

CURRICULUM VITAE

Steven M. Dudek, MD

Dean E. Schraufnagel Professor of Medicine
Division of Pulmonary, Critical Care, Sleep and Allergy
Department of Medicine
College of Medicine

Professor of Pharmacology
Department of Pharmacology and Regenerative Medicine
College of Medicine

Chief, Division of Pulmonary, Critical Care, Sleep and Allergy

University of Illinois Chicago
Chicago, IL

Updated: February 2026

SUMMARY OF PROFESSIONAL TRAINING AND ACTIVITIES

Dr. Dudek is the Dean E. Schraufnagel Professor of Medicine and Pharmacology and Chief of the Division of Pulmonary, Critical Care, Sleep and Allergy in the Department of Medicine at the University of Illinois Chicago (UIC). He received his MD degree from Washington University School of Medicine and participated in the Four Schools Physician-Scientist Program (Washington University, Duke, UPenn, Johns Hopkins). He subsequently completed a residency in Internal Medicine followed by fellowship training in Pulmonary and Critical Care Medicine at Johns Hopkins Hospital. During his fellowship, he pursued research training under the mentorship of Dr. Joe G.N. “Skip” Garcia, an internationally recognized expert in lung vascular biology and mechanistic and translational studies of the Acute Respiratory Distress Syndrome (ARDS).

Dr. Dudek is a clinically active critical care physician with extensive ICU experience caring for patients afflicted with critical illness. He has received awards for outstanding patient care from the University of Illinois Health system (UI Health). He is a research-intensive, physician-scientist and an established leader in the fields of ARDS and pulmonary vascular biology. He has published extensively in these areas (~150 publications) and has been funded continuously by the NIH for over 20 years. He has served on the editorial boards of several leading research journals and multiple scientific review committees, including as a permanent member of the Respiratory Integrative Biology and Translational Research [RIBT] Study Section for the National Heart, Lung, and Blood Institute of the NIH.

He has substantial leadership experience in multiple academic and professional society roles. A former medical ICU director, Dr. Dudek has been Chief of the Division of Pulmonary, Critical Care, Sleep and Allergy at UIC since 2013. Under his leadership, the Division has grown into one of the largest in the Department of Medicine, now consisting of approximately 75 faculty, advanced practice providers, fellow trainees, and staff. Clinical activity and patient volumes have increased substantially during his tenure over a wide range of clinical services, including substantial expansion of interventional pulmonology, allergy, and sleep medicine services. Two new fellowship training programs have been added, and Division research activities have more than doubled in terms of annual funding. He is dedicated to faculty development and serves as co-Chair for the Tenure Faculty Advisory Committee of the Department of Medicine, which serves to assess faculty progress and provide guidance in career progression along the tenure track process. External to UIC, Dr. Dudek has served in multiple leadership roles for the American Thoracic Society (ATS), which is the leading international professional society for his specialty. These include serving as the elected President of the ATS Association of Pulmonary, Critical Care, and Sleep Division Directors, Chair of the Pulmonary Circulation Assembly Planning Committee, voting member of the ATS Finance Committee, and other roles. As recognition of his standing in the field and service to the society, the ATS conferred upon him the distinction of American Thoracic Society Fellow (ATSF). He also recently served as President of the Central Society for Clinical and Translational Research (CSCTR), a multi-disciplinary society promoting clinically-relevant research endeavors across the spectrum of Internal Medicine specialties.

Dr. Dudek is an effective educator who emphasizes training the next generation of clinicians and researchers. He has received multiple teaching awards, including being recognized as Teaching Attending of the Year three times by the UIC pulmonary and critical care fellows. As noted above, two new fellowship programs have been added during his tenure as Division Chief (Sleep Medicine, Interventional Pulmonology). He has personally mentored multiple early-stage investigators on T32 and other training grants and served as primary mentor for several trainees earning NIH and other career development awards. He currently serves as the lead Principal Investigator for the Division’s T32 Postdoctoral Research Training in Lung Injury and Inflammation funded by the NHLBI, as well as one of the PIs for the Department of Medicine’s NIH-funded R38 program for research training of Internal Medicine residents.

DEMOGRAPHIC INFORMATION

Current Appointments

Dean E. Schraufnagel Professor of Medicine and Pharmacology (tenured)
Chief, Division of Pulmonary, Critical Care, Sleep and Allergy
Department of Medicine
College of Medicine
The University of Illinois Chicago

Contact Information

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Education and Training

<u>Degrees/Year</u>	<u>Institution</u>	<u>Discipline</u>
B.A./1986-1990	Johns Hopkins University Baltimore, Maryland	Behavioral Biology
M.D./1990-1995	Washington University St. Louis, Missouri	Medicine
Internship/1995-1996	Johns Hopkins Hospital Baltimore, Maryland	Internal Medicine
Residency/1996-1998	Johns Hopkins Hospital Baltimore, Maryland	Internal Medicine
Fellowship/1998-2002	Johns Hopkins Hospital Baltimore Maryland	Pulmonary & Critical Care Medicine

Professional Experience

Instructor of Medicine	Johns Hopkins University	7/1/02--6/30/05
Assist. Professor of Medicine	University of Chicago	7/1/05--2/28/10

Associate Professor of Medicine (with tenure)	University of Illinois, Chicago	3/1/10--8/15/2017
Professor of Medicine (with tenure)	University of Illinois, Chicago	8/16/17--present
Medical ICU co-director	University of Illinois, Chicago	3/1/12--6/30/13
Chief, Division of Pulmonary, Critical Care, Sleep and Allergy	University of Illinois, Chicago	7/1/13--present
Dean E. Schraufnagel Professor of Medicine (endowed)	University of Illinois, Chicago	8/17/23--present

CLINICAL ACTIVITIES

Certification

1998-2006	Medical License, State of Maryland
2005-present	Medical License, State of Illinois
1998-present	ABIM certified in Internal Medicine
2002-present	ABIM certified in Pulmonary Medicine
2004-present	ABIM certified in Critical Care Medicine

Clinical Service Responsibilities

2002-present	Attending physician in MICU 1-2 mo/year
2002-present	Weekly pulmonary medicine outpatient clinic
2005-10	Attending physician Univ. of Chicago procedural service 1-2 mo/year
2012-13	MICU co-director, University of Illinois Hospital

ORGANIZATIONAL ACTIVITIES

Professional Societies

2000-present	American Thoracic Society (ATS) member
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2002-present	American College of Chest Physicians (ACCP) member
2006-present	Central Society for Clinical and Translational Research (CSCTR) member
2011-present	Pulmonary Vascular Research Institute (PVRI) member
2014-present	American Physiological Society (APS) member
2021-present	American Heart Association (AHA)

