnson, II, M.D., Clinical Assistant Professor of Medicine

Ronald T. Purcell, M.D., Clinical Assistant Professor of Medicine

Richard F. Lockey, M.D., M.S.

Dr. Richard F. Lockey received his B.S. degree from Haverford College, Haverford, Pennsylvania; M.D. from Temple University, Philadelphia, Pennsylvania (Alpha Omega Alpha); M.S. from the University of Michigan in Ann Arbor, Michigan where he trained in Internal Medicine and Allergy/Immunology (A/I) and was a Major and Chief of A/I at Carswell Air Force Base, Fort Worth, Texas, from 1970-1972. He received a medal from the Florida Academy of Sciences, Tallahassee, Florida, in 2000, for his dedication and work to improve the health and well-being of the community and citizens of Florida. He was also the recipient of the Southern Medical Society, Dr. Robert D. and Alma W. Moreton Orginal Research Award in 2012. The American Academy of Allergy Asthma and Immunology presented him with a Special Recognition Award in 1993, Distinguished Service Award in 1999, and Distinguished Clinician Award in 2008. He has the honor of authoring, co-authoring or editing over 600 publications and 35 books or monographs with colleagues and has lectured on numerous occasions nationally and internationally. He is the co-editor of two books and an encyclopedia of allergy/immunology, with Dennis K. Ledford, MD, published in 2014: *Asthma, Comorbidities, Co-Existing Conditions, and Differential Diagnoses*, Oxford University Press; *Allergens and Allergen Immunotherapy: Subcutaneous, Sublingual and Oral*, 5th edition, CRC Press/Taylor & Francis Group; and *Encyclopedia of Infection and Immunity,* Springer, Inc. Professional honors include President of the American Academy of Allergy Asthma and Immunology (1992), past Director of the American Board of Allergy and Immunology (1993-1998) and President of the World Allergy Organization (2010-2012). He has served as co-editor or participant of two WHO reports and served on many journal editorial boards. He received the World Allergy Organization Gold Medal Award in 2015.

Over 90 physician specialists and 50 international post-graduate PhDs or MDs in basic and clinical research and medicine, many of whom have assumed leadership positions in medicine throughout the world, have been trained in the Division. The Division's staff consists of 7 clinicians, 4 basic scientists, and approximately 60 other healthcare professionals including physicians, support, and laboratory personnel.

Areas of expertise and research: insect allergy; allergen immunotherapy; asthma; inflammatory lung diseases; pulmonary fibrosis; co-morbid conditions of asthma; and sleep apnea.

Thomas B. Casale, M.D.

Before joining USF in October 2013, as Professor of Medicine and Chief of Clinical and Translational Research, Dr. Thomas Casale was Professor of Medicine and Medical Microbiology and Immunology and Chief of Allergy/Immunology at Creighton University, Omaha, Nebraska. He did an allergy/immunology fellowship at the National Institutes of Health, Bethesda, MD, where he was chief medical staff fellow. From 1984 to 1996 he was at the University of Iowa where he attained the rank of Professor of Medicine and Director of Allergy/Immunology.

Dr. Casale is a member of the American Thoracic Society and served on their Board of Directors; American Society for Clinical Investigation; and a Fellow of the American College of Physicians and both the American College and American Academy of Allergy Asthma and Immunology. He is a Past President of the American Academy of Allergy Asthma and Immunology and the current Executive Vice President. He is a past member of the Board of Directors of the World Allergy Organization. He also served on the American Board of Allergy and Immunology and was Chair from 2005-2006.

Dr. Casale's clinical and basic research interests are directed toward the determination and treatment of the pathophysiologic mechanisms involved in asthma and allergic diseases. He has published over 300 scientific papers, reviews and chapters on these topics.

Seong Cho, M.D.

Dr. Seong Cho received his M.D. from the Kyung-Hee University, Seoul, Korea in February, 1989. After completing his ear nose and throat (ENT) residency at Kyung Hee University Medical Center in Seoul, Korea, he pursued his postdoctoral research in 1997 in the Division of Pediatric Allergy and Immunology at University of California Los Angeles (UCLA), California. To achieve his goal of becoming a physician scientist in allergy and immunology in the U.S.A., he completed his residency training in internal medicine at the University of Tennessee and fellowship in the specialty of allergy and immunology, Department of Medicine, at Northwestern University, Chicago, IL. Dr. Cho then became an assistant professor at Northwestern University where he continued his academic career. He joined the Division of Allergy and Immunology, University of South Florida College of Medicine, February, 2015, as an assistant professor of medicine.

Dr. Cho is board certified in internal medicine and allergy/immunology (USA) and otolaryngology (Korea). During his fellowship in allergy/immunology, he received the 2008 American College of Allergy Asthma and Immunology (ACAAI) First Place Clemens von Pirquet Award and the 2009 American Academy of Allergy Asthma and Immunology (AAAAI) GSK Fellows Career development Award. He has also received a variety of different research awards including awards from the American Heart Association (AHA) and National Institutes of Health (NIH).

Other than his research interest in asthma and chronic rhinosinusitis /nasal polyps, he is interested in mast cell biology and mast cell related disorders including the mast cell activation syndrome. He is widely published and he and his colleague discovered that human mast cells are a novel and major source of plasminogen activator inhibitor-1 (PAI-1), that mast cell-derived PAI-1 plays an important role in asthma, that it also plays a role in virus-induced asthma exacerbation and that PAI-1 inhibitor, a small molecule, reduces airway inflammation and remodeling in asthma. It is hoped that his research on PAI-1 could lead to a discovery of a novel biomarker of airway remodeling and cell- or gene-specific personalized therapeutic interventions for patients with severe asthma. One other area of investigation is the age-related differences in the pathogenesis of chronic rhinosinusitis and nasal polyps for which he has a K23 grant support from the NIH.

Roger W. Fox, M.D.

After receiving his medical degree from St. Louis University School of Medicine, Dr. Roger W. Fox completed his 3 years of internal medicine and 2 years in allergy and immunology at the University of South Florida, Morsani College of Medicine, Tampa, FL. He joined the Division's faculty in July, 1980. He is a Fellow of the American College of Physicians and the American Academy of Allergy Asthma and Immunology.

He has been elected to "The Best Doctors in America" for the past decade. He serves as the Director of Education of the allergy/immunology fellowship training program and has helped train over 75 physicians in this specialty. He has published extensively and presented at local, national and international medical meetings and has served on various boards, including the Hillsborough County Medical Association, the Florida Allergy Asthma and Immunology Society of which he has been president, and numerous committees in the American Academy of Allergy Asthma and Immunology.

