02/20/2025

Curriculum Vitae

STEPHEN B. LIGGETT, M.D.
Vice Dean for Research, Morsani College of Medicine
Senior Associate Vice President for Research, USF Health
Distinguished University Health Professor
Professor of Medicine, Molecular Pharmacology and Physiology, and Medical Engineering
University of South Florida

Personal Information

USF Health, Morsani College of Medicine
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Education

Georgia Institute of Technology, Atlanta GA	B.S. Physics	1973-1977
University of Miami School of Medicine, Miami, FL	M.D.	1978-1982

Training

Intern and Resident in Internal Medicine 1982-1985
Barnes Hospital and Washington University School of Medicine,
St. Louis, MO

Fellow, Pulmonary Diseases and Critical Care Medicine 1985-1988
Washington University School of Medicine, St. Louis, MO
Laboratory of Philip Cryer

Research Fellow, laboratory of Robert J. Lefkowitz (2012 Nobel Prize in Chemistry) 1988-1991
Howard Hughes Medical Institute and Duke University Medical Center,
Durham, NC

Sabbatical, molecular modeling laboratory of William Goddard, III 2019
California Institute of Technology
Pasadena, CA

Certification

American Board of Internal Medicine, #105999, 9/11/1985
American Board of Internal Medicine, Pulmonary Diseases, #105999, 11/6/1990-11/5/2000

Medical License (active)

Florida, #ME114562

Employment History

Academic and Major Leadership Appointments

Duke University School of Medicine

Assistant Professor of Medicine	1990-1992
Assistant Professor of Pharmacology	1990-1992

University of Cincinnati College of Medicine

Associate Professor of Medicine (with tenure)	1992-1995
Director, Pulmonary & Critical Care Medicine	1992-2003
Associate Professor of Pharmacology and Cell Biophysics	1992-1995
Associate Professor of Molecular Genetics & Biochemistry	1992-1995
Professor of Medicine	1995-2005
Professor of Pharmacology and Cell Biophysics	1995-2005
Professor of Molecular Genetics & Biochemistry	1995-2005
Distinguished University Research Professor	2001-2012
Gordon and Helen Hughes Taylor Professor of Medicine Endowed Chair	2003-2005
Director, Cardiopulmonary Research Center	2003-2005

University of Maryland School of Medicine

Professor of Medicine and Physiology	2005-2012
Director, Cardiopulmonary Genomics Program	2005-2012
Chief, Medical and Scientific Affairs, UM Institute for Clinical and Translational Sciences	2009-2012
Associate Dean for Interdisciplinary Research	2009-2012
Professor of Medicine (adjunct)	2012-

University of South Florida Morsani College of Medicine

Associate Vice President for Research, USF Health	2016-2024
Vice Dean for Research	2012-
Director, Office of Research (basic, translation, clinical)	2012-
Professor of Internal Medicine (Primary)	2012-
Professor of Molecular Pharmacology & Physiology	2012-
Professor of Medical Engineering	2017-
Co-Director, Center for Drug Discovery & Innovation	2018-
Institute Faculty, Institute for Advanced Discovery & Innovation	2018-
Founding Faculty of Medical Engineering	2018-
Director, USF Health Heart Institute	2021-
Senior Associate Vice President for Research, USF Health	2024-

Hospital Appointments

Barnes Hospital, St. Louis, MO	1987-1988
Duke University Hospitals, Durham, NC	1988-1992
University Hospital, Cincinnati, OH	1992-2005
University of Maryland Medical System, Baltimore, MD	2005-2012
VA Maryland Health Care System, Baltimore, MD	2006-2012

Professional Memberships

American Thoracic Society	1986
American College of Chest Physicians (Fellow)	1993
American Society for Biochemistry and Molecular Biology	1993
American Society for Pharmacology and Experimental Therapeutics	1993
American Society for Clinical Investigation	1994
American Heart Association	1996
American Association of Physicians	2000
Heart Failure Society of America	2005
American Association for the Advancement of Science (Member)	1991
National Academy of Inventors (elected Fellow)	2013
American Association for the Advancement of Science (elected Fellow)	2014

American Institute for Medical and Biological Engineering (elected Fellow) 2018

Honors/Awards

Magnum Cum Laude - Physics - Georgia Institute of Technology 1977
Alpha Omega Alpha, University of Miami School of Medicine 1982
American Society for Clinical Investigation 1994
University of Cincinnati Faculty Achievement Award 1995
American Academy of Asthma, Allergy and Immunology
Philip S. Norman Lectureship Award 1997
Federation of American Society of Experimental Biology 1998
Welcome Professorship
American Association of Physicians 2000
Ronald Ingram Award, Emory University 2001
Distinguished University Research Professor 2001
NIH Merit Award 2002
Frontiers in Pharmacology Award, Case Western Reserve 2004
Interurban Clinical Club 2007
Johnson McGuire Visiting Professor Lectureship, University of Cincinnati 2008
Excellence in Science Award, Thomas Jefferson University 2008
16th Annual Roy H. Behnke Distinguished Lectureship, USF Health 2012
National Academy of Inventors (Fellow) 2013
American Association for the Advancement of Science (elected Fellow) 2014
University of South Florida Outstanding Faculty Award 2015
USF Institute for Advanced Study and Innovation 2015
Robert A. Good Honor Society 2017
Biomedical Research Exemplar Award, Washington University School of Medicine 2017
Faculty Outstanding Research Achievement Award 2017
American Institute for Medical and Biological Engineering (elected Fellow) 2018
University of Miami Miller School of Medicine Alumni Hall of Fame (Inductee) 2018
University of South Florida Outstanding Faculty Award 2019
Distinguished University Health Professor 2022

Additional Administrative Appointments

University of Cincinnati

Medical Science Scholars Program (MD/PhD) 1994-2005
Steering Committee
Policy Committee
Faculty Participation and Evaluation Committee
Program Committee
Research Committee, Department of Medicine 1992
Graduate Education Comm. - Dept. of Pharmacology 1992-1995
Student Research Committee 1992
Search Committee, Environmental Health Chairman 1993-1994
Space Utilization Committee - Department of Medicine 1994
Mission and Organization of Basic Science Departments 1994
Graduate Student Admissions & Program Committee 1995-1996
Department of Molecular Genetics, Biochemistry & Microbiology
Pathobiology & Molecular Medicine Graduate Program Committee 1995-1996
DNA Sequencing Core Advisory Committee 1995-2005
Millennium Committee 2003-2005
Medical Student Grievance Committee (Chair) 2003-2004
Chair Search Committee, Department of Medicine 2003-2004
Standing Committee on Conflicts of Interest (Co-Chair) 2004-2005
Department of Medicine Space Committee (Chair) 2004-2005
Scientific Advisory Committee – Computational Medical Center 2004-2005

Financial Operational Committee – Computational Medical Center	2004-2005
Chair Search Committee, Cardiology	2004-2005

University of Maryland, Baltimore

Executive Steering Committee – Program in Human Genetics	2005-2012
Multidisciplinary Advisory Council – Institutional NIH K-12 Grant	2005-2012
School of Medicine, Faculty Council Representative	2006-2008
Small Animal Physiology Core Advisory Committee	2006-2011
Medical Scientists Training Program (MD/PhD program) Advisory Committee	2007-2011
Medical Scientists Training Program (MD/PhD program) Admissions Committee	2007-2011
Associate Dean for Interdisciplinary Research - Director of multiple committees and initiatives	2009-2012
Medical Student Admissions Committee Interviewer	2011-2012
Director, Physician Scientist Program, Department of Medicine	2011-2012
Advisory Board, Center for Biomolecular Therapeutics	2011-2012

University of South Florida, Tampa

Chair, Executive Management Committee-Research	2012-
Programming Development Committee	2012-
Financial Oversight Committee	2012-
Center for Drug Discovery and Innovation Oversight Committee	2012-
Research and Space Committee	2012-
USF Health Space Committee	2012-
Economic Development Corporation Life Sciences Task Force	2012-
Board of Directors, USF Health Heart Research Institute	2013-
Department of Medical Engineering Founder and Advisory Board member	2017-
Internal Advisory Board Member, Office of Corporate Partnerships	2018-
USF Health Care Executive Management Committee (voting member)	2018-
University Medical Services Association (MSSC) (voting member)	2018-
Medical Services Support Corporation (voting member)	2018-

Start-up Companies and External Advisory Boards

Genaissance Pharmaceuticals – Scientific Advisory Board	1999-2004
Genaissance Pharmaceuticals – Executive Medical Advisor	1999-2004
Marshfield Clinic Personalized Medicine – External Scientific Advisory Board	1999-2003
Orchid Biocomputer, Inc. – Medical Advisory Board (Founding Member)	1999-2002
Orchid Biocomputer – Clinical Genetics Network (founder)	1999-2002
Merck Research Laboratories – Pharmacogenomics Scientific Advisory Board	2002-2010
ARCA biopharma, Inc. – Scientific Founder	2005
ARCA biopharma, Inc. – Scientific Advisory Board	2005-
Molekule Medical Advisory Board	2017-
Aeon Respire, Inc. – Scientific Advisory Board	2019-
Amoro Therapeutics, Inc. – Scientific Advisory Board	2020-

Editorial Boards/Study Sections/Committees

Editorial Boards

Journal of Biological Chemistry	1998-2003
Am J Respir Cell & Mol Biol	1994-
Am J Resp Cell & Mol Biol (Associate Editor)	1998-2003
Am J Physiol: Lung Cell and Molecular Physiology	1995-2003
Molecular Pharmacology	1997-
Pharmacogenetics and Genomics	2000-
Circulation	2003-2006

Molecular Diagnosis & Therapy	2006-
Clinical Medicine: Respiratory and Pulmonary Medicine	2007-
Clinical and Translational Science	2007-
Circulation: Cardiovascular Genetics	2008-
Journal of Personalized Medicine	2010-2021
Am J Physiol: Heart and Circulatory Physiology	2010-2012
Journal of Personalized Medicine (Editor-in-Chief)	2014-2021