Conference Organizer, Session Chair

2003	Moderator for “Pulmonary Hypertension” poster session at ACCP Annual Meeting
2004	Moderator for “Critical Care Outcomes” poster session at ACCP Annual Meeting
2004-5	Program Planning Committee, Maryland Thoracic Society annual meeting
2008	Lead Facilitator for “Lung Vascular Endothelial Function, Lung Injury, and Pulmonary Edema” poster session at ATS Annual Meeting
2008-12	Program Committee, Pulmonary Circulation Assembly, American Thoracic Society annual meeting
2008-9	Program Committee, Allergy, Immunology and Inflammation Assembly, American Thoracic Society annual meeting
2009	Co-chair for “Paths to Lung Injury and Repair” poster discussion session at ATS annual meeting
2009	Conference co-chair for NIH Expert Panel Workshop on Toxic Industrial Chemicals (Pesticides and Pulmonary Edemagenic Chemicals)
2010	Co-chair for “Mechanisms of Acute Lung Injury: Role of Endothelium” mini-symposium at ATS annual meeting
2011	Co-chair for “Regulators of the Lung Endothelial Barrier” poster discussion session at ATS annual meeting
2012	Lead Facilitator for “Pulmonary Barriers to Edema Formation” thematic poster session at ATS Annual Meeting
2013	Lead Facilitator for “Case Reports: Pulmonary Circulation” thematic poster session at ATS Annual Meeting
2013	Co-chair for “Pulmonary Endothelial Cell Proliferation, Injury and Repair” poster discussion session at ATS annual meeting

2014	Facilitator for “Inflammation and Vascular Permeability” thematic poster session at ATS annual meeting
2015	Co-chair for “Barrier Dynamics in the Pulmonary Circulation” poster discussion session at ATS annual meeting
2013-present	Member, Planning Committee, Pulmonary Circulation Assembly, American Thoracic Society
2015-17	Chair, Planning Committee, Pulmonary Circulation Assembly, American Thoracic Society
2016	Co-chair for “The Ties That Bind: Basic Studies in ALI and Barrier Function” poster discussion session at ATS annual meeting
2017	Chair, “Embracing the heterogeneity of lung injury: a bedside to bench to bedside perspective” symposium for Experimental Biology annual meeting
2019	Facilitator for “Pedal to the Metal: New Insights into Endothelial Responses to Lung Injury” thematic poster session at ATS annual meeting
2023-present	Leader, Cardiovascular and Pulmonary Strategic Research Initiative, UIC College of Medicine (appointed by the Executive Dean)

Advisory Committees, Review

2004	Scientific grant reviewer for American Lung Association of Maryland
2005	Scientific grant reviewer for the Cardiovascular Medical Research & Education Fund, Pulmonary Hypertension study section, American Heart Association
2006	Ad hoc scientific grant reviewer for The Netherlands Organisation for Health Research and Development
2007	Ad hoc scientific grant reviewer for the Austrian Science Fund (FWF)
2008	Abstract grader/reviewer for Sepsis session, ACCP Annual Meeting
2009	Ad hoc scientific reviewer for University of Chicago Institute for Translational Medicine internal grant awards
2009	Member, NIH National Heart, Lung, and Blood Institute (NHLBI) Special Emphasis Panel: Endothelial Barrier Protection and Repair in Acute Lung Injury
2005-09	Member, Fellowship Selection Committee, Section of Pulmonary & Critical Care Medicine, University of Chicago

2010-present	Member (Co-chair beginning 2013), Junior Faculty Development Committee, Department of Medicine, University of Illinois, Chicago
2010-14	Member, Education Committee, American Thoracic Society
2012	Scientific grant reviewer for American Heart Association, Lung Group 1 study section
2012-14	Member, Cardiology Chief Search Committee, Department of Medicine, University of Illinois, Chicago
2012-13	Chair, Pulmonary Chief Search Committee, Department of Pediatrics, University of Illinois, Chicago
2013-14	Member, Planning and Evaluation Committee, American Thoracic Society
2013-15	Medical Staff Executive Committee, University of Illinois Hospital and Health Sciences System, Elected Alternate Delegate
2014-16	Co-Chair, Endocrinology Chief Search Committee, Department of Medicine, University of Illinois, Chicago
2014-18 2023-24 2025-26	College of Medicine Executive Committee, University of Illinois, Elected Member
2014-18 2023-24 2025-26	Chicago campus Executive Committee, College of Medicine, University of Illinois, Elected Member
2013-present	Pulmonary Circulation Assembly Planning Committee, American Thoracic Society (Chair 2015-17)
2015-present	Executive Committee, Association of Pulmonary, Critical Care, and Sleep Division Directors, American Thoracic Society
2016-17	Member, NIH National Heart, Lung, and Blood Institute (NHLBI) Special Emphasis Panel: Translational Programs in Lung Diseases
2017-21 2024-25 2025-28	Elected Councilor, Central Society for Clinical and Translational Research (CSCTR)
2017-18	Ad hoc reviewer for Respiratory Integrative Biology and Translational Research [RIBT] Study Section, NHLBI
2018	Ad hoc reviewer for R35 Emerging Investigator Award and Outstanding Investigator Award Study Sections, NHLBI
2018-19	Pulmonary Circulation Assembly Nominating Committee, American Thoracic Society

2019	Ad hoc reviewer for R35 Emerging Investigator Award Study Section, NHLBI
2021-22	President, Central Society for Clinical and Translational Research (CSCTR)
2021-22	President, Association of Pulmonary, Critical Care, and Sleep Division Directors, American Thoracic Society
2019-23	Member, Respiratory Integrative Biology and Translational Research [RIBT] Study Section, NHLBI
2024	Ad hoc reviewer for NIGMS COBRE (Centers of Biomedical Research Excellence) Phase 1 applications
2024-26	Member, Finance Committee, American Thoracic Society

RECOGNITION

Honors and Awards

1990	Phi Beta Kappa, Johns Hopkins University
1991	Summer Research Fellowship, Washington University
1994	Young Investigator Travel Award for presentation at AAP/ASCI/AFCR Annual Meeting
1999, 2000	Young Investigator Travel Award for presentation at CSCR Annual Meeting
2001	Trainee Travel Award for ASCI/AAP Annual Meeting
2002	Sponsored Attendee to ACCP Leadership Development in Pulmonary and Critical Medicine Program
1993-2002	Four Schools Physician-Scientist Program
2003-2007	National Institutes of Health Loan Repayment Grant
2007	CSCR Annual Meeting Physician Scientist Award
2011	Teaching Attending of the Year, Univ. of Illinois at Chicago, Section of Pulmonary, Critical Care, Sleep, and Allergy
2012	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2013	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff

2015	Teaching Attending of the Year, Univ. of Illinois at Chicago, Division of Pulmonary, Critical Care, Sleep, and Allergy
2016	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2016	University of Illinois Health System (UI Health) CARE Award for outstanding patient care
2015-26	Castle Connolly Regional Top Doctor
2020	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2020	Teaching Attending of the Year, Univ. of Illinois Chicago, Division of Pulmonary, Critical Care, Sleep, and Allergy
2021	Richard J. Weber, MD A.C.E (Altruism, Compassion, Excellence) Award
2022	Endowed Dean E. Schraufnagel Professor of Medicine, Univ. of Illinois Chicago
2023	American Thoracic Society Fellow
2023-25	UI Health “Top Box Doc” multiple quarterly awards per patient feedback surveys