Dr. Fox enjoys being a clinician and mentor and in that capacity, sees patients at the University of South Florida Morsani Medical Clinics, the Veterans' Administration Hospital Allergy Clinic, as well as the other clinics affiliated with the University of South Florida. Dr. Fox is an attending physician at the James A. Haley Tampa VA Hospital and he has staff privileges at Tampa Genera Hospital, Moffitt Cancer Hospital, and Florida Hospital.

His research interests include vocal cord dysfunction, urticaria and angioedema, comorbid conditions of asthma, allergic drug reactions and atopic eczema.

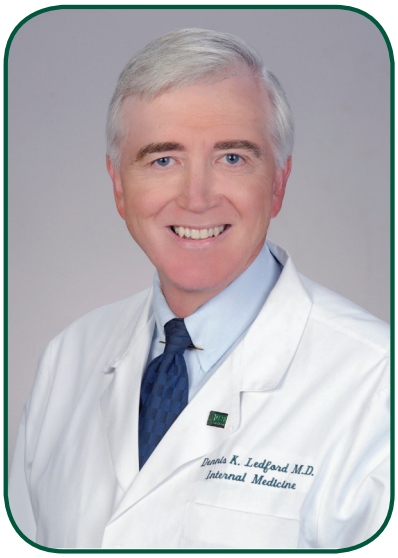
Mark C. Glaum, M.D., Ph.D.

Dr. Mark Glaum received a B.A. in psychology from Fordham University in New York, NY. Following graduation, he returned to his home town of Philadelphia, PA, and earned a Master of Science in Physiology from the School of Graduate Studies at Hahnemann University. Dr. Glaum continued on at Hahnemann, where he was awarded an MD degree and a PhD in immunology. He completed internship and residency in internal medicine at Hahnemann Hospital and then pursued fellowship training in allergy and immunology at the University of Pennsylvania, where he received the Stanley E. Bradley Award for Bench Research in Internal Medicine.

Dr. Glaum is board certified in both internal medicine and allergy and immunology and is a fellow of the American Academy of Allergy Asthma and Immunology (AAAAI). He has been elected to “Top Doctors in America” for the last several years and enjoys teaching medical students, internal medicine residents and allergy/immunology fellows. He sees patients at the University of South Florida Morsani College of Medicine as well as other university-affiliated clinics. He has staff privileges at Tampa General, James A. Haley Veterans’ Administration, Moffitt Cancer, and Florida Hospitals. He has served on the boards of the Allergy and Asthma Foundation of America and Hillsborough County Medical Society and is the current Chair of Rhinosinusitis and Ocular Allergy interest section of the AAAAI.

Dr. Glaum’s research interests include chronic rhinosinusitis, nasal polyps, mast cell biology, pollen identification and devising new biological techniques using PCR to measure aeroallergens.

Dennis K. Ledford, M.D.



Dr. Dennis Ledford received his medical degree from the University of Tennessee Center for Health Sciences, Memphis, Tennessee. He completed his internal medicine residency there and served as chief medical resident for Dr. Gene Stollerman, M.D., Chairman of Internal Medicine at this same university. A fellowship in rheumatology and immunology followed at New York University and Bellevue Hospital in New York as well as a fellowship in allergy and immunology at the University of South Florida. He joined the faculty at USF Morsani College of Medicine and achieved the rank of professor of medicine in 2000.

Local and regional activities include past service as President of the USF Medical Faculty for the Morsani College of Medicine and President of the Florida Allergy Asthma and Immunology Society. He is current Head of the Allergy/Immunology Section, Florida Hospital,Tampa, FL. National contributions include current service as an associate editor of the *Journal of Allergy and Clinical Immunology* and chair of the Steering Committee for the Allergy Asthma and Immunology Education and Research Trust Fund. He also served as President of the American Academy of Allergy Asthma and Immunology, Co-Chair of the American Council of Graduate Medical Education (ACGME), Allergy/Immunology Residency Review Committee and Director of the American Board of Allergy and Immunology.

Clinical responsibilities and student and resident teaching are combined with research interests in severe, glucocorticoid-dependent asthma, allergen characterization, the association of gastroesophageal reflux and upper airway disease, and eosinophilic esophagitis.

Farnaz Tabatabaian, M.D.

Dr. Farnaz Tabatabaian received a B.S. in chemistry from Wright State University in Dayton, Oh. Following graduation, she earned her Master of Science in Anatomy and Physiology at Wright State University. During this period she had direct exposure to innate immunology and inflammation. She pursued an M.D. degree at Northeast Ohio University of Medicine, Akron, OH. She completed her internship and residency in internal medicine at the Wexner Medical Center, Ohio State University, and then did her fellowship training in allergy and immunology at the University of South Florida All Children's Hospital, St. Petersburg, FL.

Dr. Tabatabaian is board certified in internal medicine. She enjoys teaching medical students, internal medicine residents and allergy/immunology fellows. She sees patients at the University of South Florida Morsani College of Medicine, internal medicine and allergy/immunology. Dr. Tabatabaian is currently involved in implementing and creating a curriculum in high value education for residents to help devise a way to decrease healthcare costs while providing excellence in.

Dr. Tabatabaian's research interests include adult immunology with a focus on common variable immunodeficiency, inflammation and asthma and the impact of nicotine on the bronchi and epithelial cells.

Blanca Camoretti-Mercado, Ph.D.

Blanca Camoretti-Mercado received her Ph.D. degree from the University of Buenos Aires, Argentina, and conducted a post-doctoral fellowship at The University of Chicago. She joined the faculty of the Section of Cardiology and later the Section of Pulmonary and Critical Care in the Department of Medicine at The University of Chicago. In November 2012 she was recruited to the University of South Florida. A recipient of diversity, mentor, and teacher awards, she is an active member of the American Thoracic Society (ATS), the 2015 chair-elect of the Respiratory Structure and Function Assembly, and member of the Board of Directors and the Planning Committee. She served as chair of the Program and Nominating Committees, is a member of the International Lung Health and the Members in Training and Transition Committees, and is the founding member of the Science and Innovation Center. She organized and chaired numerous symposia and poster discussions and has presented her studies in academic and non-academic institutions worldwide. She chaired the Women Lung Conference of the American Lung Association (ALA, Chicago ATS Chapter), is a reviewer in the National Institute of Health (NIH) and American Heart Association (AHA), and is on the editorial board of various journals.