Study Sections/NIH Service

Immunology and Lung Study Sections - NIH (Ad Hoc)	
Multiple NIH Program Project and SCOR Review Committees - NHLBI, NIAID	
VA Merit Review	
American Heart Association (National)	
American Lung Association (State, Chair)	1996-1997
NHLBI Working Group "Deterrents of Drug Therapies in Heart Failure"	2002
NHLBI Sarcoidosis Working Group	2002
NHLBI Working Group "Polymorphisms of the Beta-adrenergic Receptor Gene: Implications for Pharmacotherapy of Asthma"	2003
NHLBI Working Group "Strategic Directions in Congestive Heart Failure"	2003
NHLBI Lung Division Strategic Planning Workshop Group "Integrative Approaches to Pathogenetic Research"	2006
Co-Chair, NHLBI Lung Microbiome Workshop	2007
Chair, Molecular Mechanism Working Group, Pharmacogenetic Research Network, NIH	2007
NIH Working Group, Human Microbiome Project	2008

Other National Committees

Personalized Medicine Coalition (writing committee)	2008-
AAMC GRAND (Group on Research Advancement and Development Representative)	2011-
Institutional Representative, American Association for Clinical Research.	2019-

American Lung Association

Federal Lung Committee	1992-1993
Scientific Advisory Council	1993
Publications Committee	1994-1996
Cell & Molecular Biology Program Committee	1994
Allergy, Immunology & Inflammation Program Committee	1996
Research Committee (Chair, Ohio Affiliate)	1994
Search Committee for Editor, AJRCMB (Chair)	1996
Assembly on Allergy, Immunology & Inflammation Long Range Planning Committee	1997-1998

Public Service

Volunteer physician for mobile hospital for Mayan Indians in Guatemala	2009-
WEDU Community Advisory Board Member	2023-

Basic Science Mentoring

TRAINEES				
Name	**Mentoring Role**	**Dates**	**Terminal Degree(s)**	**Current Position**
Huff, Robin	PhD thesis advisor	1991-1994	PhD Duke University	National Institutes of Health, Bethesda, MD
Mulheron, Janet	MS thesis advisor	1991-1992	MS/94 Duke University	Research Associate, Ciba-Geigy
Thomas, R.	Postdoctoral Fellow	1991-1993	PhD University of Miami	Assistant Professor, Dept. of Pediatric Pulmonary Med, Duke University
Green, Stuart	Postdoctoral Fellow	1991-2000	MD University of Tennessee	Vice President, Respiratory and Immunology, Merck Research Laboratories, Kenilworth, NJ
Eason, Margaret	PhD thesis advisor and Postdoctoral Fellow	1991-1996	PhD Duke University	Forensics Laboratory, Federal Bureau of Investigation, Washington, DC
Turki, Jamal	Postdoctoral Fellow	1993-1996	MBBS Jordan University	Faculty member, Jordan University, Amman, Jordan
Jewell-Motz, Elizabeth	Postdoctoral Fellow	1993–1999	PhD University of Cincinnati	Research Scientist Proctor & Gamble Pharmaceuticals
Sawaya, Patricia	Postdoctoral Fellow	1993-1996	PhD University of Cincinnati	Deceased August 1996
Moore, Don	Postdoctoral Fellow	1995-1997	MD University of Kentucky	Assistant Professor University of Kentucky
McGraw, Dennis	Postdoctoral Fellow	1995-1997	MD University of Mississippi	Associate Professor Pulmonary & Critical Care Medicine University of Cincinnati
Nath, Amaresh	Postdoctoral Fellow	1995-1998	MD LTM Medical College, Bombay, India	Assistant Professor Pulmonary & Critical Care Medicine University of Cincinnati
Liang, Mary	PhD thesis advisor	1995-2002	MD Beijing Medical University; PhD University of Cincinnati	Staff Pathologist, Orlando Regional Medical Center
Small, Kersten	Postdoctoral Fellow	1994-1997	PhD University of Cincinnati	Research Group Leader, Merck Research Laboratories, Rahway, NJ
Rathz, Deborah	PhD thesis advisor	1996-2002	PhD, MD University of Cincinnati	Staff Physician, Pulmonary & Critical Care Medicine, Cleveland Clinic
Tepe, Nicole	PhD thesis advisor	1996-2000	PhD University of Cincinnati	Patent Attorney, Frost Brown Todd LLC, Cincinnati, OH
Dash, Rajesh	PhD thesis committee	1997-2001	PhD, MD University of Cincinnati	Residency Program, University of Washington
Fortner, Christopher	PhD thesis committee	1997-2001	PhD, MD University of Cincinnati	Residency Program, Duke University
Gardner, Alicia	PhD thesis committee	1998-2003	PhD University of Cincinnati	Technical Service Scientist, Qiagen, Inc., Valencia, CA
Rubio, Marta	PhD thesis committee	2001-2005	PharmD Universidad del Pas Vasco, Vitoria, Spain	Technical Support Scientist, Invitrogen, Carlsbad, CA
Gregory, Kimberly	PhD thesis committee	2001-2005	BS/99 Vanderbilt University	Senior Medical Writer, Access Medical Group, Chicago, IL
Perez, Jeanne Mialet	Postdoctoral Fellow	2002-2004	PhD University of Science, Paris XI, France	INSERM U388, Institute Louis Bugnard, Toulouse, France
Almoosa, Khalid	Postdoctoral Fellow	2002-2004	MB Royal College of Surgeons, Ireland	Associate Professor, Pulmonary & Critical Care Medicine University of Texas, Houston, TX
Elwing, Jean	Postdoctoral Fellow	2003-2005	MD St. Louis University	Assistant Professor, Pulmonary & Critical Care Medicine University of Cincinnati
Fogel, Kevin	Postdoctoral Fellow	2004-2006	MD University of Cincinnati	Clinical Instructor, Pulmonary & Critical Care Medicine, University of Cincinnati
Stropes, Melissa	PhD thesis committee	2004-2009	PhD University of Cincinnati	Fellow, Clinical Molecular Genetics, Cincinnati Children's Hospital Medical Center

Basic Science Mentoring (Cont.)

TRAINEES				
Name	**Mentoring Role**	**Dates**	**Terminal Degree(s)**	**Current Position**
Panebra, Alfredo	Postdoctoral Fellow	2005-2010	PhD University of Buenos Aires, Argentina	Fellow, Cardiopulmonary Genomics Program, University of Maryland
Swift, Steven	Postdoctoral Fellow	2005-2007	PhD University of Maryland Baltimore County	Institute of Bioscience and Biotechnology Research, Rockville, MD
Wang, Wayne	Postdoctoral Fellow	2005-2009	PhD Penn State University, State College, PA	Assistant Professor, Cardiopulmonary Genomics Program, University of Maryland
Tokarsky Fistler, Christa	Postdoctoral Fellow	2006-2007	MD Jefferson Medical College	Physician, Upper Chesapeake Health Center, Bel Air, MD
Rathe, Jennifer	PhD thesis Advisor	2006-2010	PhD University of Iowa	Medical Residency Program, Columbia University, New York
McIlmoyle, Elizabeth	Postdoctoral Fellow	2008-2010	MD Temple University	Sleep Specialist Physician, Baltimore Washington Medical Center, Glen Burnie, MD
Rogers, Hobart	PhD thesis committee	2008-2010	PharmD University of Maryland	Food and Drug Administration, Silver Spring, MD
Robinett, Kathryn	Postdoctoral Fellow	2009-2011	MD University of Maryland	Assistant Professor, Pulmonary and Critical Care Medicine, University of Maryland
Shoop, Laura	MS thesis advisor	2009-2013	MS University of Maryland	GeneDx, Inc., Gaithersburg, MD
Silhan, Leann	Postdoctoral Fellow	2011-2012	MD UT Southwestern	Instructor, Pulmonary and Critical Care Medicine, John Hopkins School of Medicine
Gray, Geoffrey	PhD thesis committee	2015-2018	PhD University of South Florida	University of South Florida
Kim, Donghwa	Research Associate	2014-2015	PhD Kangwon National University	Assistant Professor, University of South Florida, College of Medicine, Tampa, FL
Woo, Jung A.	Chair - Comprehensive Qualifying Examination	2014	PhD University of South Florida	Assistant Professor, Case Western Reserve University, School of Medicine, Cleveland, OH
Woo, Jung A.	Postdoctoral Fellow	2016-2018	PhD University of South Florida	Assistant Professor, Case Western Reserve University, School of Medicine, Cleveland, OH
Beidokhti, Maliheh	Postdoctoral Fellow	2020-2021	PhD University of Copenhagen	Postdoctoral Fellow, University of South Florida, College of Medicine, Tampa FL
Ramge, Melissa	PhD thesis committee	2023-2024	PhD University of South Florida	
Chambliss, Christopher	Mentor, NIH AAMC MOSAIC (Maximizing Opportunities for Scientific and Academic Independent Careers)	2024	PhD Morehouse School of Medicine	Postdoctoral Researcher Emory University School of Medicine

Grant Support

Active:

Title: Airway Smooth Muscle Bitter Taste Receptors as Targets for Novel Bronchodilators
Agency: NIH P01 HL114471 (Novel Molecular Mechanisms Promote GPCR-Induced Bronchodilation in Asthma)
PI: R. Panettieri (PPG PI), S. Liggett (PI Project 2, 20% effort),
Award Period: Project 2: 07/01/2019 – 7/31/2025
Total Award: $11,818,635 ($10,164,255 direct, $1,654,380 indirect)
Project 2: $1,869,575 ($1,250,825 direct, $618,750 indirect)

Title:	Characterization of biased airway smooth muscle TAS2R agonists for treating Asthma
Agency:	NIH R01 HL155532-01
PI:	S. Liggett (25% effort)
Award Period:	01/01/2021 – 12/31/2025
Total Award:	$2,122,650 ($1,694,979 direct, $427,671 indirect)

Title:	Targeting T2 inflammation-evoked mechanical endotypes of SAM shortening in asthma
Agency:	NIH R01 HL164404-01A1
PI:	S. An (PI), S. Liggett (Co-I, 5% effort)
Award Period:	06/25/23 – 03/31/27
Total Award:	$29,996 ($19,997 direct, $9,999 indirect)

Completed:

Title:	Molecular and Signaling Effects of Rare Variants
Agency:	NIH R01 HL142992 (Effects of Rare Variants and Ancestry on Beta Agonist Response in Asthma and COPD)
PI:	V. Ortega (PI), S. Liggett (PI Specific Aim 3, 20% effort),
Award Period:	02/01/2019 – 12/31/2024
Total Award:	$3,797,325 ($3,043,885 direct, $753,440 indirect) Specific Aim 3: $1,273,395 ($851,770 direct, $421,625 indirect)

Title:	Novel role of β-arrestins in Tauopathy
Agency:	NIH R01 AG059721
PI:	J. Woo (PI), S. Liggett (Co-I, 5% effort)
Award Period:	05/15/19 – 01/31/24
Total Award:	$1,868,750 ($1,250,000 direct, $618,750 indirect)

Title:	Molecular Properties of β-adrenergic Receptors in Asthma
Agency:	NIH R01 HL045967
PI:	S. Liggett
Award Period:	09/30/1990 – 06/30/2021
Total Award:	$6,477,021

Title:	Molecular Properties of β-adrenergic Receptors in Asthma
Agency:	NIH R56 HL045967
PI:	S. Liggett
Award Period:	09/01/15 – 08/31/16 (rolled into renewal R01)
Total Award:	$373,750 ($250,000 direct, $123,750 indirect)

Title:	Basis of Variability of Lung GPCR Signaling
Agency:	NIH R01 HL071609
PI:	S. Liggett
Award Period:	09/01/03 – 07/31/16
Total Award:	$1,918,750 ($1,250,000 direct, $668,750 indirect)

Title:	FY2016 Regional Innovation Strategies Program - SEED TAMPA BAY
Agency:	U.S. Economic Development Administration
PI:	S. Liggett, S. Wickline, V. Landrio McDevitt.
Award Period:	01/01/2017-12/31/2019
Total Award:	$559,057

Title:	Lung HRV: G-Protein Coupled Signaling Interactions in Asthma
Agency:	NIH R01 HL091490
PI:	S. Liggett
Award Period:	01/01/10 – 12/31/15
Total Award:	$1,569,042 ($1,156,542 direct, $412,500 indirect)

Title:	Molecular Properties of β-adrenergic Receptors in Asthma
Agency:	NIH R37 HL045967 (MERIT Award)
PI:	S. Liggett
Award Period:	03/15/02 – 02/28/14
Total Award:	$2,677,300 ($1,750,000 direct, $668,750 indirect)

Title:	Project 1: β_1- and α_{2C}-Adrenergic Receptor Polymorphisms in Human Heart Failure
Agency:	NIH – P50 HL77101 SCCOR in Heart Failure
PI:	S. Liggett (Project 1), L. Kranias (Program PI)
Award Period:	01/01/06 – 12/31/10
Total Award:	Project 1: $1,948,835 ($1,454,064 direct, $494,771 indirect)

Title:	β_2-adrenergic Pharmacogenetics Project
Agency:	NIH U01 HL65899 (Pharmacogenetics of Asthma Treatment)
PI:	S. Liggett (β_2 project), S. Weiss (Program PI)
Award Period:	08/01/05 – 07/31/10
Total Award:	$1,535,000 (Liggett Project) ($1,000,000 direct, $535,000 indirect)

Title:	Genetic-Adrenergic Interactions in Myocardial Failure
Agency:	NIH R01 HL48013-10
PI:	M. Bristow; S. Liggett (Collaborator)
Award Period:	12/01/03 – 11/30/07
Total Award:	Liggett component: $292,117 ($190,304 direct, $101,814 indirect)

Title:	Computational Medicine Center
Agency:	State of Ohio
PI:	S. Liggett (Project 2), T. Boat (Program PI)
Award Period:	03/01/04 – 02/28/06
Total Award:	$514,111 with $8,731,000 for capital improvements (no indirect)

Title:	β_2-adrenergic Pharmacogenetics Project
Agency:	NIH U01 HL65899 (Pharmacogenetics of Asthma Treatment)
PI:	S. Liggett (β_2 project), S. Weiss & S. Liggett (Program Co-PI)
Award Period:	04/01/00 – 07/31/05
Total Award:	Liggett Project: $1,628,970 ($1,064,685 direct, $564,285 indirect)

Title:	Project 2: Mechanisms of β-receptor Dysfunction in Heart Failure
Agency:	NIH P01 HL22619 (Molecular Mechanism of Contraction)
PI:	S. Liggett (Project 2), A. Schwartz (Program PI)
Award Period:	07/01/99 – 06/30/05
Total Award:	Project 2: $1,765,500 ($1,153,922 direct, $608,631 indirect)

Title:	Project 2: β-adrenergic Receptor Genetics in Heart Failure
Agency:	NIH – P50 HL52318 (SCOR in Heart Failure)
PI:	S. Liggett (Project 2), G. Dorn (Program PI)
Award Period:	01/01/00 – 12/31/04
Total Award:	Project 2: $1,512,815 ($1,029,125 direct; $483,689 indirect)

Title: Project 2: β-adrenergic Receptor Genetics in Heart Failure
Agency: NIH – P50 HL52318 (SCOR in Heart Failure)
PI: S. Liggett (Project 2), G. Dorn (Program PI)
Award Period: 02/01/95 – 12/31/99
Total Award: Project 2: $1,500,076 ($1,000,000 direct, $500,076 indirect)

Title: Molecular Properties of β-adrenergic Receptors in Asthma
Agency: NIH R01 HL45967
PI: S. Liggett
Award Period: 04/01/96 – 03/14/02
Total Award: $1,009,901 ($657,789 direct, $352,112 indirect)

Title: Molecular Properties of β-adrenergic Receptors in Asthma
Agency: NIH R01 HL45967
PI: S. Liggett
Award Period: 01/30/90 – 03/31/96
Total Award: $776,695

Title: Cystic Fibrosis Award
Agency: Caroline Halfter Spahn Trust Genetic Research Fund
PI: S. Liggett
Award Period: 10/01/99-06/30/01
Total Award: $75,000

Title: Adrenergic Receptor Pharmacogenetics
Agency: Orchid BioSciences, Inc.
PI: S. Liggett
Award Period: 02/01/00-01/31/01
Total Award: $187,055 ($136,040 direct, $51,015 indirect)

Title: Component 6: Molecular Biology of Cardiopulmonary Adrenergic Receptors
Agency: NIH P01 HL41496 (Program of Excellence in Mol Biol of Heart and Lung)
PI: S. Liggett (Component 6), J. Lingrel (Program PI)
Award Period: 12/01/95 – 11/30/00
Total Award: Component 6: $930,187 ($633,395 direct, $296,792 indirect)

Title: Mechanisms of α_2-adrenergic Receptor Function
Agency: NIH – R01 HL53436
PI: S. Liggett
Award Period: 08/01/95 – 07/31/00
Total Award: $992,311 ($646,458 direct, $345,853 indirect)

Title: Molecular Properties of Salmeterol
Agency: Glaxo
PI: S. Liggett
Award Period: 04/01/94 – 12/31/95
Total Award: $250,000 ($200,000 direct, $50,000 indirect)

Title: Pharmacologic Properties of Alpha Adrenergic Receptors
Agency: Procter & Gamble
PI: S. Liggett
Award Period: 07/01/92 – 06/30/94
Total Award: $544,161 ($453,468 direct, $90,693 indirect)

Title: Molecular Basis of Adrenergic Receptor Function

Agency: K11 HL002386
PI: S. Liggett
Award Period: 07/01/89 – 06/30/91 (relinquished due to obtaining R01)

Clinical Trials

Name: β_2-adrenergic receptors on resident lung cells pre/post β-agonist
Sponsor: NIH, HL045967
Role: PI

Name: Effects of β_2-adrenergic receptor polymorphisms exercise in human heart failure
Sponsor: NIH, HL52318
Role: Study PI

Name: Association studies of α_2- and β_1-adrenergic receptors in human heart failure
Sponsor: NIH, HL77101
Role: Study PI

Name: Dobutamine responses in heart failure patients with β_1-adrenergic receptor polymorphisms
Sponsor: NIH, HL77101
Role: Co-PI

Name: Beta-blocker Evaluation of Survival Trial (BEST) Genetic Substudy
Sponsor: Veterans Administration and NIH HL48013, HL77101
Role: National Co-PI

Name: Adrenergic receptor genotypes and the response to carvedilol and metoprolol in heart failure
Sponsor: CardioDx (Palo Alto, CA)
Role: Design, analysis, and writing committee

Name: GWAS of asthma in the United Arab Emerits
Sponsor: Motif BioSciences
Role: Co-PI

Name: Complete Genome Sequencing of Human Rhinovirus from respiratory secretions
Sponsor: NIH HL091490
Role: PI

Patents, Inventions and Copyrights

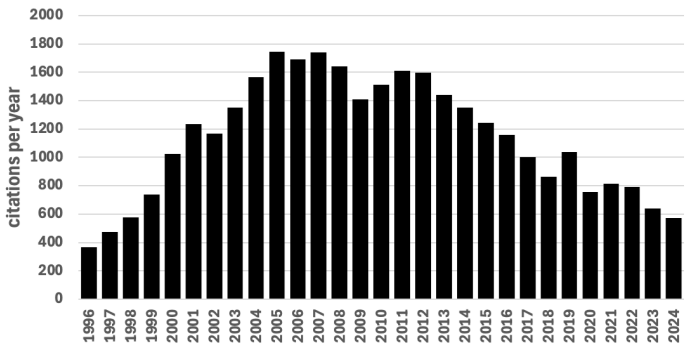
1. Beta Adrenergic Receptor Polymorphisms — issued (US 6,498,009)
2. Association of Beta-2-adrenergic Receptor Haplotypes with Drug Response — issued (US 6,586,183)
3. Variation in Drug Response Related to Polymorphisms in Beta-2-adrenergic Receptor (Ile164) — issued (US 6,797,472)
4. Variation in Drug Response Related to Polymorphisms in the Beta-2-adrenergic receptor (5′ leader cistron) — issued (US 6,861,217)
5. Histamine-N-Methyltransferase Variants Associated with Histaminergic Disease — issued (US 6,316,188)
6. Alpha-2 adrenergic Receptor Polymorphisms — issued (US 7,041,810)
7. Alpha-2A-adrenergic Receptor Polymorphisms — issued (US 7,211,386)
8. Alpha-2B-adrenergic Receptor Polymorphisms — issued (US 7,229,756)
9. Methods for Predicting Relative Efficacy of a Beta Blocker