RESEARCH ACTIVITIES

Original Peer Reviewed Publications

1. Lee C, Sensibar JA, **Dudek SM**, Hiipakka RA, Liao ST. Prostatic ductal system in rats: regional variation in morphological and functional activities. *Biol of Reproduction*, 43:1079-1086, 1990.
2. Sensibar JA, Griswold MD, Sylvester SR, Buttyan R, Bardin CW, Cheng CY, **Dudek S**, Lee C. Prostatic ductal systems in rats: regional variation in localization of an androgen-repressed gene product, sulfated glycoprotein-2. *Endocrinology*, 128:2091-2102, 1991.
3. **Dudek SM**, Semenkovich CF. Essential amino acids regulate fatty acid synthase expression through an uncharged transfer RNA-dependent mechanism. *J Biol Chem*, 270:29323-29, 1995.
4. Birukov KG, Csontos C, Marzilli L, **Dudek S**, Ma SF, Bresnick AR, Verin AD, Cotter RJ, Garcia JGN. Differential regulation of alternatively spliced endothelial cell myosin light chain kinase isoforms by p60^{src}. *J Biol Chem*, 276:8567-73, 2001.
5. Birukov KG, Birukova AA, **Dudek SM**, Verin AD, Crow MT, Zhan X, DePaola N, Garcia JGN. Shear stress-mediated cytoskeletal remodeling and cortactin translocation in pulmonary endothelial cells. *Am J Respir Cell Mol Biol*, 26:453-64, 2002.

6. **Dudek SM**, Birukov KG, Zhan X, Garcia JGN. Novel interaction of cortactin with endothelial cell myosin light chain kinase. *Biochem Biophys Res Com*, 298:511-519, 2002.
7. Jacobson JR, **Dudek SM**, Birukov KG, Ye SQ, Grigoryev DN, Girgis RE, Garcia JG. Cytoskeletal activation and altered gene expression in endothelial barrier regulation by simvastatin. *Am J Respir Cell Mol Biol*, 30:662-70, 2004.
8. **Dudek SM**, Jacobson JR, Chiang ET, Birukov KG, Wang P, Zhan X, Garcia JGN. Pulmonary endothelial cell barrier enhancement by sphingosine 1-phosphate: Roles for cortactin and myosin light chain kinase. *J Biol Chem*, 279:24692-700, 2004.
(over 250 citations to date)
9. Li Y, Uruno T, Haudenschild C, **Dudek SM**, Garcia JGN, Zhan X. Interaction of cortactin and Arp2/3 complex is required for sphingosine-1-phosphate induced endothelial cell remodeling. *Exp Cell Res*, 298:107-21, 2004.
10. Clayburgh DR, Rosen S, Witkowski ED, Wang F, Blair S, **Dudek S**, Garcia JGN, Alverdy JC, Turner JR. A differentiation-dependent splice variant of myosin light chain kinase, MLCK1, regulates epithelial tight junction permeability. *J Biol Chem*, 279:55506-13, 2004.
11. Wadgaonkar R, **Dudek SM**, Zaiman AL, Linz-McGillem L, Verin AD, Nurmukhambetova S, Romer LH, Garcia JGN. Intracellular interaction of myosin light chain kinase with macrophage migration inhibitory factor (MIF) in endothelium. *J Cell Biochem*, 95:849-58, 2005.
12. Finigan JH, **Dudek SM**, Singleton PA, Chiang ET, Jacobson JR, Camp SM, Ye SQ, Garcia JGN. Activated protein C mediates novel lung endothelial barrier enhancement: role of sphingosine 1-phosphate receptor transactivation. *J Biol Chem*, 280:17286-93, 2005. (over 400 citations to date)
13. Singleton PA, **Dudek SM**, Chiang ET, Garcia JGN. Regulation of sphingosine 1-phosphate-induced endothelial cytoskeletal rearrangement and barrier enhancement by S1P₁ receptor, PI3 kinase, Tiam1/Rac1 and α -Actinin. *FASEB J*, 19:1646-56, 2005.
14. Jacobson JR, **Dudek SM**, Singleton PA, Kolosova IA, Verin AD, Garcia JGN. Endothelial cell barrier enhancement by ATP is mediated by the small GTPase Rac and Cortactin. *Am J Physiol Lung Cell Mol Physiol*, 291(2):L289-95, 2006.
15. Singleton PA, **Dudek SM**, Ma SF, Garcia JGN. Transactivation of sphingosine-1-phosphate receptors is essential for vascular barrier regulation: Novel role for hyaluronan and CD44 receptor family. *J Biol Chem*, 281(45):34381-93, 2006.
16. **Dudek SM**, Camp SM, Chiang ET, Singleton PA, Usatyuk PV, Zhao Y, Natarajan V, Garcia JGN. Pulmonary endothelial cell barrier enhancement by FTY720 does not require the S1P₁ receptor. *Cell Signalling*, 19:1754-64, 2007.

17. Nonas SA, Moreno Vinasco L, Ma SF, Jacobson JR, Desai AA, **Dudek S**, Flores C, Hassoun PM, Sam L, Ye SQ, Moitra J, Barnard J, Grigoryev DN, Lussier YA, Garcia JG. Use of consomic rats for genomic insights into ventilator-associated lung injury. *Am J Physiol Lung Cell Mol Physiol*, 293(2):L292-302, 2007.
18. Usatyuk PV, Romer LH, He D, Parinandi NL, Kleinberg ME, Zhan S, Jacobson JR, **Dudek SM**, Pendyala S, Garcia JG, Natarajan V. Regulation of hyperoxia-induced NADPH oxidase activation in human lung endothelial cells by the actin cytoskeleton and cortactin. *J Biol Chem*, 282 (32): 23284-95, 2007.
19. Arce FT, Whitlock JL, Birukova AA, Birukov KG, Arnsdorf MF, Lal R, Garcia JGN, **Dudek SM**. Regulation of the micromechanical properties of pulmonary endothelium by S1P and thrombin: role of cortactin. *Biophys J*, 95(2):886-94, 2008.
20. Hong SB, Huang Y, Moreno-Vinasco L, Sammani S, Moitra J, Barnard JW, Ma SF, Mirzapoiazova T, Evenoski C, Reeves RR, **Dudek SM**, Jacobson JJ, Chiang ET, Lang GD, Husain AN, Ye SQ, Lussier YA, Garcia JGN. Essential role of pre-B-cell colony enhancing factor in ventilator-induced lung injury. *Am J Resp Crit Care Med*, 178(6):605-17, 2008.
21. Ma SF, Flores C, **Dudek SM**, Nicolae DL, Ober C, Garcia JGN. A common cortactin gene variation confers differential susceptibility to severe asthma. *Genetic Epidemiology*, 32:757-66, 2008.
22. Birukova AA, Arce FT, Moldobaeva N, **Dudek SM**, Garcia JGN, Lal R, Birukov KG. Endothelial permeability is controlled by spatially defined cytoskeletal mechanics: AFM force mapping of pulmonary endothelial monolayer. *Nanomedicine*, 5(1):30-41, 2009.
23. Chiang ET, Camp SM, **Dudek SM**, Brown ME, Usatyuk PV, Zaborina O, Alverdy JC, Garcia JGN. Protective effects of high-molecular weight polyethylene glycol (PEG) in human lung endothelial cell barrier regulation: role of actin cytoskeletal rearrangement. *Microvascular Res*, 77(2):174-86, 2009.
24. Sun X, Shikata Y, Wang L, Ohmori K, Watanabe N, Wada J, Shikata K, Birukov KG, Makino H, Jacobson JR, **Dudek SM**, Garcia JGN. Enhanced interaction between focal adhesion and adherens junction proteins: involvement in sphingosine 1-phosphate-induced endothelial barrier enhancement. *Microvascular Res*, 77(3):304-13, 2009.
25. Berdyshev EV, Gorshkova I, Skobeleva A, Bittman R, Lu X, **Dudek SM**, Mirzapoiazova T, Garcia JGN, Natarajan V. FTY720 inhibits ceramide synthases and upregulates dihydrosphingosine-1-phosphate formation in human lung endothelial cells. *J Biol Chem*, 284(9):5467-77, 2009.
26. Munoz NM, Meliton AY, Meliton LN, **Dudek SM**, Leff AR. Secretory group V phospholipase A₂ regulates acute lung injury and neutrophilic inflammation caused by LPS in mice. *Am J Physiol Lung Cell Mol Physiol*, 296(6):L879-87, 2009.
27. Zhao J, Camp SM, Chiang ET, Schilling AB, **Dudek SM**, Garcia JGN. Identification of novel *in vitro* protein kinase A phosphorylation sites on recombinant non-muscle myosin