Dr. Camoretti-Mercado has published over 50 original scientific, review and editorial articles, and book chapters. Her research has been funded by NIH, AHA, and ALA, and the LAM and Blowitz-Bridgeway Foundations; she also received the inaugural award from the ATS Research Foundation.

Her translational investigations focus on the molecular bases, cellular signaling, and genomic determinants of lung dysfunction. She cloned several genes of the contractile machinery, established the role and pathways of TGFβ action on gene expression and growth, and created pre-clinical models of airway remodeling and hyperresponsiveness. She studies the smooth muscle as key effector of contraction and relaxation, source of inflammatory mediators, contributor to asthma, COPD and LAM diathesis, and as a target for drug discovery.

Narasaiah Kolliputi, Ph.D.

Dr. Narasaiah Kolliputi is an associate professor and Division Director of Research Education for the Division of Allergy and Immunology, Department of Internal Medicine, at the USF Morsani College of Medicine, Tampa, FL. He received his postdoctoral training at Massachusetts General Hospital, Harvard Medical School, Boston, MA. Prior to that time, he received his BS in biology and chemistry in 1997 followed by an MS in biochemistry in 1999 at Sri Venkateswara University, Tirupati, India. He then went on to do his PhD in biochemistry at Osmania University, Hyderabad, India, which he completed in 2004.

Dr. Kolliputi has published 52 papers, including a paper in *Circulation Research and Immunology*. He currently serves as a grant reviewer for the National Institutes of Health, VA Merit Grants, USA Department of Defense and the American Heart Association. He is an associate editor for *Frontiers in Pharmacology, Frontiers in Physiology* and *Frontiers in Genetics* and is a guest associate editor for *Frontiers in Mitochondrial Physiology*. He is an editorial board member for *Translational Medicine, Virology & Mycology* and *Journal of Biocatalysis & Biotransformation*. Dr. Kolliputi's research is funded by an NIH RO1 and an American Heart Association Scientist Developmental grant.

He is working on translational strategies to attenuate oxidative stress mediated acute lung injury (ALI), pulmonary fibrosis and pulmonary arterial hypertension.

Michael Teng, Ph.D.

Dr. Michael Teng received his Ph.D. in immunology from the University of Chicago in 1993. He trained as a postdoctoral fellow studying viral pathogenesis at The Scripps Research Institute in La Jolla, CA. Subsequently, he became a research fellow at the National Institute of Allergy and Infectious Diseases, investigating the molecular biology of respiratory syncytial virus (RSV) and RSV vaccine development. In 2002, he accepted a faculty appointment in the Department of Biochemistry and Molecular Biology at the Pennsylvania State University, University Park, PA, where his laboratory continued studies on RSV pathogenesis.

Dr. Teng joined the faculty of the Division of Allergy and Immunology at USF Morsani College of Medicine in 2010 and is director of the basic research program in the Division. He holds joint appointments in the Departments of Pediatrics, Molecular Medicine, and Pharmaceutical Sciences (College of Pharmacy). Dr. Teng currently serves as a grant reviewer for the National Institutes of Health and the American Heart Association. His past and present research funding includes grants from the National Institutes of Health, the American Heart Association, and contracts with pharmaceutical companies.

Dr. Teng's research focuses on the host-virus interactions important for RSV pathogenesis. In particular, he is interested in the mechanisms by which RSV inhibits innate immune responses to enhance viral replication. Understanding the interplay between RSV proteins and innate immunity may lead to the development of more immunogenic RSV vaccine candidates. Additionally, Dr. Teng studies the interactions between cellular signal transduction machinery and viral proteins, with a view to discovering potential targets for antiviral therapy.

Jia-Wang Wang, Ph.D.

Dr. Jia-Wang Wang received an M.S. degree from Sichuan University, Chengdu, China and a Ph.D. degree from Wuhan University, Wuhan, China. He conducted postdoctoral research at the Chinese Academy of Medical Sciences, Beijing, China and at the Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA. He then worked as a research associate at the H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL, before he joined the Division of Allergy and Immunology. Dr. Wang is a member of the American Academy of Allergy, Asthma & Immunology (AAAAI) and an editorial board member of several journals. He serves as an ad hoc reviewer of DOD grants and papers.

He has a strong background in genetics, immunology and molecular biology, discovered the lipopolysaccharide-responsive beige-like anchor (LRBA) gene, mutation of which causes immunodeficiency and autoimmunity, and contributed fifteen GenBank sequence entries. He has published more than 25 papers, some of which are in high profile journals including *Science*. He has more than fourteen conference abstracts including featured posters and oral presentations. He has two approved patents, one copyright computer program and nine patents pending. Most of these intellectual properties are on microRNAs (miRNA), which have great promise as biomarkers and therapeutics for human diseases.

He also has extensive experience working with mouse models to study human diseases. He has successfully generated SHIP gene null and conditional knockout mouse models, two LRBA knockout mouse models, and four miRNA transgenic overexpression mouse models.

DIVISION OF ALLERGY AND IMMUNOLOGY

FELLOWS-IN-TRAINING

Adeeb Bulkhi, MD, 2nd year fellow, will graduate in June, 2017. Dr. Bulkhi received his medical degree from Umm Al Qura University, Medical Collage in Makkah, Kingdom of Saudi Arabia. He completed his residency in internal medicine at Wayne State University/Detroit Medical Center in Detroit, Michigan. Within the field of allergy and immunology, Dr. Bulkhi has a specific interest in asthma and its pathophysiology. His long term goal is to improve patient understanding of asthma and other comorbid conditions with emphasis on self-management.

From left to right (front): Adeeb Bulkhi, MD, Jennifer Fergeson, DO, Andrew Cooke, MD
From left to right (back): Peter Ricketti, DO, Sultan Alandijani, MD, Chen Hsing Lin, MD

Andrew Cooke, MD, 2nd year fellow, will graduate in June, 2016. Dr. Cooke received his medical degree from Florida State University College of Medicine in Tallahassee, Florida. He completed a residency in internal medicine at University of Texas Southwestern in Dallas, Texas. Dr. Cooke's primary interests include asthma and chronic urticaria.

Jennifer Fergeson, DO, 2nd year fellow and chief resident will graduate in June, 2016. Dr. Fergeson received her medical degree from the Edward Via College of Osteopathic Medicine in Blacksburg, VA. She completed her residency in internal medicine at the University of South Florida Morsani College of Medicine in Tampa, FL. Dr. Fergeson's primary interest in allergy & immunology includes food allergy, atopic dermatitis, allergic rhinitis and asthma. Her long term goal is to promote patient education and understanding of these conditions to enhance medical care and improve disease outcomes.