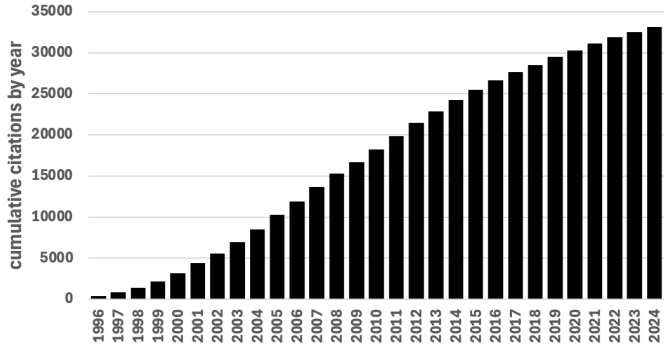
	Therapy Based on β_1-adrenergic Receptor Polymorphism	issued (US 7,449,292)
10.	Alpha-2-adrenergic Receptor Polymorphisms	issued (US 7,572,603)
11.	Heart Failure Assessment Based on Alpha-2C Adrenergic Receptor Polymorphisms	issued (US 7,642,052)
12.	Methods for Treatment with Bucindolol Based on Genetic Targeting	issued (US 7,678,824)
13.	Pharmaceutical and Therapeutic Applications Relating to a Type 9 Adenylyl Cyclase Polymorphism in Asthma and Reversible Bronchial Obstruction	issued (US 8,071,287)
14.	Methods for Treatment with Bucindolol Based on Genetic Targeting	issued (US 8,080,578)
15.	Methods for Treatment with Bucindolol Based on Genetic Targeting	issued (US 8,093,286)
16.	A G-Protein Coupled Receptor Kinase-5 Polymorphism Alters Heart Failure Progression	issued (US 8,530,160)
17.	β_1-adrenergic Receptor Polymorphisms Predict Response to Carvedilol in Heart Failure	submitted, action pending
18.	Polymorphisms and Haplotypes of the α_{2C}-adrenergic Receptor Gene	submitted, action pending
19.	Genetic Variation Within the β_1-adrenergic receptor Gene Results in Haplotype-Specific Expression Phenotypes	submitted, action pending
20.	A Functional Polymorphism of the Gαq (*GNAQ*) Gene is Associated with Accelerated Mortality in African-American Heart Failure	submitted, action pending
21.	Methods for Treatment with Bucindolol Based on Genetic Targeting	issued (US 8,916,603)
22.	Methods of Treating Obstructive Lung Diseases Using Bitter Tastants	issued (US 9,579,315)
23.	Compositions and methods to reduce beta-agonist-mediated tachyphylaxis	issued (US 10,927,375)
24.	Inhibition of beta-arrestin oligomerization in Tauopathy	issued (US 11,896,644)
25.	Inhibition of beta-arrestin1 and beta-arrestin2 oligomerIzation in tauopathy	submitted, action pending
26.	Novel Bronchodilators for Treating Obstructive Lung Disease	submitted, action pending
27.	A biased beta-2 agonist bronchodilator	submitted, action pending
28.	Methods and compositions involving bucindolol for the treatment of heart disease	submitted, action pending

Publications: Impact

Date: February 20, 2025

Google Scholar:
Total citations = 34,545
h-index = 97
i10-index = 243





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275. Leikauf GD, McDowell SA, Simpson LG, Borchers MT, Hardie WD, Korfhagen TR, McGraw D, Liggett SB, Aronow B, Bachruski C, Prows DR. Strategic transgenesis in pulmonary pathogenomics In: Crucial Issues in Inhalation Research-Mechanistic, Clinical, and Epidemiologic, edited by Heinrich U and Mohr U. Fraunhofer IRB Verlag, Stuttgart, 39-55, 2002.

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279. McGraw DW, Liggett SB. G-protein coupled receptors. In: Encyclopedia of Respiratory Medicine. Edited by Laurent GJ and Shapiro SD. Elsevier Ltd., Oxford, 248-251, 2006.

280. Liggett SB, Hall IP. β_2-adrenergic receptor polymorphisms and asthmatic phenotypes. In: Genetics of Asthma and COPD. Edited by Postma DS and Weiss ST. Informa Healthcare, New York/London, 299-316, 2006.

281. Hall IP, Liggett SB. Pharmacogenetics of respiratory disease. In: Pharmacogenetics. Edited by Hall IP and Pirmohamed M. Informa Healthcare, New York, 91-111, 2006.

282. Liggett SB. Adrenergic receptor polymorphisms in heart failure. In: Muscle: Fundamental Biology and Mechanisms of Disease. Edited by Hill JA and Olson EN. Elsevier Ltd., Oxford, 661-672, 2012.

Other Brief Communications

283. Liggett SB. Polymorphisms of the β_2-adrenergic receptor. New England Journal of Medicine 346(7):536-538, 2002.

284. Meisel C, Kopke K, Roots I, Maitland ML, Gomberg-Maitland M, Little J, Gwinn M, Khoury M, Kardia SLR, Levin AM, Liggett SB. Polymorphisms of adrenergic receptors and the risk of heart failure. New England Journal of Medicine 348:468-470, 2003. (Response to NEJM 347:1135-1142, 2002).

Major Invited Presentations (National/International)

1. Universita delgi Studi Conference: Cardiac β-adrenergic Receptors in the Normal and Failing Heart, Siena, Italy, 1990. "Molecular Domains involved with β_1- and β_2-adrenergic Receptor Desensitization."

2. American Society of Anesthesiology 1990 National Meeting, Las Vegas, Nevada. "Molecular Mechanisms of β-adrenergic Receptor Desensitization."

3. American Association of Pathologists National Meeting, Atlanta, Georgia, 1991. "Molecular Biology of α- and β-adrenergic Receptors."

4. Biochemical Society National Meeting, Manchester, UK 1991. "Molecular Determinants for Adrenergic Receptor G-Protein Coupling."

5. American Society for Clinical Investigation 1992 Annual Meeting (Plenary session), Baltimore, Maryland. "Structural Basis for Receptor Subtype Specific Desensitization Revealed by a Chimeric β_3/β_2-adrenergic Receptor."

6. Medical Grand Rounds, University of Pittsburgh, Pittsburgh, PA, 1993. "Acquired and Genetics Defects of the β_2-Adrenergic Receptor in Asthma."

7. American Thoracic Society 1993 National Meeting (Plenary Session), San Francisco, CA. "Mutations of the Gene Encoding the β_2-adrenergic Receptor in Normal and Asthmatic Patients."

8. Medical Grand Rounds, University of Arkansas, 1993. "Mechanism of Acquired and Genetic Dysfunction of the β_2-adrenergic Receptor in Asthma."

9. Research Conference, Department of Medicine, University of Arkansas, 1993. "Molecular Basis of Adrenergic Receptor Desensitization."

10. Medical Grand Rounds, Temple University, 1993, Philadelphia, PA. "Polymorphisms of the β_2-Adrenergic Receptor in Asthma."

11. Research Conference, Department of Pharmacology, Vanderbilt University, Nashville, TN, 1993. "Regulation of α_2-receptor Function."

12. American Thoracic Society, Workshop on Future Directions in Asthma Research, Washington, DC, 1993. "G-protein Coupled Receptors in Asthma."

13. American Thoracic Society 1994 National Meeting, Boston, MA. "Transmembrane Signaling and Intracellular Regulation Mechanisms in the Response to Occupational and Environmental Pollutants".

14. Central Society for Clinical Research 1994 National Meeting, Chicago, IL. "Allelic Variants of the β_2 Adrenergic Receptor in Asthma."

15. American Thoracic Society 1994 National Meeting, Boston, MA. "Molecular Structure/Function Relationships of β-adrenergic Receptors."

16. International Workshop on Recent Advances in the Genetics of Asthma and Allergy, Cannes, France, September 1994. "The Genetics of Polymorphisms of the β_2-adrenergic Receptors in Asthma."

17. Federation of the American Societies for Experimental Biology. Atlanta, GA, 1995 National Meeting. Session Chair for: "Pharmacology, Molecular Biology and Therapeutic Potential of β_3-adrenergic Receptors."

18. Federation of the American Societies for Experimental Biology. Atlanta, GA, 1995 National Meeting. "Summary of Controversies Surrounding the β_3-adrenergic Receptor."

19. American Thoracic Society 1995 National Meeting, Seattle, WA. Session Chair for: "Molecular and Cellular Biology of G Protein Coupled Receptors."

20. American Thoracic Society 1995 National Meeting, Seattle, WA. "Molecular Domains Required for Desensitization of Adrenergic and Other G Protein Coupled Receptors."

21. American Thoracic Society 1995 National Meeting, Seattle WA. Session Chair for: "β-adrenoceptor Dysfunction."

22. Asthma: Theory to Treatment, 1995, Chicago, IL. "Genetic Polymorphisms of the β_2-adrenergic Receptor: Effects on Receptor Function in Recombinant and Smooth Cells and in Clinical Asthma."

23. Federation of American Societies of Experimental Biology Colloquium, 1995, Nashville, TN. "Molecular Basis of α_2-adrenergic Receptor Subtype Regulation by Agonist."

24. $Beta_2$ Agonist in Asthma Treatment, 1995, Seville, Spain. "Molecular Biology of the β_2-adrenergic Receptor: Focus on Interactions of Agonist with Receptor."

25. American Thoracic Society 1996 National Meeting, New Orleans, LA. Session Co-Chairman –"β-agonists and asthma: from molecular biology to patient treatment."

26. American Thoracic Society 1996 National Meeting, New Orleans, LA. "Molecular basis of adrenergic receptor signaling and regulation."

27. American Thoracic Society 1996 National Meeting, New Orleans, LA. "β-receptor dysfunction: cause or effect of asthma."

28. American Thoracic Society 1996 National Meeting, New Orleans, LA. "Molecular biology of the β-adrenergic receptor."

29. 24th Hakone Symposium on Respiration, June 1996, Hakone, Japan. "β_2-adrenergic Receptor Polymorphisms in Asthma."

30. 5th Kinki Chest Club, June 1996, Osaka, Japan. "β_2-adrenergic receptor polymorphisms in Asthma."