- light chain kinase: nano-LC/MS/MS mass spectrometry methodology. *J Organ Dysfunction*, 5:242-53, 2009.
28. Camp SM, Bittman R, Chiang ET, Moreno-Vinasco L, Mirzapioazova T, Sammani S, Lu X, Sun C, Harbeck M, Roe M, Natarajan V, Garcia JG, **Dudek SM**. Synthetic analogues of FTY720 differentially regulate pulmonary vascular permeability in vivo and in vitro. *J Pharmacol Exp Ther*, 331(1):54-64, 2009.
 29. Zhao J, Singleton PA, Brown ME, **Dudek SM**, Garcia JGN. Phosphotyrosine protein dynamics in cell membrane rafts of sphingosine-1-phosphate-stimulated human endothelium: Role in barrier enhancement. *Cell Signalling*, 21:1945-60, 2009.
 30. Sammani S, Moreno-Vinasco L, Mirzapioazova T, Singleton PA, Chiang ET, Evenoski CL, Wang T, Mathew B, Husain A, Moitra J, Sun X, Nunez L, Jacobson JR, **Dudek SM**, Natarajan V, Garcia JGN. Differential effects of S1P receptors on airway and vascular barrier function in the murine lung. *Am J Respir Cell Mol Biol*, 43:394-402, 2010.
 31. Brown M, Adyshev D, Bindokas V, Moitra J, Garcia JGN, **Dudek SM**. Quantitative distribution and colocalization of non-muscle myosin light chain kinase isoforms and cortactin in human lung endothelium. *Microvascular Res*, 80(1):75-88, 2010.
 32. Meliton AY, Munoz NM, Meliton LN, Binder D, Osan CM, Zhu X, **Dudek SM**, Leff AR. Cytosolic group IVa phospholipase A2 mediates IL-8/CXCL8-induced transmigration of human polymorphonuclear leukocytes in vitro. *J Inflammation*, 7:14, 2010.
 33. **Dudek SM**, Chiang ET, Camp SM, Guo Y, Zhao J, Brown ME, Singleton PA, Wang L, Desai A, Arce FT, Lal R, Van Eyk JE, Imam SZ, Garcia JGN. Abl tyrosine kinase phosphorylates non-muscle myosin light chain kinase to regulate endothelial barrier function. *Mol Biol Cell*, 21:4042-56, 2010.
 34. Mirzapioazova T, Moitra J, Moreno-Vinasco L, Sammani S, Turner JR, Chiang ET, Evenoski C, Wang T, Singleton PA, Huang Y, Lussier YA, Watterson MD, **Dudek SM**, Garcia JGN. The non muscle myosin light chain kinase isoform is a viable molecular target in acute inflammatory lung injury. *Am J Respir Cell Mol Biol*, 44(1):40-52, 2011.
 35. **Dudek SM**, Muñoz NM, Desai A, Osan CM, Meliton AY, Leff AR. Group V phospholipase A₂ mediates barrier disruption of human pulmonary endothelial cells caused by LPS in vitro. *Am J Respir Cell Mol Biol*, 44(3):361-8, 2011.
 36. Mathew B, Huang Y, Jacobson JR, Berdyshev E, Gerhold LM, Wang T, Moreno-Vinasco L, Lang G, Zhao Y, Chen C, LaRiviere P, Mauceri H, Sammani S, Husain AN, **Dudek SM**, Natarajan V, Lussier YA, Weichselbaum RR, Garcia JGN. Simvastatin attenuates radiation-induced murine lung injury and dysregulated lung gene expression. *Am J Respir Cell Mol Biol*, 44(3):415-22, 2011.
 37. Mathew B, Jacobson JR, Berdyshev E, Huang Y, Sun X, Zhao Y, Gerhold LM, Siegler J, Evenoski C, Wang T, Zhou T, Zaidi R, Moreno-Vinasco L, Bittman R, Chen CT, LaRiviere PJ, Sammani S, Lussier YA, **Dudek SM**, Natarajan V, Weichselbaum RR,