Sultan Alandijani, MD, 1st year fellow, will graduate in September 2018. Dr. Alandijani received his medical degree from Umm-Alqura University Medical College in Makkah, Kingdom of Saudi Arabia. He completed his residency in internal medicine in New York Methodist Hospital, an affiliate of the Weill Cornell Medical College. Within the field of allergy and immunology, Dr. Alandijani has a specific interest in asthma and its pathology, and allergic rhinitis. His long term goal involves improving symptoms of chronic allergic rhinitis and controlling asthma.

Chen Lin, MD, 1st year fellow, will graduate in June, 2017. Dr. Lin received his medical degree from Sichuan University, West China Center of Medical Sciences, China. He completed his residency in internal medicine at Nassau University Medical Center in East Meadow, New York. Dr. Lin's primary interests include asthma, food allergy and medical education.

Peter Ricketti, DO, 1st year fellow, will graduate in June, 2017. Dr. Ricketti received his medical degree from the Philadelphia College of Osteopathic Medicine in Philadelphia, PA. He completed his residency in internal medicine at Rutgers - New Jersey Medical School in Newark, New Jersey. His primary interests include asthma, allergic rhinitis, contact dermatitis, sleep disorders, and autoimmune disorders. He plans on pursuing additional fellowship training in the field of pulmonary, sleep medicine, or rheumatology and hopefully will work in his father's practice of allergy/immunology and pulmonary medicine, Hamilton, New Jersey.

RESEARCH STAFF MEMBERS

Lakshmi Galam, Ph.D., Research Instructor

Jutaro Fukumoto, M.D., Ph.D., Postdoctoral Fellow

A Ra Jo, Ph.D., Postdoctoral Fellow

Kunyu Li, Biological Scientist

Kim Teng, Senior Biological Scientist

STUDENTS AND VISITING RESEARCH SCHOLARS

Jianjun Chen, M.D., Visiting Research Scholar

Lashea Johnson, Research Student

Michelle Kaminsky, Research Assistant/Student

Dae Woo Kim, M.D., Ph.D., Visiting Research Scholar

Grant Wallenfelsz, Research Student

Amy Wang, Volunteer Research Student

Bangmei Wang, Volunteer Research Student

Jillian Whelan, Graduate Student

ADMINISTRATIVE PERSONNEL

* **Peggy Hales,** Program Assistant

* **Rebecca Carter,** Administrative Secretary

* **Geeta Gehi,** Administrative Secretary

* Also James A. Haley Veterans' Hospital, Tampa, FL

DIVISION'S CLINICAL RESEARCH UNIT

Shawna Atha, CRC, Clinical Research Administrator

Catherine Renee Smith, CMA, CCRC, Clinical Research Coordinator & ALA Coordinator

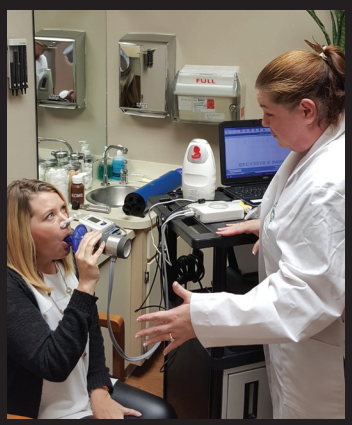
Rikesh Patel, Clinical Research Coordinator

Michelle Twitmyer, Clinical Research Coordinator

ALL CHILDREN'S HOSPITAL

Amy Baldwin, Administrative Specialist

Clinical Research Unit



Left to Right:
Catherine Renee Smith, Thomas Casale, MD, Rikesh Patel,
Shawna Atha, Michelle Twitmyer

III. JOY MCCANN CULVERHOUSE AIRWAY DISEASE RESEARCH CENTER

A. Basic Research Projects

1. Bitter taste receptors (TAS2R) as novel therapeutic targets for airway relaxation. (PI: Camoretti-Mercado)

Asthma and chronic obstructive pulmonary disease (COPD) are characterized by airflow limitation and elevation of bronchoconstricting and pro-inflammatory agents in the lung. Airway smooth muscle (ASM) is a major driver of airway narrowing. G-protein coupled receptors regulate ASM contraction and relaxation by increasing intracellular calcium or cAMP, respectively. Activation of the recently described TAS2Rs present on the ASM augments calcium but paradoxically, causes relaxation. A second, selective and more efficient TAS2R-stimulated pathway was discovered. It relaxes ASM through inhibition of calcium flux and cell depolarization caused by ASM bronchoconstrictors.

2. Drug discovery for airway smooth muscle (ASM) bitter taste receptor (TAS2R) agonists (PI: Camoretti-Mercado)

Current medicines for obstructive respiratory diseases are ineffective for a subset of asthmatics and COPD patients. TAS2Rs have emerged as potential therapeutic targets because their activation elevates calcium but inhibits ASM contraction and bronchoconstriction. Structurally different agonists can stimulate TAS2Rs. A library of over 29 million compounds was screened and seven identified that elevate calcium specifically in ASM cells. Of these, none blocked calcium elicited by histamine or bradykinin, but three inhibited the elevation of calcium caused by acetyl choline and angiotensin II. Both are expected to oppose cell contraction. Further investigation on structure-function relationships will advance the development of improved ASM relaxants with high potency and efficacy.

3. Bitter taste receptors (TAS2R) function in human airway smooth muscle cells is partially gustducin-Independent (PI: Camoretti-Mercado)

TAS2R stimulation in the tongue with a variety of bitter compounds promotes activation of the trimeric G-protein gustucin, a member of the G_i family. Mice harboring the α-gustducin subunit knockout partially conserved bitter taste function, mediated by $G_{\alpha i\text{-}1}$. The requirement of α-gustducin in human ASM cells to stimulate and inhibit TAS2R action was investigated. $G\alpha_{i\text{-}1}$, $G\alpha_{i\text{-}2}$ and α-transducing-2 but not α-gustducin were detected in ASM cells. Pertussis toxin (PTX) was utilized to globally inactivate Gi proteins and it was discovered that TAS2R stimulation and inhibitory functions exhibit heterogeneous PTX sensitivity.

4. Airway responsiveness and remodeling in mice that overexpress S100A12 in smooth muscle (PI: Camoretti-Mercado)

S100A12 is a peptide found in increased quantities in the serum and sputum of patients with allergic asthma. It has been proposed as a mediator of asthma pathology and may represent a biomarker for this disease. We generated transgenic mice expressing S100A12 in their smooth muscle and tested its role in mediating airway inflammation in an ovalbumin-allergic lung inflammation model. Compared to wild type sensitized and challenged animals, S100A12 mice showed reduced inflammation and eosinophilia, less mucus production, thinner ASM, and innate respiratory hyporresponsiveness. In vitro, S100A12 stimulation induced ASM cell apoptosis, which could at least partially explain the observed loss of the ASM layer and consequent broncho-protection in these mice.