31. Hokkaido University Lecture Series, June 1996, Hokkaido University, Sapporo, Japan. "Molecular Biology of Adrenergic Receptors."

32. 5th Meeting of the Asthma Club, Sendai, Japan, September 20-21, 1996. "Genetics of Abnormalities in the β_2-adrenergic Receptor in Asthma."

33. Eighth International Catecholamine Symposium, October 13-16, 1996. "Structural Determinants of α_2-adrenergic Receptor Regulation", Session Chair "α_2-adrenergic Receptors."

34. Astra-Draco Symposium - Asthma - Can We Improve Control?, Brussels, Belgium, October 18-19, 1996. "Structural Determinants of β_2-adrenergic Receptor Regulation."

35. Transatlantic Airway Conference, Key Biscayne, Florida, January 9-10, 1997. "Associations between polymorphisms in the β-adrenergic receptor and asthma."

36. Experimental Biology '97, San Diego, California, March 7-11, 1997. Session Chair - "Polymorphisms/Mutations in Drug Receptor-Effector Signaling."

37. Experimental Biology '97, San Diego, California, March 7-11, 1997. "Polymorphisms of the β_2-adrenergic receptor alter receptor function and regulation."

38. The Philip S. Norman Lecture, American Academy of Allergy, Asthma and Inflammation National Meeting, February 21-26, 1997. San Francisco, CA. "β-adrenergic receptor genes: Do polymorphisms predict response to therapy?"

39. Molecular Pharmacology Gordon Conference, February 9-13, 1997. Ventura, CA. "Polymorphisms in human adrenergic receptors."

40. Workshop on β_2-agonists: Actual view on basal mechanisms and clinical applications, April 18-19, 1997. Marsstrand, Sweden. "Molecular biology of β_2-agonists."

41. University Hospital, April 21-22, 1997. Groningen, The Netherlands. "Regulatory knockouts and GRK localization reveal a molecular basis of lung cell-specific β_2 adrenoceptor tachyphylaxis."

42. University Hospital, April 21-22, 1997. Groningen, The Netherlands. "Mutagenesis of the β_2-adrenoceptor localizes the salmeterol exosite to the fourth transmembrane domain."

43. Rhone-Poulenc Rorer Early Life Influences and Interventions in Asthma, July 9-13, 1997. Elbow Beach, Bermuda. "Pharmacogenetics of Asthma."

44. Institute of Allergy, The Genetics of Asthma Workshop, September 17-19, 1997. Brussels, Belgium. "Pharmacogenetics of Relevant Targets in Asthma."

45. Institute of Allergy, The Genetics of Asthma Workshop, September 17-19, 1997. Brussels, Belgium. Chairperson, Candidate Gene and Molecular Approaches session.

46. Ethno/Pharmacogenetics for Drug Development and Evaluation, September 25-16, 1997. Vancouver, BC, Canada. "β_2-adrenergic Receptor Polymorphisms Alter the Asthmatic Phenotype and the Response to β-agonists."

47. American Heart Association Annual Meeting, November 9-12, 1997, Orlando, Florida. Council on Basic Science. Moderator, "Cardiac β_2-adrenergic Receptors in Transgenic Mice."

48. American Heart Association Annual Meeting, November 9-12, 1997, Orlando, Florida. "Rescue of Ventricular Failure in $G_{\alpha q}$ Transgenic Mice by Overexpression of β-receptors."

49. The Cleveland Clinic Foundation, Department of Molecular Cardiology, February 23-24, 1998, Cleveland, Ohio. "Salvage of Ventricular Function by Overexpressing the β_2-adrenergic Receptor in the G_q Transgenic Mouse."

50. AAAAI Annual Meeting, NHLBI Symposium, Washington, DC. March 15-16, 1998, "β-adrenergic Receptor Variants in Asthma."

51. Pharmacogenomics – Exploiting the Interface between Molecular Pharmacology and Medicinal Chemistry for Drug Development, April 20-22, 1998. Hamilton, Bermuda. "β_2-adrenergic Receptors in Asthma and Heart Disease."

52. American Thoracic Society Annual Meeting, April 25-29, 1998. Chicago, Illinois. Facilitator, Asthma Therapy I.

53. American Thoracic Society Annual Meeting, April 25-29, 1998. Chicago, Illinois. Mini-Symposium – Chairman – Molecular Basis of β_2-Receptor Regulation.

54. American Thoracic Society Annual Meeting, April 25-29, 1998. Chicago, Illinois. Mini-Symposium. "Gene Therapy for Asthma via Expression of β_2-adrenergic-like Receptors."

55. Allen & Hanburys Symposium, April 27, 1998. Chicago, Illinois. "Recent Discovery of the Salmeterol Exosite: Implications for Therapeutic Strategies."

56. American Heart Association Annual Meeting, November 9-11, 1998. Dallas, Texas. Special Session – Genomic Dissection of Cardiovascular Physiology and Disease – "Genetic variation of β_1 and β_2 adrenergic receptors in Heart Failure."

57. Cardiovascular Genomics Conference, January 11-12, 1999. Orlando, Florida. "Polymorphisms in β-adrenergic receptors in congestive heart failure."

58. AAAAI Grand Seminar, February 28, 1999. Orlando, Florida. Seminar Moderator – Genetic Polymorphisms of Therapeutic Targets in Asthma – "Polymorphisms of the β_2-adrenergic receptor alter the asthmatic phenotype and response to therapy."

59. Glaxo-Welcome Workshop on β_2-agonists. Lund, Sweden, April 17-18, 1999. "Regulatory knockouts and GRK localization reveal a molecular basis of lung cell-specific β_2 adrenoceptor tachyphylaxis" and "Mutagenesis of the β_2-adrenoceptor localizes the salmeterol exosite to the fourth transmembrane domain."

60. Asthma '99 – Theory to Treatment. Honolulu, Hawaii. April 30-May 3, 1999. "Genetic Polymorphisms Influencing Treatment" and "β-adrenergic Receptor Dysfunction in Asthma."

61. Asthma – The Important Questions. Port Douglas, Australia, June 3-6, 1999. "Do polymorphisms of β_2-adrenergic receptors matter?"

62. Heart Failure Society of America. San Francisco, CA, Sept 22-25, 1999. "β-receptor Polymorphisms and the Effect on the Natural History of Heart Failure."

63. 41st Spring Meeting of the German Society of Experimental and Clinical Pharmacology and Toxicology. Mainz, Germany, March 21-23, 2000. "β-adrenoceptor polymorphisms and their clinical implications."

64. The 3rd Annual Genaissance Pharmacogenetics Lecture. Pharmacogenetics: The Timing is Now. New Haven, CT, April 25, 2000. "The pharmacogenetics of G-protein coupled receptors."

65. Cardiovascular Research Conference, The Mayo Clinic, Rochester, MN, April 30-May 1, 2000. "β-adrenergic receptor polymorphisms in heart failure."

66. Lilly Research Laboratories. Pharmacogenomics: Applications to Therapeutic Development. Indianapolis, IN, May 4, 2000. "β-adrenergic receptor polymorphisms in heart and lung disease."

67. American Thoracic Society 2000. Toronto, Ontario, Canada, May 9-10, 2000. "D18-chromosome mutations and gene expression in asthma."

68. IBC Genetic Patenting/Pharmacogenomics & SNPs. Newark, NJ, May 31-June 1, 2000. "β-adrenergic SNPs in cardiovascular disease."

69. ASPET/ASBMB Meeting. Boston, MA, June 4-7, 2000. Session Chair: Symposium - Biology of α_2-adrenergic receptors: "Mechanisms of α_2-adrenergic receptor regulation."

70. ASPET/ASBMB Meeting. Boston, MA, June 4-7, 2000. Symposium - Novel concepts in cardiac beta-adrenergic receptor function: "Polymorphism of β_1 and β_2-adrenergic receptors."

71. Merck Research Laboratories. Human Genome Sequence Variation: Implications for Merck Drug Development and Utilization. Whitehouse Station, NJ, June 12-13, 2000. "β-adrenergic receptor polymorphisms in asthma and CHF."

72. International Society of Hypertension. Role of α_2-adrenergic receptors in hypertension. Chicago, IL, August 19-20, 2000. "Polymorphisms of the α_2-adrenergic receptor subtypes."

73. Heart Failure Society of America. Boca Raton, FL, September 10-13, 2000. Symposium - Adrenergic receptors in heart failure: "Polymorphisms in adrenergic receptors: Their role in the development of the heart-failure phenotype."

74. XVIth International Symposium on Medicinal Chemistry. Bologna, Italy, September 18-22, 2000. "Functional consequences of genetic variation in β_1 and β_2 adrenoceptors in the human population."

75. Gordon Research Conference. Ventura, CA, February 11-16, 2001. "Molecular and physiologic consequences of Alpha- and Beta-adrenergic receptor polymorphisms."

76. AMA National Leadership Conference, Washington, DC, March 3-6, 2001. Genetic Medicine: The new frontier. "β-adrenergic Receptor Haplotypes."

77. Merck Annual GPCR Retreat, Cape May, NJ, April 16-18, 2001. "Adrenergic receptor polymorphisms."

78. ASCI/AAP Joint Meeting, Chicago, IL, April 27-29, 2001. "Molecular and physiologic effects of β-adrenergic receptor polymorphisms in heart failure."

79. American Thoracic Society 2001. San Francisco, CA, May 21-24, 2001. "SNPs, CHIPS, and DIPS."

80. American Thoracic Society 2001. San Francisco, CA, May 21-24, 2001. Mini-Symposium "Genetics of Asthma."

81. World Asthma Meeting. Chicago, IL, July 13-15, 2001. "Clinical relevance of β_2-adrenergic receptor polymorphisms."

82. Heart Failure Society of America. Washington, DC, September 9-12, 2001. "Adrenergic receptor-effector complexes as novel gene therapy tools."

83. American Association for the Advancement of Science. Washington, DC, September 25, 2001. Seminar - The Impact of Genomics and Proteomics on Medicine. "Pharmacogenomics and the production of customized drugs."

84. American College of Chest Physicians. Philadelphia, PA, November 5-6, 2001. Chair seminar - Advances in β_2-agonist Therapy: Making a Difference in Acute and Chronic Asthma Treatment. "Future advances in β-agonist therapeutic strategies."