- Garcia JGN. Role of sphingolipids in murine radiation-induced lung injury: protection by sphingosine 1-phosphate analogues. *FASEB J*, 25:3388-400, 2011.
38. Ma SF, Xie L, Pino-Yanes M, Sammani S, Wade MS, Letsiou E, Siegler J, Wang T, Infusino G, Kittles RA, Flores C, Zhou T, Prabhakar BS, Moreno-Vinasco L, Villar J, Jacobson JR, **Dudek SM**, Garcia JGN. Type 2 deiodinase and host responses of sepsis and acute lung injury. *Am J Respir Cell Mol Biol*, 45:1203-11, 2011.
 39. Mitra S, Sammani S, Wang T, Boone DL, Meyer NJ, **Dudek SM**, Moreno-Vinasco L, Garcia JGN, Jacobson JR. Role of Growth Arrest and DNA Damage-inducible α (GADD45 α) in Akt phosphorylation and ubiquitination following mechanical stress-induced vascular injury. *Am J Resp Crit Care Med*, 184:1030-1040, 2011.
 40. Adyshev DM, Moldobaeva NK, Elangovan VR, Garcia JGN, **Dudek SM**. Differential involvement of ezrin/radixin/moesin proteins in sphingosine 1-phosphate-induced human pulmonary endothelial cell barrier enhancement. *Cell Signalling*, 23:2086-96, 2011.
 41. Wang L, Chiang ET, Simmons JT, Garcia JGN, **Dudek SM**. FTY720-induced human pulmonary endothelial barrier enhancement is mediated by c-Abl. *Eur Resp J*, 38(1):78-88, 2011.
 42. Usatyuk PV, Singleton PA, Pendyala S, Kalari SK, He D, Gorshkova IA, Camp SM, Moitra J, **Dudek SM**, Garcia JGN, Natarajan V. Novel role for non-muscle MLCK in hyperoxia-induced recruitment of cytoskeletal proteins, NADPH oxidase activation and reactive oxygen species generation in lung endothelium. *J Biol Chem*, 287(12):9360-75, 2012.
 43. Dessap AM, Voiriot G, Zhou T, Marcos E, **Dudek SM**, Jacobson JR, Machado R, Adnot S, Brochard L, Maitre B, Garcia JGN. Conflicting physiological and genomic cardiopulmonary effects of recruitment maneuvers in murine acute lung injury. *Am J Respir Cell Mol Biol*, 46(4):541-50, 2012.
 44. Muñoz NM, Desai A, Meliton LN, Meliton AY, Zhou T, Leff AR, **Dudek SM**. Group V phospholipase A₂ increases pulmonary endothelial permeability through direct hydrolysis of the cell membrane. *Pulm Circ*, 2(2):182-92, 2012.
 45. Sun X, Singleton PA, Letsiou E, Zhao J, Belvitch P, Sammani S, Chiang ET, Moreno-Vinasco L, Wade MS, Zhou T, Liu B, Parastatidis I, Thomson L, Ischiropoulos H, Natarajan V, Jacobson JR, Machado RF, **Dudek SM**, Garcia JGN. Sphingosine-1-phosphate receptor 3 is a novel biomarker in acute lung injury. *Am J Respir Cell Mol Biol*, 47:628-36, 2012.
 46. Epshtein Y, Singleton P, Chen W, Wang L, Salgia R, Kanteti P, **Dudek SM**, Garcia JG, Jacobson JR. Critical role of S1PR1 and Integrin β 4 in HGF/c-Met-mediated increases in vascular integrity. *J Biol Chem*, 288(4):2191-200, 2013.
 47. Mathew B, Jacobson JR, Siegler JH, Moitra J, Blasco M, Xie L, Unzueta C, Zhou T, Evenoski C, Al-Sakka M, Sharma R, Huey B, Bulent A, Smith B, Sundararajan J, Reddy NM, Reddy SP, Fingerle-Rowson G, Bucala R, **Dudek SM**, Natarajan V, Weichselbaum

- RR, Garcia JGN. Role of MIF in age-related susceptibility to radiation lung injury via Nrf2 and antioxidant regulation. *Am J Respir Cell Mol Biol*, 49(2):269-78, 2013.
48. Adyshev DM, **Dudek SM**, Moldobaeva NK, Kim K, Ma SF, Kasa A, Garcia JGN, Verin AD. Ezrin/radixin/moesin proteins differentially regulate endothelial hyperpermeability after thrombin. *Am J Physiol Lung Cell Mol Physiol*, 305(3):L240-55, 2013.
 49. Arce FT, Meckes B, Camp SM, Garcia JGN, **Dudek SM***, Lal R*. Heterogeneous elastic response of human lung microvascular endothelial cells to barrier modulating stimuli. *Nanomedicine*, 9(7):875-84, 2013. *co-senior authors
 50. Sun X, Ma SF, Wade MS, Acosta-Herrera M, Villar J, Pino-Yanes M, Zhou T, Liu B, Belvitch P, Moitra J, Han YJ, Machado R, Noth I, Natarajan V, **Dudek SM**, Jacobson JR, Flores C, Garcia JG. Functional promoter variants in sphingosine 1-phosphate receptor 3 associate with susceptibility to sepsis-associated acute respiratory distress syndrome. *Am J Physiol Lung Cell Mol Physiol*, 305(7):L467-77, 2013.
 51. Wang L, Sammani S, Moreno-Vinasco L, Letsiou E, Wang T, Camp SM, Bittman R, Garcia JGN, **Dudek SM**. FTY720 (S)-phosphonate preserves S1PR1 expression and exhibits superior barrier protection to FTY720 in acute lung injury. *Crit Care Medicine*, 42(3):e189-99, 2014.
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26. Ha AW, Letsiou E, **Dudek SM**. Can ENaC “TIP” the scales to reduce endothelial ROS and vascular leak during pneumococcal lung injury? *Am J Respir Cell Mol Biol*, 72:349-51, 2025.
27. Ha AW, Garcia JGN, **Dudek SM**. S1PR2 Signaling in the Lung: Understanding Its Role in Health and Disease. *Cells*, 15(1):10, 2025.

Edited Volumes

1. Co-editor (with Belvitch P) of Volume 82: *Membranes in Pulmonary Vascular Disease* for the book series Current Topics in Membranes (Ed. Levitan I), Elsevier, Inc., 2018.

Other Media Publications

1. Belvitch P, **Dudek SM**. “The Mid-Career Programmatic Grant” for the series *The Lung Science Podcast: An AJRCMB Podcast*, December 2018.
<https://itunes.apple.com/us/podcast/the-lung-science-podcast-an-ajrcmb-podcast/id1128428187?mt=2>

2. **Dudek SM**, Kaminski N. “From the Trenches: Episode 1” for the *Breathe Easy* series of podcasts of the American Thoracic Society, December 2023.
<https://breatheeasy.transistor.fm/episodes/from-the-trenches-episode-1-steve-dudek-md>

Selected Abstracts

1. **Dudek SM**, Kuznetsov S, Ma SF, Camp SM, Garcia JGN. A Single Nucleotide Polymorphism in the Cortactin Gene Alters Protein Tyrosine Phosphorylation and Associates with Acute Lung Injury Susceptibility. *Am J Respir Crit Care Med*, 175:A534, 2007.
2. **Dudek SM**, Camp SM, Desai A, Ma SF, Garcia JGN. An Acute Lung Injury-associated Polymorphism in the Human Cortactin Gene Alters Protein Tyrosine Phosphorylation and Function. *Am J Resp Crit Care Med*, 177:A844, 2008.
3. **Dudek SM**, Camp SM, Bittman R, Chiang ET, Moreno-Vinasco L, Mirzapooiazova T, Sammani S, Lu X, Sun C, Harbeck M, Roe M, Natarajan V, Garcia JGN. Synthetic analogues of FTY720 regulate pulmonary vascular permeability *in vivo* and *in vitro*. *Am J Resp Crit Care Med*, 179:A2331, 2009.
4. Wang L, Garcia JGN, **Dudek SM**. c-Abl Signaling Is Necessary For FTY720-Induced Pulmonary Endothelial Barrier Enhancement. *Am J Resp Crit Care Med*, 179:A2332, 2009.
5. **Dudek SM**, Muñoz NM, Desai A, Meliton AY, Leff AR. Group V Phospholipase A₂ (gVPLA₂) Secreted from Human Pulmonary Endothelial Cells Mediates Neutrophil β_2 -integrin Adhesion and Barrier Disruption. *Am J Resp Crit Care Med*, 179:A3630, 2009.
6. **Dudek SM**, Ma SF, Wade M, Camp SM, Desai A, Gordeuk VR, Garcia JGN. A Single Nucleotide Polymorphism in the Human Cortactin Gene Associates with Sick Cell Disease and Alters Protein Function. *Am J Resp Crit Care Med*, 181: A1040, 2010.
7. **Dudek SM**, Muñoz NM, Desai A, Osan CM, Meliton AY, Leff AR. Group V Phospholipase A₂ (gVPLA₂) Mediates Increased Human Pulmonary Endothelial Permeability Induced by LPS. *Am J Resp Crit Care Med*, 181:A2673, 2010.
8. Adyshev DA, Moldobaeva N, Garcia JGN, **Dudek SM**. Ezrin/radixin/moesin proteins regulate focal adhesion and adherens junction remodeling after S1P in pulmonary endothelium. *Am J Resp Crit Care Med*, 181:A 3416, 2010.
9. Wang L, Camp SM, Bittman R, Garcia JGN, **Dudek SM**. The novel S-phosphonate analog of FTY720 regulates pulmonary vascular permeability. *Am J Resp Crit Care Med*, 181:A 3423, 2010.
10. **Dudek SM**, Muñoz NM, Desai A, Meliton LN, Meliton AY, Leff AR. Group V phospholipase A₂ increases permeability of human pulmonary endothelium by direct membrane action. *Am J Resp Crit Care Med*, 183:A1975, 2011.