5. Expression of active Akt1 promotes ASM cell hypertrophy (PI: Camoretti-Mercado)

Akt signaling is activated during ASM cell differentiation, concomitant with expression of the contractile phenotype and cell hypertrophy. We expressed a constitutionally active Akt1 mutant in ASM cells and observed induction of cell hypertrophy, augmented cell proliferation and expression of the marker, PCNA (proliferating cell nuclear antigen), with no selective up regulation of contractile proteins. We used human specimens from asthmatic and non-asthmatic donors and demonstrated activated Akt and its downstream target SP6 in smooth muscle bundles of asthmatics compared to non-asthmatics.

6. Role of plasminogen activator inhibitor-1 in the airway remodeling of asthma (PI: Cho).

The most highly induced gene in human mast cells (MC) cDNA microarray is plasminogen activator inhibitor-1 (PAI-1). PAI-1 promotes tissue remodeling in a mouse model of asthma and in patients with severe asthma. The MC is not only a major source of PAI-1 but also MC chymase activates MC- and epithelial cell-derived transforming growth factor-β1 (TGF-β1), which stimulates more PAI-1 production and promotes tissue fibrosis. A low molecular weight PAI-1 inhibitor was found to reduce inflammation and fibrosis in a murine model of chronic asthma.

7. Effect of NALP-3 inflammasome on epithelial permeability (PI: Kolliputi)

Previous reports demonstrate the inflammasome, a poinflammatory cytokine processing complex, plays an important role in the production of early inflammatory cytokines associated with edema. Ceramide is a critical mediator of pulmonary edema, however the ability of ceramide to activate the inflammasome has not been elucidated. Utilizing macrophages in vitro, we discovered that ceramide induced inflammasome activation results in significant cytokine secretion. Genetic silencing of inflammasome components abolished the ability of ceramide to induce inflammasome activation, and a rescue of the barrier integrity of alveolar epithelial cell (AEC) in co-culture was observed. These novel results reveal that ceramide induced cytokine secretion and AEC permeability occurs through an inflammasome dependant mechanism

8. Effect of microRNA 16 on epithelial sodium channel in human alveolar epithelial cells (PI: Kolliputi)

Removal of edema from the air spaces of the lung is a critical function of the epithelial sodium channel (ENaC) and also involves the serotonin (5HT) transport system. Studies suggest that microRNA-16 (miR-16) targets the serotonin transporter (SERT). However, the role of miR-16 on its targets SERT and ENaC have not been studied. The expression patterns of miR-16, SERT, ENaC and serotonin are being investigated in mice exposed to room air and hyperoxia. The effects of miR-16 overexpression are being observed in vitro. MiR-16 and ENaC down regulation in mice exposed to hyperoxia correlates with an increase in SERT expression and pulmonary edema. Overexpression of miR-16 in alveolar epithelial cells suppresses SERT and increases ENaCβ levels. These data suggest that miR-16 upregulates ENaC, a major sodium channel involved in resolution of pulmonary edema in acute lung injury (ALI).

9. Role of enhancer of zeste homolog 2 on pulmonary artery smooth muscle cell proliferation (PI: Kolliputi)

Pulmonary arterial hypertension (PAH) is characterized by excessive proliferation of the pulmonary arterial smooth muscle cells (PASMCs). EZH2 regulates cancer cell proliferation; however, the role of EZH2 in the proliferation of PASMCs is not clear. Therefore, the expression of EZH2 is being investigated in normal and hypertensive mouse PASMCs. The effects of EZH2 overexpression on the proliferation of human PASMCs also are being tested. EZH2 protein expression in mouse PASMCs correlates with decreased right ventricular function. The overexpression of EZH2 in human PASMCs enhances proliferation and migration and decreases the rate of apoptosis. EZH2 transfected cells demonstrated an increase in proliferation and a significant decrease in apoptosis. These findings show that EZH2 plays a role in the migration and proliferation of PASMCs. More importantly, EZH2 may serve as a potential target for new therapies for PAH.

10. Effect of mir-206 on pulmonary artery smooth muscle cell proliferation and differentiation (PI: Kolliputi)

Pulmonary arterial hypertension (PAH) is a progressive devastating disease characterized by excessive proliferation of the pulmonary arterial smooth muscle cells (PASMCs). MicroRNA-206 (miR-206) is known to regulate proliferation however, the role of miR-206 in PAH has not been studied. Therefore, the expression patterns of miR-206 are being investigated in normal and hypertensive mouse PASMCs. The effects of miR-206 on cell proliferation, apoptosis and smooth muscle cell marker expression in human PASMCs also are being measured. MiR-206 expression in mouse PASMCs correlates with an increase in right ventricular systolic pressure. Reduction of miR-206 levels in hPASMCs causes increased proliferation and reduced apoptosis. These results suggest that miR-206 is a potential regulator of proliferation, apoptosis and differentiation of PASMCs, which could yield a novel treatment strategy in PAH.

11. Development and characterization of an animal model for idiopathic pulmonary fibrosis (PI: Kolliputi)

Idiopathic pulmonary fibrosis (IPF) is a chronic, progressive, fibrotic lung disease

of unknown etiology. There is no animal model available that closely mimics the clinical and pathological features of IPF; this has hindered potential treatments for IPF. The goal of this project is to establish and characterize the clinical relevance of a new IPF animal model.

12. Exploring a novel epigenetic mechanism to understand the pathogenesis of pediatric eosinophilic esophagitis (PI: Kolliputi)

Eosinophilic esophagitis (EoE) is a significant public health problem that negatively impacts the quality of life for those affected. Current treatment includes symptomatic management with topical glucocorticoids, proton pump inhibitors, and elimination diets. Its pathogenesis is thought to have an environmental component, thus a better understanding of gene-environment interactions would significantly advance the field. We are exploring gene-environment interactions by analyzing the RNA epitome using RNA and DNA sequence information of EoE patients before and after treatment with individualized elimination diets. These analyses should provide information about the etiology of the disease and identify potential therapeutic targets.