85. American Heart Association Annual Meeting. Anaheim, CA, November 11-14, 2001. "New concepts in genotype-phenotype correlations."

86. 2001 Roland H. Ingram Honorary Lecture at Emory University, Atlanta, GA, November 13, 2001. “Genetic variations of β_2-adrenergic receptor gene: Molecular characterization and clinical implications.”

87. Vanderbilt University, Department of Pharmacology. Nashville, TN, February 19, 2002. “Molecular properties of α_2-adrenergic receptor polymorphisms.”

88. Congress on Beta-Agonists: New Understandings of Non-bronchodilator Actions. Miami, FL, April 19-21, 2002. Session Chair: Beta-adrenergic Signaling, “Mechanisms of functional diversity within members of the G protein-coupled receptor superfamily.”

89. 2nd Annual ASPET G Protein Coupled Receptor Symposium. Rohnert Park, CA, July 12-14, 2002. “Genetic determinants of adrenergic receptor function.”

90. NHLBI Sarcoidosis Working Group 2002. Bethesda, MD, August 22-23, 2002. “Gene-gene interaction in chronic heart disease.”

91. NHLBI Workshop on Genetic Determinants of Response to Drug Therapies for Heart Failure. Bethesda, MD, September 9-10, 2002. “Adrenergic receptor polymorphisms.”

92. Heart Failure Society of America. Boca Raton, FL, September 22-25, 2002. Symposium Moderator: Genomics and Genetics: Part I.

93. Heart Failure Society of America. Boca Raton, FL, September 22-25, 2002. “Synergistic interaction of functional polymorphisms of two adrenergic receptors increases heart failure risk.”

94. NIH/NINDS Hereditary Dysautonomia Conference. Rockville, MD, October 3-4, 2002. “Adrenoceptor polymorphisms affecting autonomic regulation.”

95. Medical University of South Carolina – Student Research Day. Charleston, SC, November 1, 2002. Keynote speaker: “Molecular and pathophysiologic consequences of genetic variation of cardiac adrenergic receptors.”

96. Procter & Gamble Pharmaceuticals – Fourth Joint Scientific Colloquium. Cincinnati, OH, December 2, 2002. “Polymorphisms of signaling genes in heart failure.”

97. NIH Pharmacogenetics Research Network and Knowledge Base Meeting. Memphis, TN, March 3-4, 2003. “Synergistic interaction of β_1- and α_{2C}-adrenergic receptor polymorphisms in congestive heart failure.”

98. AAAAI-2003 Annual Meeting. Denver, CO, March 7, 2003. Genetics Symposium -“Pharmacogenetics of Asthma.”

99. AAAAI-2003 Annual Meeting. Denver, CO, March 8, 2003. “Pharmacogenomics: New Horizons in Therapy.”

100. Receptors and their Signals: A Symposium honoring Dr. Robert Lefkowitz. Durham, NC, April 24-25, 2003. “Polymorphisms of Adrenergic Receptors: Variations on a Theme.”

101. ASCI/AAP Joint Meeting, Chicago, IL, April 25-27, 2003. “Adrenergic Receptor Polymorphisms in Heart Failure.”

102. 39th Karolinska Institutet Nobel Conference. Stockholm, Sweden, June 4-7, 2003. “Polymorphisms of Adrenergic Receptors.”

103. EAACI 2003 Congress. Paris, France, June 7-11, 2003. Plenary Session Lecture, “How do Genes Affect the Response to Drugs?”

104. Heart Failure Society of America. Las Vegas, NV, September 19-23, 2003. Satellite Symposium: “Adrenergic Receptor Polymorphisms in Heart Failure.”

105. Heart Failure Society of America. Las Vegas, NV, September 19-23, 2003. “Alpha and βAR Polymorphisms in Heart Failure Progression.”

106. Cold Spring Harbor/Welcome Trust Conference on Pharmacogenomics. Hinxton, Cambridge, England, September 24-28, 2003. “Complex Interactions of Adrenergic Receptor Polymorphisms Direct Heart Failure Phenotypes and Treatment Response.”

107. Pittsburgh International Lung Conference. Pittsburgh, PA, October 12-15, 2003. “Biochemical Remodeling of Airway Relaxation-Contraction Signaling by Chronic β-agonists.”

108. American Heart Association Annual Meeting. Orlando, FL, November 9-12, 2003. “Adrenergic Receptor Polymorphisms and Cardiac Disease.”

109. Einstein College of Medicine. Bronx, NY, January 13, 2004. “Airway Contraction-Relaxation Remodeling During Chronic β-agonist Use.”

110. Transatlantic Airway Conference. Lucerne, Switzerland, January 21-23, 2004. Symposium on Gene and Drug Therapy of Airway Disease.

111. UCSF Pharmaceutical Sciences and Pharmacogenomics Seminar Series. San Francisco, CA, February 11, 2004. “Pharmacogenetics of Polymorphisms of β_1-adrenergic Receptors in Heart Failure.”

112. Keystone Symposia. Taos, NM, February 17-22, 2004. “Adrenergic Receptor Polymorphisms: Function and Disease Associations.”

113. ASPET/FASEB Meeting. Washington, DC, April 17-21, 2004. “Polymorphisms in alpha and beta-adrenergic receptors: Relationship to outcomes in cardiovascular disease.”

114. Case Western Reserve University - Frontiers in Pharmacology Annual Lecture. Cleveland, OH, May 6, 2004. “Molecular genetics and physiologic consequences of adrenergic receptor polymorphism.”

115. American Thoracic Society 2004. Orlando, FL, May 21-24, 2004. Co-Chair symposium “Functional Consequences of Genetic Polymorphisms in Asthma.”

116. American Thoracic Society 2004. Orlando, FL, May 21-24, 2004. “Regulation of Beta-adrenergic Receptors: Paradigm for G-Protein-Coupled Receptor Signaling.”

117. Heart Failure Society of America. Toronto, Ontario, Canada, September 12-15, 2004. “β_1-adrenergic Receptor Polymorphisms Predict the Clinical Response to Bucindolol in Heart Failure.”

118. 4th Congress on Respiratory Science. Miami, FL, September 17-19, 2004. “Molecular Mechanisms of β_2-adrenergic Receptor Function and Regulation.”

119. Lennox K. Black International Prize for Excellence in Medicine Symposium. Philadelphia, PA, October 14-15, 2004. “Molecular Genetics and Human Cardiac Phenotypes of Adrenergic Receptor Polymorphisms.”

120. American Heart Association/Association of Black Cardiologists 2004 Congress on the Treatment of Cardiovascular Diseases. New Orleans, LA, November 6, 2004. “The Genomics of Heart Failure: Implications for Racial Differences.”

121. University of Chicago/Center for Translational Medicine, Visiting Professor Seminar. Chicago, IL, November 9, 2004. “Biochemical Remodeling of the Airway Smooth Muscle Motor by β_2-adrenergic Receptors.”

122. Cold Spring Harbor Pharmacogenomics Conference. Cold Spring Harbor, NY, November 18-21, 2004. “Multigene Pharmacogenetics of β-agonist Treatment in Asthma.”

123. Johns Hopkins University, Asthma and Allergy Center. Baltimore, MD, December 1, 2004. “Biochemical Remodeling of the Airway Smooth Muscle Motor by β_2-adrenergic Receptors.”

124. University of Maryland School of Medicine, Research Conference. Baltimore, MD, December 1, 2004. "Biochemical Remodeling of the Airway Smooth Muscle Motor by β_2-adrenergic Receptors."

125. Johns Hopkins University, Pulmonary Research Conference. Baltimore, MD, December 2, 2004. "Molecular and Physiologic Consequences of β_2-adrenergic Receptor Polymorphisms in Asthma."

126. National Institutes of Health. Bethesda, MD, December 2, 2004. "Mechanism of Chronic β-Agonist-Promoted Remodeling of the Smooth Muscle Motor."

127. University of Maryland, Baltimore, MD, January 27, 2005. "Genetic, Molecular, and Physiologic Properties of Adrenergic Receptor Polymorphisms in Heart Failure: coalescence of cell, transgenic mouse, and human studies."

128. AAAS Annual Meeting. Washington, DC, February 17-21, 2005. "Genomic Variation and Clinical Response to Adrenergic Blocking Agents."

129. American Thoracic Society 2005. San Diego, CA, May 20-25, 2005. "Beta Agonists: Rescue, Control, and Biochemical Remodeling."

130. American Thoracic Society 2005. San Diego, CA, May 20-25, 2005. "G-Protein Coupled Receptor Crosstalk in Airway Smooth Muscle."

131. 2005 4th Osong International Biosymposium, Seoul, Korea, September 25-30, 2005. "Pharmacogenomics of Beta-adrenergic Receptor Variation in the Failing Heart."

132. American Thoracic Society 2006. San Diego, CA, May 19-24, 2006. "The Functional Consequences of Beta-2 Receptor Polymorphisms."

133. II National Congress of Genomic Medicine, Mexico City, Mexico, October 25-27, 2006. "Genomic Basis of Cardiovascular Disease."

134. American Heart Association, Chicago, IL, November 12-15, 2006. Moderator at Abstract Oral Session "Heart Failure: The Beginning of the Pharmacogenomic Era?"

135. ASPET/FASEB Meeting. Washington, DC, April 28-May 2, 2007. "Genetically-Modified Animal Models for Pharmacogenomics Research."

136. American Thoracic Society 2007. San Francisco, CA, May 18-23, 2007. "Crosstalk Between the Steroid and the Beta Agonist Pathways: Implications for Pharmacogenetics."

137. NHLBI Lung Division Strategic Planning Workshop, Bethesda, MD, June 29-30, 2007. "Integrative Approaches to Pathogenetic Research."

138. NHLBI Lung Microbiome in Pulmonary Disease Workshop – Co-Chair. Bethesda, MD, July 19-20, 2007. "Complete Genomes of Human Rhinovirus and Relevance to Asthma Exacerbations."

139. Heart Failure Society of America. Washington, DC, September 16-19, 2007. "Does Genetic Variation Alter Cardiovascular Function, Heart Failure History, and Therapeutic Response?"