11. Wang L, Sammani S, Moreno-Vinasco L, Camp SM, Bittman R, Garcia JGN, **Dudek SM**. FTY720 S-phosphonate exhibits superior barrier promoting properties to S1P and FTY720 in vitro and in vivo. *Am J Resp Crit Care Med*, 183:A1954, 2011.
12. Belvitch P, Brown ME, Camp SM, Desai A, Moreno-Vinasco L, Sammani S, Siegler J, Adyshev DA, Garcia JGN, **Dudek SM**. Cortactin depletion increases pulmonary vascular permeability in vitro and in vivo. *Am J Resp Crit Care Med*, 183:A4185, 2011.
13. Patterson KC, **Dudek SM**. Benign Metastasizing Leiomyoma. *Am J Respir Crit Care Med*, 185:A2984, 2012.
14. Zhou T, Meliton LN, Muñoz NM, Meliton AY, Leff AR, **Dudek SM**. The Increase In Pulmonary Endothelial Permeability Induced By Group V Phospholipase A₂ (gVPLA₂) Does Not Require Membrane Hydrolysis Products Or Downstream Intracellular Signaling. *Am J Respir Crit Care Med*, 185: A5511, 2012.
15. Belvitch P, Brown ME, Camp SM, Adyshev DA, Siegler J, Garcia JGN, **Dudek SM**. Cortactin Regulates Pulmonary Endothelial Cytoskeletal Structure And Membrane Dynamics. *Am J Respir Crit Care Med*, 185: A5512, 2012.
16. Wang L, Sammani S, Moreno-Vinasco L, Letsiou E, Wang T, Camp SM, Bittman R, Garcia JGN, **Dudek SM**. FTY720 S-Phosphonate Enhances Endothelial Barrier Function Via Cytoskeletal Rearrangement And Protects Against Bleomycin-Induced Acute Lung Injury In Mice. *Am J Respir Crit Care Med*, 185: A5522, 2012.
17. Belvitch P, Brown ME, Adyshev DA, Naureckas C, Garcia JGN, **Dudek SM**. The Cortactin-MLCK Interaction Modulates Pulmonary Endothelial Cytoskeletal And Membrane Function. *Am J Respir Crit Care Med*, 187:A1713, 2013.
18. Wang L, Camp SM, Bittman R, Garcia JGN, **Dudek SM**. Cytoskeletal And Junctional Complex Rearrangement Mediates Pulmonary Endothelial Barrier Enhancement By FTY720 S-Phosphonate. *Am J Respir Crit Care Med*, 187:A3705, 2013.
19. **Dudek SM**, Zhou T, Meliton LN, Meliton AY, Leff AR. Group V Phospholipase A₂ (gVPLA₂) Increases Permeability And Cytokine Release In Pulmonary Endothelium. *Am J Respir Crit Care Med*, 187:A3708, 2013.
20. **Dudek SM**, Viswanathan P, Brown ME, Cho M, Epshtein Y, Garcia JGN. Characterization Of Lung Endothelial Cell Elastic Properties And Gap Closure Rates In Response To Barrier-Regulatory Agonists. *Am J Respir Crit Care Med*, 187:A3711, 2013.
21. Letsiou E, Rizzo AN, Sammani S, Naureckas P, Jacobson JR, Garcia JGN, **Dudek SM**. The Tyrosine Kinase Inhibitor, Imatinib, Exacerbates Pathologic Stress-Induced Lung Endothelial Dysfunction. *Am J Respir Crit Care Med*, 189:A3095, 2014.
22. Rizzo AN, Letsiou E, Sammani S, Naureckas P, Jacobson JR, Garcia JGN, **Dudek SM**. Imatinib Inhibits LPS-Induced Endothelial Dysfunction And Acute Lung Injury. *Am J Respir Crit Care Med*, 189:A2207, 2014.

23. Sun X, Adyshev DA, Zhang W, Wade MS, Leff AR, **Dudek SM**. Regulation Of Group V Phospholipase A2 Gene Expression In Pulmonary Inflammation. *Am J Respir Crit Care Med*, 189:A3278, 2014.
24. Infusino GA, Sammani S, Siegler J, Letsiou E, Evenoski C, Garcia JGN, **Dudek SM**. Dopamine Receptor D1 Regulates Pulmonary Vascular Leak In Acute Lung Injury. *Am J Respir Crit Care Med*, 189:A5325, 2014.
25. Fraidenburg DR, Yuan J, Machado RF, **Dudek SM**. Impaired Hypoxic Pulmonary Vasoconstriction After Acute Lung Injury Is Mediated Through Activation Nuclear Factor of Activated T-Cells and Epigenetic Mechanisms in Pulmonary Artery Smooth Muscle Cells. *Am J Respir Crit Care Med*, 193:A4784, 2016.
26. Rizzo AN, Sun X, Letsiou E, Garcia JGN, **Dudek SM**. Abl Family Kinases Mediate LPS-Induced Lung Vascular Permeability and Inflammation. *Am J Respir Crit Care Med*, 193:A5675, 2016.
27. Belvitch PG, Brown M, Letsiou E, Rizzo AN, Garcia JGN, **Dudek SM**. Actin Related Protein 2/3 Complex Regulates Actin Membrane Structures to Determine Endothelial Barrier Function. *Am J Respir Crit Care Med*, 193:A5679, 2016.
28. Meliton LN, Zhu X, Brown M, Ephstein Y, Letsiou E, **Dudek SM**. Group V Secretory Phospholipase A₂ is Degraded by Autophagy in Human Lung Endothelial Cells. *Am J Respir Crit Care Med*, 193:A5684, 2016.
29. Wang L, Bittman R, **Dudek SM**. FTY720 S-Phosphonate Does Not Activate GRK2-Mediated S1PR1 Phosphorylation and Degradation. *Am J Respir Crit Care Med*, 193:A7295, 2016.
30. Meliton L, Wang H, Epshtein Y, Letsiou E, **Dudek SM**. Group V Secretory Phospholipase A2 Mediates MRSA-induced Endothelial Permeability and Acute Lung Injury. *Am J Respir Crit Care Med*, 195:A4353, 2017.
31. Kawasaki T, Meliton L, Wang L, Epshtein Y, Tatsumi K, **Dudek SM**. Dipeptidyl Peptidase-4 Inhibition Decreases Inflammation in Human Lung Microvascular Endothelial Cells. *Am J Respir Crit Care Med*, 195:A4362, 2017.
32. Wang H, Wang L, Meliton L, Letsiou E, Natarajan V, **Dudek SM**. FTY720 (S)-Phosphonate Protects Against Staphylococcus Aureus-Induced Acute Lung Injury in Mice. *Am J Respir Crit Care Med*, 195:A4397, 2017.
33. Damodaran A, Kuppy JE, Levytska N, Sanyal S, Garcia JGN, **Dudek SM**, Belvitch PG. Ventilator management in ARDS: A single academic center experience. *Am J Respir Crit Care Med*, 197:A5066, 2018.
34. Htwe YM, Meliton L, **Dudek SM**. Inhibition of gVPLA₂ protects lung endothelium from MRSA-induced permeability. *Am J Respir Crit Car Med*, 199:A1976, 2019.