13. Enhancing immunogenicity of RSV vaccines by altering NS1 function (PI: Teng)

This is part of a program project in collaboration with Dr. Mark Peeples (Nationwide Children's Hospital, Columbus, OH). The hypothesis that decreasing the ability of NS1 to inhibit interferon responses can enhance the immunogenicity of RSV vaccine candidates is being researched.

14. Structural determinants of NS2 for pathogenic functions (PI: Teng)

We have previously published that NS2 blocks interferon induction by binding to RIG-I. In addition NS2 appears to have additional functions associated with viral pathogenesis, including NFkB induction and STAT2 degradation. Trying to separate these activities by mutagenesis to understand how NS2 accomplishes each function is under investigation. The focus is on differentially altering the functions to develop an attenuated RSV vaccine candidate that maintains its immunogenicity.

15. Mechanism of RSV temperature sensitivity due to cis-acting sequences (PI: Teng)

Previous studies show that a single nucleotide change in the M2 transcription start sequence is sufficient to confer temperature sensitivity to recombinant RSV. The mechanism is being investigated by which this mutation affects RSV replication and transcription at non-permissive temperatures.

16. RSV M protein trafficking and virus assembly (PI: Teng)

This is a long-term collaboration with Drs. David Jans and Reena Ghildyal (Monash University, Melbourne, AUS) to determine the role of M protein trafficking in RSV morphogenesis and the importance of nuclear translocation in M function.

17. MicroRNAs as biomarkers and therapeutics for asthma (PI: Wang)

MicroRNAs (miRs) are ~22 nucleotides long non-coding RNAs that inhibit mRNA translation by the base pairing rule at the accuracy of one base. It is believed that most human genes and the entire spectrum of biological pathways are tightly and delicately controlled by the miRNome. Deregulation of miRs may contribute to various diseases. The mechanism underlying miR regulations of immunity is under investigation. Developing miR biomarkers and therapeutics for inflammatory diseases, such as asthma, using cell culture and mouse models are goals of this research.

18. LRBA, a novel regulator of immune disorders (PI: Wang)

Lipopolysaccharide (LPS)-responsive beige-like anchor (LRBA) is a novel gene essential for the normal function of the immune system. It is the eighth common variable immunodeficiency (CVID) gene, mutation of which causes CVID and autoimmunity. LRBA is involved in some critical cellular processes such as cell proliferation, apoptosis and autophagy. It may interact with multiple important signal transduction pathways. The molecular mechanism by which LRBA regulates the immune system is being explored.

19. Genetic mutation correction by the CRISPR genome-editing technology (PI: Wang)

Clustered regularly-interspaced short palindromic repeats (CRISPR) technology can be used to edit human genome at low cost but high efficiency. It allows correction of genetic mutations that cause complex human diseases. Genetic mutations of LRBA gene cause severe immunodeficiency and autoimmune diseases, such as common variable immunodeficiency, inflammatory bowel diseases, type 1 diabetes and rheumatoid arthritis. We will collaborate with Dr. Michael Jordan (Cincinnati Children's Hospital Medical Center, University of Cincinnati) to correct the mutations of LRBA in stem cells in vitro, then transfer these cells to patients with LRBA deficiency to hopefully cure this complex human disease.

20. Development of animal model to study genetic interaction (PI: Wang)

Genetic interaction study in the intact animal provides the most compelling means to define genotype–phenotype relationship. However, it is extremely challenging in human and animal models, since the variations between individuals can interfere with a gene's contribution, which usually is small, to a phenotype. To overcome this barrier, we propose that the nine genotypes of two genes are produced and labeled with fluorescent proteins in a single mouse so that they can be analyzed in a single flow cytometer tube. Phenotyping sensitivity thus can be greatly increased with the increased sample size and eliminated variations. If successful, this project will lead to the development of a novel methodology to efficiently conduct a genetic interaction study in animal models to understand the etiology of complex human diseases.

21. Modeling complex human immunodeficiency disease in a single mouse (PI: Wang)

This project is designed to develop a novel conditional gene knockout technique to study genes in a single mouse at high resolution. Currently, clear and consistent phenotypes are the exception rather than the rule. This is due to the fact that variations between individuals can mask a gene's contribution to a phenotype. We propose to eliminate these variations by studying the three genotypes of a gene in a single mouse in one flow cytometry tube. Phenotyping sensitivity thus can be greatly increased, e.g. theoretically up to one million times, and the technique can detect the phenotypes currently undetectable. This novel technique can be used to obtain high resolution data while retaining the function of the current conditional knockout technique.

22. Development of CRISPR genome-editing technology (PI: Wang)

CRISPR can be programmed to edit the human genome and is widely used due to its high degree of fidelity and relatively simple construction. CRISPR, based on the non-homologous end-joining (NHEJ) repair pathway, is used, with high efficiency, to generate gene knock-outs with variable sizes of small insertion/deletions. More precise genome editing, either the insertion or deletion of a desired fragment, is more desirable and can be accomplished by combining the homology-directed-repair (HDR) pathway-based CRISPR technology. HDR-mediated gene knock-in experiments are typically inefficient and the off-target is also a concern when the CRISPR technique is used on humans. We are developing and improving the CRISPR technique to edit the genome at high efficiency and accuracy, required for clinical application.

B. Clinical Research Projects

1. Age-related differences in the pathogenesis of chronic rhinosinusitis and nasal polyps (PI: Cho).

There are significant age-related differences in the eosinophilic inflammatory responses of chronic rhinosinusitis (CRS). Elderly CRS patients had more severe disease, nasal polyps (NP), and asthma comorbidity compared with the non-elderly. There also was an age-related decline of eosinophilic inflammation; presence of innate immune molecules such as S100A8/9; an age-associated increase of abnormal B cell activation; and autoantibody generation in patients with CRS. Abnormal IL-6 signaling and B cell/plasma cell activation contribute to the reduced innate immune response and enhance the local autoimmune inflammatory response in elderly patients with CRS. This study may lead to a new therapeutic agent other than corticosteroids for elderly patients with CRS and NP.

2. Effects of pine cone extract on IgE levels in patients with allergic rhinitis (PI: Ledford)

Pine cones and their aqueous extracts (PCE) were thought to have medicinal properties as far back as 2000 years ago in Japanese populations. Anecdotal reports suggest that the use of PCE improves allergic rhinitis symptoms; it significantly reduces serum IgE levels in mouse models. The purpose of this

study is to determine if oral PCE extract administered in a double-blind fashion significantly reduces IgE levels in patients with evidence of perennial allergic rhinitis.