140. University of Pennsylvania Medical Center, Pulmonary Research Grand Rounds, Philadelphia, PA. November 14, 2007. "New Mechanisms of G-protein Coupled Receptor Regulation of Airway Contraction/Relaxation."

141. Merck Research Laboratories, CV Franchise Retreat, Red Bank, NJ, November 26, 2007. "Polymorphisms within GPCR Pathways in Heart Failure Pathology and Pharmacogenomics."

142. Johns Hopkins University Pediatric Pulmonary Research Conference, Baltimore, MD, March 11, 2008. "Unexpected Partners in GPCR Signaling in Airway Contraction/Relaxation Relevant to Asthma."

143. Johns Hopkins University Asthma and Allergy Center, Baltimore, MD, April 2, 2008. "Atypical Signal Switching Modulates Airway Contraction and Relaxation."

144. Children's National Medical Center, Washington, DC, April 11, 2008. "New Insights into Polymorphic Variation of the β_2-adrenergic Receptor and β-agonist Therapy."

145. Howard University School of Medicine, Washington, DC, April 16, 2008. "Pharmacogenomics of Asthma Treatment."

146. University of Cincinnati College of Medicine, Internal Medicine Grand Rounds, Cincinnati, OH, April 23, 2008. "Tailored Therapy for Heart Failure Using Pharmacogenetics."

147. University of Cincinnati College of Medicine, Molecule to the Bedside Seminar, Cincinnati, OH, April 24, 2008. "Mechanisms of β_2-adrenergic Receptor Signaling: Not a Simple Switch."

148. University of Cincinnati College of Medicine, Department of Pharmacology, Cincinnati, OH, April 25, 2008. "The Role of Pharmacogenetics in Personalized Medicine and Drug Development."

149. Center for Translational Medicine 4th Annual Scientific Symposium, Thomas Jefferson University, Philadelphia, PA, June 5, 2008. "Pathway-driven Pharmacogenomics in Heart Failure: mechanisms and application to treatment."

150. Personalized Medicine Lecture Series, George Washington University Medical Center, Washington, DC, June 12, 2008. Panel discussant on Genomics of Cardiovascular Disease: Current Clinical Applications.

151. Agilent Technologies e-Seminar, September 18, 2008. "Alternative Splicing of the G-Protein Coupled Receptor Superfamily in Human Airway Smooth Muscle Diversifies Range of Receptors." PMCID: PMC2278184

152. 2nd Al-Ain International Genetics Conference, Al-Ain, United Arab Emirates, October 28-30, 2008. "Genetic Variation Within the GPCR Superfamily: From Pharmacogenomics to Drug Reprofiling."

153. Cold Spring Harbor Laboratory Pharmacogenomics Meeting – Co-Chair, Cold Spring Harbor, NY, November 19-22, 2008. "Genetic Variation within GPCR Signaling Networks – From Asthma to Heart Failure Pharmacogenomics."

154. Northwestern University Feinberg School of Medicine, Division of Allergy-Immunology, Research Conference, Chicago, IL, January 16, 2009. "New Insights on Viral Evolution, Recombination and Asthma Pathogenesis from Full Genome Sequences of All Known Human Rhinovirus Serotypes."

155. ACP Maryland Chapter Scientific Meeting, Ellicott City, MD, February 6, 2009. "Pharmacogenetics of Beta-Blocker Treatment in Heart Failure: We Are There!"

156. Johns Hopkins University, Cardiology Grand Rounds, Baltimore, MD, April 15, 2009. "Pharmacogenomics within the Adrenergic Network for Treatment of Heart Failure."

157. Johns Hopkins University, Pathology Grand Rounds, Baltimore, MD, May 4, 2009. "Sequencing and Analyses of All Known Human Rhinovirus Genomes Reveals Structure and Evolution."

158. American Thoracic Society 2009. San Diego, CA, May 15-20, 2009. “Full Genome Sequences and Phylogenetics of All Known Rhinovirus Serotypes Reveal New Insights into Airway Pathogenesis.”

159. International Society for Heart Research (ISHR) North American Section Meeting, Baltimore, MD, May 26-29, 2009. “Genetic Variation within the Cardiac Adrenergic Network and Heart Failure Drug-Response.”

160. AHA Basic Cardiovascular Sciences Conference, Las Vegas, NV, July 20-23, 2009. “Polymorphisms of Adrenergic Receptors and Associated Proteins in Heart Failure Pharmacogenomics.”

161. Heart Failure Society of America. Boston, MA, September 13-16, 2009. “Adrenergic Polymorphisms and Beta-Blockade in Heart Failure.”

162. Maryland Insurance Administration Meeting, Baltimore, MD, September 17, 2009. “Personalized Medicine.”

163. 10th Annual 2009 Great Lakes G Protein-Coupled Retreat, Rochester, NY, October 16-18, 2009. “Pharmacogenomics of Cardiovascular Disease.”

164. University of Chicago, Section of Cardiology, Grand Rounds, Chicago, IL, January 22, 2010. “Genetic Determinants of Beta-blocker Responsiveness in Heart Failure.”

165. Scripps Green Hospital, Grand Rounds, La Jolla, CA, March 4, 2010. “Molecular and Genetic Basis of Responsiveness to β-blockers in Heart Failure.”

166. The Future of Genomic Medicine III Conference, La Jolla, CA, March 6, 2010. “Pharmacogenomics of Heart Failure Therapy.”

167. CIPP IX – 9th International Congress on Pediatric Pulmonology, Vienna, Austria, June 19, 2010. “Evolution and Structure of Human Rhinoviruses as Determined from Full Genome Sequences.”

168. University of South Florida College of Medicine, Interdisciplinary Research Program in Cardiovascular Research Seminar Series, November 4, 2010. “Bitter Taste Receptors Expressed on Airway Smooth Muscle Transduce a Super-Localized Calcium Signal that Bronchodilates via BK_{Ca}.”

169. University of South Florida College of Medicine, Molecular Medicine Seminar, November 5, 2010. “Pharmacogenomics of Beta-blocker Therapy in Heart Failure.”

170. Molecular Pharmacology Gordon Research Conference, Ventura, CA, January 12, 2011. “Bitter Taste Receptors on Airway Smooth Muscle Transduce a Superlocalized Ca^{++} Signal to BK_{Ca} that Bronchodilates: A Highly Effective Treatment Strategy for Asthma.”

171. Pharmacogenomics Research Network (PGRN) Meeting, Baltimore, MD, April 27, 2011. Co-moderator of research seminar.

172. International Society for Heart Research, Philadelphia, PA, May 23, 2011. “Use of Founder Population GWAS of Cardiac Traits for Identifying Heart Failure Modifying SNPs.”

173. Drug Discovery 2011 Meeting, Manchester, UK, September 6, 2011. “Bitter Taste Receptors on Airway Smooth Muscle Couple to a Restricted Ca2+ Pool and Agonists are Highly Efficacious Bronchodilators.”

174. GlaxoSmithKline, Stevenage, UK, September 9, 2011. “Bitter Taste Receptors on Airway Smooth Muscle Couple to a Restricted Ca2+ Pool and Agonists are Highly Efficacious Bronchodilators for Asthma.”

175. Loyola University Medical Center, Chicago, IL, "Pharmacology Graduate Students' Distinguished Speaker," October 19, 2011. "Molecular Basis of Bitter Taste Receptors on Airway Smooth Muscle Coupling to Relaxation: A Novel Target for Treating Asthma."

176. World Allergy Congress, Cancun, Mexico, December 5, 2011. "Personalized Medicine – Is There a Future?"

177. World Allergy Congress, Cancun Mexico, December 6, 2011. Chairperson of Symposium: "Neural Mechanisms in Airway Diseases."

178. University of South Florida College of Medicine, Tampa, FL, Health Research Day-Featured Speaker, February 24, 2012. "Personalized Medicine for Asthma: Role of Viral Genomic Variation."

179. AAAAI 2012 Annual Meeting, Orlando, FL, March 2, 2012. "Novel Therapy for Asthma."

180. Harvard School of Public Health, Program in Molecular and Integrative Physiological Sciences Seminar, Boston, MA, May 1, 2012. "Bitter Taste Receptors on Airway Smooth Muscle Relax via Specialized Calcium Signaling: A New Target for Bronchodilators."

181. American Heart Association Scientific Sessions Conference 2012, Los Angeles, CA, November 4, 2012. Moderator at Abstract Oral Session "Pharmacogenomics of Essential Hypertension."

182. Orlando Health Grand Rounds, Orlando, FL, April 4, 2013. "Airway Smooth Muscle Taste Receptors: Targets for Novel Bronchodilators in Asthma."

183. BioFlorida Conference 2013, Tampa, FL, September 16, 2013. "Resurrecting Failed Drugs Using Genomics: The Case of Bucindolol."

184. ACCA 126th Annual Meeting, Charleston, SC, October 18, 2013. "Bitter Taste Receptors in Wrong Place: Novel Airway Smooth Muscle Targets for Treating Asthma."

185. American Heart Association Scientific Sessions Conference 2013, Dallas, TX, November 17, 2013. Speaker Oral Session "Pharmacogenomics: Does the Science Lead to Clinical Practice?"

186. Annual Jacques de Champlain Scientific Symposium, Montreal, Canada, December 2, 2013. "Individualized Pharmacotherapy Aimed at G-protein Coupled Receptors".

187. Cardiology Grand Rounds Conference, University of Iowa, Iowa City, IA, March 5, 2014. "Pharmacogenomics of β-Blockers: From Molecular Biology to Clinical Trials".

188. AAAAI 2016 Annual Meeting, Los Angeles, CA, March 5, 2016. "Bitter Taste Receptors and Bronchodilation."

189. Safety Pharmacology Society Joint Meeting, Vancouver, BC, Canada, September 19, 2016. "Bitter Taste Receptors on Airway Smooth Muscle: New Therapeutic Targets and Evidence for a Previously Unrecognized Chemosensory System."

190. BioFlorida Tampa Bay Chapter 2018, Tampa, FL, August 16, 2018. "USF Health Research and Commercialization."

191. University of Miami School of Medicine, Department of Molecular and Cellular Pharmacology Seminar, Miami, FL, November 15, 2018. "Bitter Taste Receptors on Airway Smooth Muscle: A Novel Target for Obstructive Lung Disease."