35. Wang, L, **Dudek SM**. FTY720 S-phosphonate significantly inhibits MRSA induced permeability, inflammation and epigenetic changes in lung endothelium. *Am J Respir Crit Car Med*, 199:A7203, 2019.
36. Belvitch P, Wang H, Chen W, Meliton L, Garcia JGN, Jacobson JR, **Dudek SM**. Real-time characterization of inflammatory lung injury. *Am J Respir Crit Car Med*, 199:A4402, 2019.

Research Funding (current, pending, previous)

Current

R01 HL167518 Dudek (PI) 12/20/2022-11/30/2026

NIH/NHLBI **Pathobiology of MRSA-induced Endothelial Permeability and Acute Lung Injury**

The central hypothesis of this project is that methicillin-resistant *Staph aureus* (MRSA) causes lung endothelial cell (EC) dysfunction relevant to ARDS by epigenetic and other pathophysiologic mechanisms that can be targeted by S1PR1-related signaling. These studies will advance our mechanistic understanding of MRSA-induced ARDS to identify novel therapeutic targets.

Role: PI (20%)

P01 HL126609-06A1 Joe GN Garcia (PI) 09/19/2022-08/31/2027

NIH/NHLBI Cytoskeletal Regulation of Lung Endothelial Pathobiology in ARDS

Project 4: Crosstalk between S1P Receptor 1/S1PR1 and P-Selectin/Selp in Regulation of Inflammatory Vascular Permeability

This highly translational PPG renewal will address the contribution of unchecked endothelial cell (EC) permeability to the devastating multi-organ failure and mortality of ARDS by providing a comprehensive understanding at the molecular and genomic level of vascular barrier regulation and repair. Project 4 will elucidate interactions between key barrier-regulatory receptors in lung endothelium: sphingosine-1-phosphate (S1P) receptor 1 (S1PR1), S1PR3, and P-selectin which regulate leukocyte recruitment and lung vascular leak via ligation by P-selectin glycoprotein ligand 1 (PSGL1).

Role: Project PI (20%)

P01 HL151327 Asrar Malik/Dolly Mehta (PI) 09/30/2021-06/30/2026

NIH/NHLBI **Macrophage Plasticity in Inflammatory Lung Injury**

The focus of this Program Project is on lung macrophages as well as the generation and fate of their distinct subpopulations during inflammatory lung injury. Each project addresses the mechanisms underlying their plasticity in inflammatory lung injury and their potentially important roles in the resolution of lung injury and maintenance of lung homeostasis. A key objective is to be able manipulate these functions to attenuate inflammatory lung injury and activate the lung injury resolution program.

Role: Core D Leader (5%) **Patient Sampling and Genomics Core**

T32 HL176452 Dudek/Irena Levitan (MPI) 08/01/2025-07/31/2030

NIH/NHLBI **Postdoctoral Research Training in Lung Injury and Inflammation**

The primary goal of our T32 training program is the career development of the next generation of scientific leaders in the fields of pulmonary and critical care medicine along three integrated thematic pathways that provide comprehensive and multidisciplinary training in translational research focused on the pathophysiologic processes of lung injury and inflammation.

Role: Contact PI (10%)

R01 HL173334 Guochang Hu (PI) 09/01/2024 – 05/31/2029
NIH/NHLBI **ER-phagy regulation of immune response: mechanisms and significance**

p120 catenin (p120) is highly expressed in macrophages and is crucial in bacterial clearance. This study will explore the hypothesis that p120 expression in macrophages is an important determinant of eradication of bacterial infections and therefore outcome of sepsis. We will test this hypothesis via the following specific aims: 1) To evaluate the role of macrophage p120 in bacterial clearance and lung injury during sepsis. 2) To elucidate the molecular mechanisms by which p120 controls bacterial clearance. 3) To examine the therapeutic potential of targeting macrophage p120 for treatment of septic injury.

Role: Co-investigator (4%)

R01 HL111656 Roberto Machado (PI) 07/01/2023 – 06/30/2027
NIH/NHLBI **Vascular Targeted Genomic and Genetic Strategies for Acute Chest Syndrome**

This research will address the hypothesis that vascular-targeted genetic and genomic strategies for ACS will increase understanding of ACS pathobiology, generate novel ACS biomarkers and produce vascular-specific therapies for ameliorating this devastating health disparity.

Role: Co-investigator (3%)

R01 HL170118 Patrick Belvitch (PI) 09/01/2024-05/31/2029
NIH/NHLBI **CARMIL1 and Endothelial Barrier Function Regulation**

The goal of this research is to better understand the cellular mechanisms responsible for leaky blood vessels in the lung. While normally forming a tight barrier, during severe infections or inflammation the cells lining these vessels can form gaps which allow fluid to leak into the airspaces of the lung causing respiratory failure and often death, a process called acute respiratory distress syndrome (ARDS). By studying the underlying mechanisms and regulation of this process we hope to identify possible targets for treatment of this condition.

Role: Co-investigator (3%)

Recently Completed

R38 HL155729 Jeffrey Jacobson/Dudek/Mark McCauley (MPI) 08/01/2021-6/30/2025
NIH/NHLBI **Fostering Academic Physician-Investigators Treating High Risk Populations**

The primary goal of this program is the career development of the next generation of scientific leaders in the biomedical sciences. This program is uniquely positioned to recruit internal medicine residents of varied backgrounds and experiences to undergo mentored research training that will ultimately help to foster highly diverse and skilled physician-investigators. Our strong mentorship platform derives from a large group of senior investigators who are leaders in multidisciplinary research and emphasize novel investigative approaches in an ethical and scientifically responsible environment.

Role: MPI (3%)

R01 HL152696 Guochang Hu (PI) 9/1/2020 – 8/31/2025
NIH/NHLBI **Targeting the host immune response during sepsis**

This project is pursuing the following specific aims: 1) To evaluate the role of macrophage p120 in bacterial clearance and lung injury during sepsis. 2) To elucidate the molecular mechanisms by which p120 controls bacterial clearance. 3) To examine the therapeutic potential of targeting macrophage p120 for treatment of septic injury. The completion of the proposed studies will promote the development of

novel immune-enhancing therapeutic strategies to improve clinical outcomes and survival for the treatment of bacterial sepsis.