3. A comparison of microRNA in patients with allergic rhinitis and other forms of rhinitis (PI: Ledford)

The evaluation of rhinitis is often hindered by limited measures to assess the pathogenesis of mucosal disease. This project builds upon a prior study and involves sampling the nasal mucosa of the inferior turbinates in subjects with various forms of rhinitis diagnosed with currently available clinical procedures. The expression of microRNA will be related to the diagnosis and current therapy. The intent is to explore possible biologic pathways that are modulated in different forms of rhinitis as well as to assess the feasibility of using microRNA as a diagnostic tool.

4. Pollen and mold counts and molecular quantification of outdoor allergens (PI: Glaum)

The Division houses the Pollen and Mold Counting Station for Tampa that has two devices adapted to collect pollen. One collector utilizes traditional methods, the other is adapted to collect pollen samples suitable for molecular analysis. The collectors are located on the roof of the James A. Haley V.A. Medical Center Research Building. Pollen counts are performed once weekly. The purpose of this study is to determine if it is feasible to utilize molecular methods to quantify aeroallergen content from volumetric air samples. Pollen-specific genes will be identified, quantitated and compared to pollen levels obtained by established standard counting methods.

5. Effect of oxymetazoline hydrochloride in combination with nasal glucocorticoid on the apnea hypopnea index (AHI) (PI: Lockey)

“Nocturnal Oxyhemoglobin Saturation, Snoring, and Sleep Quality in Subjects with Persistent Nasal Congestion. A Double Blinded, Placebo Control, Cross Over Prospective Trial” is designed to evaluate the effectiveness on the apnea/hypopnea index (AHI) of adding oxymetazoline to intranasal mometasone, and on other sleep parameters. The study will be carried out in subjects with persistent nasal congestion secondary to allergic or non-allergic rhinitis despite treatment with the highest recommended doses of intranasal mometasone.

6. Evaluation of calcium and vitamin D intake in children on inhaled or intranasal corticosteroids compared to normal children (PI: Lockey)

The specific aims of this project are to evaluate the dietary calcium intake of asthmatic children (4-17 years) who are receiving long-term treatment with inhaled or intranasal corticosteroids versus healthy controls using a validated food frequency questionnaire.

7. Differences in mold counts from January 1995 to December 2011 (PI: Lockey)

Allergic diseases are due to complex interactions between genetic and environmental factors. Airborne mold and pollens are known to trigger allergic respiratory disease in sensitive individuals. Yet little is known about possible changes as related to climate change in pollen and mold counts over the last 16 years. Daily pollen and fungal spores sample data between January 1995 to December 2010 are available for Sarasota, FL. These data will be compared to weather data for Sarasota available from the National Climatic Data Center. The objectives of this study are to determine if changes in pollen/mold counts can be correlated with climate changes.

C. Clinical Research Unit (CRU)

The University of South Florida, Asthma, Allergy and Immunology CRU was established in 1977 to improve the treatment of patients who suffer from asthma, allergic and immunologic diseases.

The CRU provides quality research in a variety of clinical areas which include the following: allergic conjunctivitis; allergen immunotherapy; allergen skin testing; allergic rhinitis; asthma; atopic eczema; bronchitis, acute and chronic; contact dermatitis; chronic obstructive pulmonary disease; exercise induced asthma; headache (migraine and tension); hereditary angioedema; immunodeficiency diseases; insect allergy; intravenous immunoglobulin; nasal polyps; sinusitis, acute and chronic; temporomandibular joint disease; urticaria and vasomotor rhinitis.

Studies funded by pharmaceutical companies are conducted at the Division's CRU. The CRU is also a member of the American Lung Association's Asthma Clinical Research Center network, one of 19 centers throughout the United States.

IV. BASIC AND CLINICAL RESEARCH SUPPORT

ENDOWMENTS

Joy McCann Culverhouse Endowment and Chair in Allergy and Immunology

Mabel and Ellsworth Simmons Professorship for Asthma Research

EXTRAMURAL FUNDING

Government Funding

National Institutes of Health (NIAID)

National Heart, Lung and Blood Institute

Non-Profit Funding

American Lung Association

American Heart Association

American Academy of Allergy Asthma and Immunology, ARTrust

Pharmaceutical Funding (past or present)

Ablynx, NV
Afferent
Aimmune
Almirall Pharmaceuticals
AstraZeneca COmpleware
CSL Behring
Cytos
Dyax Corporation
Forest Laboratories
Genentech Inc
GlaxoSmithKline
Jerini, US
Merck and Co., Inc.
MedImmune
Novartis Pharmaceuticals
Pfizer
Pharming Inc.
Roche
Sanofi-Aventis Pharmaceuticals
Schering-Plough Corporation
Shire
Stallergenes
Teva Pharmaceuticals
Vertex
Viropharma

V. PUBLICATIONS FROM THE DIVISION

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Bulkhi A, Talreja N, Hamad A, Lockey RF: Persistent Productive Cough with Dyspnea. Interactive case report available at: http://www.worldallergy.org/interactive_case_reviews//. Posted January, 2015.

Saco TV, Balduzzi M, Lockey RF: A case of chronic urticaria. WAO Interactive case report available at: http://www.worldallergy.org/interactive_case_reviews//. Posted April, 2015.

Dhawan N, Balduzzi M, Lockey RF: Help! I can't breathe! Interactive case report available at: http://www.worldallergy.org/interactive_case_reviews/. Posted June, 2015.

Fergeson J, Patel S, Lockey RF: A Patient with Dysphagia". Interactive case report available at: http://www.worldallergy.org/interactive_case_reviews/. Posted July, 2015.

Pepper A, Updegraff A, Lockey RF: Fatigue and generalized pruritus. Interactive case report available at: http://www.worldallergy.org/interactive_case_reviews. Posted July, 2015.

VI. FACULTY AND STAFF AWARDS

Richard F. Lockey, MD
World Allergy Organization Award (in recognition of service to the World Allergy Organization Board of Directors), Seoul, Korea, October 13, 2015.

Richard F. Lockey, MD
World Allergy Organization Gold Medal Award for outstanding dedication to World Allergy, XXIV World Allergy Congress, Seoul, Korea, October 13, 2015.

Roger W. Fox, MD
USF Division of Allergy & Immunology, Department of Internal Medicine, “35 years of exceptional service” award, February, 2015

Dennis K. Ledford, MD
Outstanding Clinician Award, World Allergy Organization, XXIV World Allergy Congress, Seoul, Korea, October 13, 2015.

Dennis K. Ledford, MD
2015 Leonard Tow Humanism in Medicine Award, Class of 2019, Morsani College of Medicine White Coat Ceremony. University of South Florida, August 14, 2015.