192. Florida Gulf Coast University, Provost's Lecture Series, Fort Myers, FL, April 4, 2019. "Genomics and Personalized Medicine."

193. California Institute of Technology, Department of Biology and Biological Engineering, Pasadena, CA, August 19, 2019, "Novel Structure-Function Relationships of Sensory GPCRs."

194. California Institute of Technology, Department of Biology and Biological Engineering, Pasadena, CA, November 1, 2019, "Signal Transduction of Taste and Smell GPCRs Expressed in the 'Wrong Place' "

195. BioFlorida Tampa Bay Chapter 2021, Tampa, FL, April 22, 2021. Keynote Presentation "Translating basic science to applications: A collaborative interdisciplinary model."

196. University of Cincinnati, Division of Cardiovascular Health and Disease Grand Rounds Presentation, Cincinnati, OH, March 21, 2023. "A 1 in 40 hit for the β_2-adrenergicreceptor: the new pharmacology and biology of biased GPCR ligands."

Presentations, Seminars, etc. (internal)

1. Pulmonary Biology Research Seminar, September 9, 1992. "α_2-adrenergic Receptor Structure/Function."

2. Pulmonary Lecture Series, October 12, 1992. "Molecular Biology I."

3. Pulmonary Lecture Series, October 19, 1992. "Molecular Biology II."

4. Pulmonary Lecture Series, October 26, 1992. "Molecular Biology III."

5. Pharmacology Core Curriculum, January 4, 1993. "Adrenergic Receptors."

6. Pharmacology Core Curriculum, January 14, 1993. Adrenergic Receptors."

7. Department of Medicine Grand Rounds, January 30, 1993. "Molecular Mechanisms of Acquired and Genetic Defects in the β_2-adrenergic Receptor in Asthma."

8. Pharmacology Elective, April 9, 1993. "Desensitization of Adrenergic Receptors by Phosphorylation."

9. Family Medicine Review Course, May 5, 1993. "New Directions in Asthma.

10. Department of Medicine Grand Rounds, July 28, 1993. "The New Science for Treating Old Diseases: An Overview of Recent Advances in Molecular Biology."

11. Department of Medicine Fellows Lecture Series, September 9, 1993. "Molecular Genetics I."

12. Department of Medicine Fellows Lecture Series, September 16, 1993. "Molecular Genetics II."

13. Department of Otorhinolaryngology Grand Rounds, December 15, 1993. "β-adrenergic Receptors in Asthma."

14. Department of Medicine Grand Rounds, July 27, 1994. "Autoantibodies to the β_2-adrenergic Receptor in Asthma."

15. Basic and Clinical Science Lecture, September 8, 1994. "Gene Structure – PCR, RT-PCR Mutation Analysis."

16. Anatomy and Cell Biology Lecture, November 10, 1994. "Molecular Domains Responsible for Desensitization of the Presynaptic α_2-adrenergic Autoreceptor."

17. Pulmonary Lecture Series, February 20, 1995. "Asthma and Atopy."

18. Bedside to Bench Lecture, February 23, 1995. "Molecular Basis of Drug Tachyphylaxis."

19. Combined Infectious Diseases/Endocrine Research Conference, December 3, 1996. "Molecular Basis of β_2-adrenergic Receptor Function and Regulation."

20. Department of Medicine Research Conference, January 16, 1997. "β-adrenergic Receptor Mutations in Heart Failure."

21. Cardiology Research Conference, March 3, 1997. "Alterations of β-adrenergic Receptor Signaling in Heart Failure."

22. Department of Medicine Grand Rounds, May 7, 1997. “Molecular Mechanism of Tachyphylaxis to β-agonists: how, when and where?”

23. Pulmonary Lecture Series, March 23, 1998. “$G_{\alpha q}$ Overexpression in Mice.”

24. Department of Medicine Grand Rounds, July 22, 1998. “Creation of Anti-asthma Transgenic Mice and Strategy for Gene Therapy for Asthma.”

25. Pulmonary Lecture Series, November 23, 1998. “Update on β-adrenergic Receptor Polymorphism.”

26. Pulmonary Lecture Series, November 1, 1999. “Cardiopulmonary consequences of β-adrenergic Receptor Polymorphisms.”

27. Molecule to the Bedside Seminar, January 27, 2000. “Polymorphisms in the Gene Pool.”

28. Pulmonary Grand Rounds, October 16, 2000. “SNPs Update.”

29. Department of Medicine Multidisciplinary CPC lecture, February 21, 2001. “Asthma Genetics.”

30. Department of Medicine Grand Rounds, “Special Lecture,” August 1, 2001. “Impact of Genomic Variation on the Future Practice of Medicine.”

31. Department of Medicine Research Conference, August 16, 2001. “SNPs, DIPs and CHIPs.”

32. HHMI Excel Program, June 21, 2002. “Receptor Polymorphisms and Response to Disease and Therapy.”

33. Genomics Symposium, April 4, 2002. “Genomics as Applied to Asthma.”

34. Pulmonary Grand Rounds, February 10, 2003. “β_2-adrenergic receptors.”

35. Internal Medicine Grand Rounds, July 23, 2003. “Mechanisms Underlying Adverse Effects of Chronic β-agonists in Asthma.”

36. CMGCC Scientific Symposium, December 12, 2003. “Adrenergic Receptor Polymorphisms Predict Risk and Response to Therapy in Heart Failure.”

37. Pulmonary Grand Rounds, February 2, 2004. “Polymorphic β_1-adrenergic Receptors in Heart Failure: From Transgenic Mice to the Bedside.”

38. Cardiology Grand Rounds, October 27, 2005. “The Adrenergic Axis in Heart Failure: New Insights into Genetic Variability and Treatment Based on Genomics.”

39. Department of Medicine, Medical Grand Rounds, October 4, 2006. “The Pharmacogenetics of Heart Failure Treatment.”

40. School of Medicine, Third Annual Symposium on Translational Research in Molecular Pathology, October 29, 2007. “Pharmacogenomics of Heart Failure: Time for Personalized Medicine Based on Individual Genomes.”

41. Interdepartmental Cardiovascular Research Forum, December 3, 2007. “Role of Gi in Gs/Gq Signaling in Airway Smooth Muscle Contraction and Relaxation.”

42. Interdepartmental Cardiovascular Research Forum, June 8, 2009. “Diversity of Human Rhinoviruses from Full Genome Sequences: Implications for Smooth Muscle Pathology in Asthma.”

43. School of Medicine, Department of Microbiology and Immunology Seminar Series, September 2, 2009. “Structure, Phylogeny, and Evolution of All Known Human Rhinovirus Subtypes.”

44. School of Medicine, Medical Family Day, November 5, 2009. “The Genetic Codes for All Known Rhinoviruses: The Beginning, or the End, of the Common Cold?”

45. Department of Medicine, Medical Grand Rounds, January 6, 2010. “Genome Sequences of Rhinovirus Serotypes: A New Strategy for Asthma Treatment.”

46. Second Translational Technologies and Resources Symposium, University of Maryland Institute for Clinical and Translational Science, September 21, 2010. “Bitter Taste Receptors Expressed on Airway Smooth Muscle Transduce a Localized Ca++ Flux that Bronchodilates: A Highly Effective New Treatment Strategy for Asthma.”

47. Membrane Biology Professor’s Rounds, October 29, 2010. “Bitter Taste Receptors on Airway Smooth Muscle.”

48. USF College of Public Health Global Health Seminar Series, January 29, 2013. “TAS2Rs as Targets for Novel Therapeutics for Asthma.”

49. USF Health in The Villages, Tomorrow’s Health Today Lecture Series, February 12, 2013. “Tailoring Drug Treatment Based on Your Genetic Makeup: The future is NOW.”

50. USF Morsani College of Medicine Division of Pulmonary, Critical Care and Sleep Medicine Research Conference, March 26, 2013. “Development of novel treatments for severe asthma.”

51. USF College of Pharmacy, Lecture Series, May 6, 2013. “Bitter Taste Receptor Agonists as Novel Treatment for Obstructive Lung Disease.”

52. USF Morsani College of Medicine Department of Cardiology Genetics of Channelopathies and Cardiomyopathies Course, December 5, 2013. “Genetic Variants that Control and Predict the Response to Beta-Blockers in Heart Failure.”

53. USF Health & ACLI Medical Section Annual Meeting, February 25, 2014. “Where is genetic testing going?”

54. USF Morsani College of Medicine Department of Molecular Medicine Work in Progress Seminar, April 30, 2014. “Taste Receptors on Airway Smooth Muscle.”

55. USF Morsani College of Medicine Department of Molecular Pharmacology and Physiology Research Forum, June 2, 2014. “Airway smooth muscle taste receptors for treating obstructive lung disease."

56. USF Institute for Advanced Discovery & Innovation Institute Faculty Retreat, May 3, 2016. “Resurrecting Failed Drugs Using Genomics: The Case of Bucindolol.”

57. USF Morsani College of Medicine Department of Cardiovascular Sciences Grand Rounds, May 10, 2016. “Genetic Targeting of β-blockers in Heart Failure.”

58. USF Morsani College of Medicine Department of Cardiovascular Sciences, Cardiovascular regulation course (GMS6410), October 26, 2017, “Bases of GPCR function and regulation part 1.”

59. USF Morsani College of Medicine Department of Cardiovascular Sciences, Cardiovascular regulation course (GMS6410), October 28, 2017, “Bases of GPCR function and regulation part 2.”

60. USF Morsani College of Medicine Seminar: Innovation Entrepreneurship and Business in Medicine, Guest Speaker. March 13, 2018.

61. USF Morsani College of Medicine, Department of Internal Medicine, Internal Medicine Grand Rounds Invited Speaker, March 22, 2018. “Bitter Taste Receptor Agonists for the Treatment of Asthma: from bench to bedside.”

62. USF College of Arts and Sciences, Department of Cell Biology, Microbiology and Molecular Biology Seminar, November 30, 2018, “New Signaling Paradigms for Peripheral Expression of GPCRs for Taste and Smell.”

63. USF Morsani College of Medicine, December 1, 2022 “Academic Research-Intense Medical College as an Environment for Clinically Relevant Discovery: Alzheimer’s Disease”.

64. USF Morsani College of Medicine, December 2, 2024. ““Physician Scientists and the Pharma Valley of Death”.