Narasaiah Kolliputi, PhD
Joy McCann Culverhouse Airways Disease Center, Division of Allergy & Immunology, “4 best poster” awards, USF Research Day, February 20, 2015.

Dona L. Shearer, RN
USF Division of Allergy & Immunology, Department of Internal Medicine, “35 Wise Years” award, February, 2015.

VII. MAJOR ACCOMPLISHMENTS:

Seong H. Cho, MD

Transferred two research grants from NIH and AHA successfully to USF.
He also published 7 peer-reviewed research papers in 2015.

Dennis K. Ledford, MD

Elected Barness/Behnke Chapter of the Gold Humanism Honor Society (GHHS) – Installation March, 2015.

G. Edward Stewart, MD

Serving as President of the Marion County Medical Society from April 2015 through August 2016.

Jia-Wang Wang, PhD

Developed a CRISPR cloning technology, which can be used to seamlessly clone any DNA fragments of any size without the limitations of restriction enzymes. The article describing this technology had been downloaded more than 3,000 times within a couple of months since publication (BioTechniques 58, 2015), and was ranked at 4th of the "Top Ten BioTechniques Peer-reviewed Papers of 2015". These are very strong numbers and indicate good interest in the utilization of the methodology within the community.

Pending Patents and Invention Disclosure:

1) Wang JW and Lockey RF. Inflammatory Disease Diagnosis and Methods of Treatment Using Lipopolysaccharides-responsive Beige-like Anchor. Filed with the United States Patent and Trademark Office (USPTO) on 24-MAR-2014, Application Number: 14223490.
2) Wang JW and Lockey RF. Universal qPCR Duplex Detection of mRNAs and miRNAs. Filed with USPTO on August 24, 2015, and assigned Serial No. 14/833,588.
3) Wang JW and Lockey RF. 14B153_Wang. Sensitively Studying Gene-Gene Interactions over a Wide Genetic Background.
4) Wang JW and Lockey RF. 14B124_Wang. CRISPR Cloning Technique.
5) Wang JW and Lockey RF. 14B132_Wang. Modeling Complex Human Disease in a Single Animal.
6) Wang JW and Lockey RF. 15B127PR_Wang. Efficient CRISPR Knockin.
7) Wang JW and Lockey RF. Site-directed Mutagenesis without Polymerase Chain Reaction. Invention disclosure form filed.

Michael Teng, PhD

Major accomplishment last year was to be part of a funded program project (P01) grant from the NIAID to develop live-attenuated RSV vaccines. Following are a couple of links about the grant:

http://www.nationwidechildrens.org/news-room-articles/nationwide-childrens-hospital-researchers-receive-675-million-grant-to-develop-rsv-vaccine?contentid=146693

https://vet.osu.edu/research/veterinarians-receive-grant-develop-rsv-vaccine

Blanca Camoretti-Mercado, PhD

Member of the Board of Directors, American Thoracic Society.
Elected Chair, Assembly of Respiratory Structure and Function, American Thoracic Society.

Thomas B. Casale, MD

The University of South Florida was selected as an American Lung Association-Airways Clinical Research Centers (ACRC) site effective July 1, 2016. Dr. Thomas Casale, Division of Allergy and Immunology, Department of Internal Medicine, is the USF site principal investigator.

VIII. VISITING PROFESSOR EDUCATIONAL PROGRAM

Pakit Vichyanond, MD, Professor of Pediatrics, Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, "Vernal Keratoconjunctivitis (VKC) – a Severe Allergic Eye Disease with Remodeling Changes", Wednesday, February 25, 2015, 7:00 – 8:00 AM, "Allergy in the Asia-Pacific- is it Different from the West"?, Thursday, February 26, 2015, 7:00 – 8:00 AM

Ejaz Yousef, MD, Division Chief, Allergy and Immunology, Department of Pediatrics, Nemours Children's Clinic, Jacksonville, FL, Thursday, April 23, 2015, 7:00 – 8:00 AM, "Atopic Dermatitis"

Patty Lee, MD, Associate Professor, Department of Internal Medicine, Section of Pulmonary, Critical Care & Sleep Medicine, Yale University School of Medicine, New Haven, CT, "Novel Innate Immune Pathways in Lung Injury & Repair", Friday, April 24, 2015, 11:30AM – 12:30 PM, MDL 1005

Yaping Tu PhD, Professor of Phamacology, Creighton University School of Medicine, Omaha, Nebraska, "Regulator of G Protein Signaling Proteins: Targets for Treatment of Asthma", Friday, May 1, 2015, 11:30 AM – 12:30 PM, MDN 1022 (College of Nursing building)

Karen Ridge, PhD, Associate Professor of Medicine with tenure, Northwestern University, Feinberg School of Medicine, Division of Pulmonary and Critical Care, Chicago, IL, Thursday, May 14, 2015, 7:00 – 8:00 AM, "The puzzle of inflammation and pulmonary fibrosis: Is vitmentin the missing piece?"

Jocelyn Celestin, MD, Chief, Division of Allergy/Immunology, Department of Internal Medicine, Albany Medical College, Albany, NY, Thursday, October 15, 2015, 7:00 – 8:00 AM, MDL 1003, "Clinical Approach to Peripheral and Tissue Eosinophilia"

Yohannes Tesfaigzi, PhD, Senior Scientist and Director of the COPD Program, Lovelace Respiratory Research Institute (LRRI), Albuquerque, NM, Division of Allergy & Immunology Research Conference, Thurs, Nov 5, 2015, 7:00 – 8:00 AM, MDL 1038C, Group Learning room 6, "Hyperplastic Airway Epithelial Cells and Lung Inflammation"

Irfan Rahman, PhD, Professor of Environmental, Pulmonary Medicine and Public Health Sciences, University of Rochester, Rochester, NY, Division of Allergy & Immunology Research Conference, Thursday, November 19, 2015, 7-8 AM, MDL 1038C, Group Learning room 6, "E-cigarette vaping and respiratory health effects"

Sharon Rounds, MD, Professor of Medicine & Professor of Pathology and Laboratory Medicine, Warren Alpert Medical School, Brown University, Providence, Rhode Island, Bioscience Seminar, Friday, December 4, 2015, 11:30 AM – 12:30 PM, MDL 1005, "Cigarette Smoke and Acute Lung Injury:

Thanks to members of the Division!

13000 Bruce B. Downs Blvd., (111D)
Tampa, Florida 33612
Phone: (813) 972-7631
Fax: (813) 910-4010

http://health.usf.edu/medicine/internalmedicine/allergy/index.htm