Role: Co-investigator (5%)

T32 HL144909 Dudek/Patricia Finn (MPI) 07/01/2019-06/30/2024
NIH/NHLBI Post-Doctoral Training Program in Pulmonary and Critical Care Translational Research

The primary goal of this T32 training program is the career development of the next generation of scientific leaders in the fields of pulmonary and critical care medicine along three integrated thematic pathways that provide comprehensive training in translational research: 1) Lung Injury and Inflammation; 2) Precision Medicine and Computational Approaches; 3) Comparative Effectiveness and Health Inequality. A strong mentorship platform derives from a large group of senior investigators who are leaders in multidisciplinary research and emphasize novel molecular approaches in an ethical and scientifically responsible environment.

Role: MPI (10%)

R01 HL133059 Dudek (PI) 7/1/2017-5/31/2021
NIH/NHLBI Group V Phospholipase A2 Mediates Acute Lung Injury

This proposal will test the hypothesis that pulmonary endothelial cell (EC) barrier dysfunction in acute lung injury (ALI) is regulated by the enzyme group V phospholipase A₂ (gVPLA₂). The pathobiological function of gVPLA₂ in ALI induced by the highly clinically relevant bacterial stimulus, MRSA, will be characterized, as will promoter expression and epigenetic regulation for the *PLA2G5* gene.

Role: PI (20%)

P01 HL126609 Joe G.N. Garcia (PI) 6/1/2016-3/31/2021
NIH/NHLBI Cytoskeletal Regulation of Lung Endothelial Pathobiology
Project 2: Mechanisms of Peripheral Remodeling of the EC Cytoskeleton

The project will study the critical roles of actin-regulatory proteins (cortactin, Ena/VASP-like protein or EVL, c-Abl) in the cytoskeleton remodeling and lamellipodia formation that restores pulmonary endothelial cell barrier integrity.

Role: Project PI (20%)

UIC CCTS Pilot Grant Dudek (PI) 11/16/2019 – 11/15/2021
Predictive Role of ACE phenotyping in Extrapulmonary Sarcoidosis

This internally funded pilot project will perform comprehensive blood ACE phenotyping in patients across the spectrum of sarcoidosis severity to identify patterns predictive of extrapulmonary organ involvement.

Role: PI

R01 HL133413 Mahendra Damarla (PI) 07/01/2016-06/30/2021
NIH/NHLBI Targeting Divergent Roles of Caspase 3 to Promote Endothelial Barrier Integrity

This project hypothesizes that MK2 dependent phosphorylation of active caspase 3, and subsequent nuclear translocation, converts its barrier protective cytoskeletal reorganization function to promoting apoptosis thereby stimulating pulmonary vascular permeability. Multiple *in vitro* (thrombin and lipopolysaccharide) and *in vivo* (endotoxemia and cecal-ligation and puncture) models of endothelial barrier dysfunction to mimic sepsis-induced ARDS will be utilized.

Role: Co-investigator (2%)

Prior Completed Funding

NRSA HL10403-01

Dudek (PI)

7/1/2000-6/30/2001

NIH/NHLBI

Cortactin in Lung Endothelial Contraction/Permeability

This project demonstrated direct interaction between two essential cytoskeletal proteins in endothelium, EC MLCK and cortactin, outlined regulation of this interaction via tyrosine phosphorylation, elucidated the structural sites of interaction, and provided preliminary data supporting a regulatory role for MLCK-cortactin interaction on Arp2/3-catalyzed actin polymerization.

Role: PI

K08 HL70013-01

Dudek (PI)

8/19/2002-7/30/2007

NIH/NHLBI

Endothelial Cell Cytoskeleton Regulation by Cortactin

The major goal of this project is to provide the PI with essential skills in which to be a successful academician and achieve independent investigator status through study of two essential cytoskeletal proteins in endothelium, EC MLCK and cortactin, and their roles in barrier regulation of the pulmonary endothelial cells.

Role: PI

P01 HL058067

Joe G.N. Garcia (PI)

2/1/2003-1/31/2008

NIH/NHLBI

Project 3: Endothelial cytoskeletal responses to platelet phospholipids

The goal of this project is to examine the molecular basis of sphingosine 1-phosphate-induced barrier enhancement and have targeted cortical cytoskeletal interactions with membrane adhesive proteins that promote vascular integrity.

Role: Co-investigator

The Louis Block Fund for Basic Research and Advanced Study

Dudek (PI)

7/1/2006-6/30/2007

Division of the Biological Sciences and the Pritzker School of Medicine, University of Chicago

A Single Nucleotide Polymorphism in the Cortactin Gene is Associated with Development of Acute Lung Injury in Patients

The proposal seeks to use a translational approach to systematically evaluate the mechanisms by which an acute lung injury-associated mutation in cortactin confers higher risk of disease. Such a strategy will hopefully provide novel insights into the development of therapeutic strategies for treatment of ALI/ARDS. Role: PI

P01 HL058064

Joe G.N. Garcia (PI)

2/1/2008-1/31/2013

NIH/NHLBI Cytoskeletal Regulation of Lung Endothelial Pathobiology

Project 1: Regulation of lung barrier function by EC MLCK

The goal of this project is to mechanistically characterize the isoform- and polymorphism-specific effects of nmMLCK in regulating lung endothelial barrier function.

Role: Co-investigator

P01 HL058064

Joe G.N. Garcia (PI)

2/1/2008-1/31/2013

NIH/NHLBI Cytoskeletal Regulation of Lung Endothelial Pathobiology

Project 2: Cortical Cytoskeleton Remodeling in Endothelial Barrier Regulation

The project will investigate the hypothesis that linker interactions between key peripheral cell structures (dynamic cortical actin, lipid rafts, adherens junctions, and tight junctions) and EC cytoskeletal elements are critical events in multiple models of endothelial barrier enhancement.
Role: PI

P01 HL058064 Joe G.N. Garcia (PI) 2/1/2008-1/31/2013
NIH/NHLBI Cytoskeletal Regulation of Lung Endothelial Pathobiology

Core D: Biophysical Imaging Core

The principal objective of this core is to provide this PPG with a complete range of expertise, training, equipments, and data analysis tools to obtain nano-to-micro scale biophysical image information pertaining to the cellular and molecular basis of endothelial barrier permeability.
Role: Core Leader

R01 HL088144 Dudek (PI) 5/1/2007-6/30/2012
NIH/NHLBI **Cortactin in Regulation of Pulmonary Vascular Permeability**

The major goal of this project is to mechanistically characterize the essential role for cortactin in the resolution phase of vascular permeability, including structure/function analysis of the cortactin protein, its interactions with endothelial junctional complexes, and the functional consequences of an ALI-associated coding SNP in the cortactin gene.
Role: PI

AHA 14GRNT20460186 Dudek (PI) 7/1/2014-6/30/2016
American Heart Association **Pathobiology of gVPLA₂ in Lung Injury**

This Grant-in-Aid award will explore the role of gVPLA₂ as a critical mediator in the pathogenesis of acute lung injury (ALI) both in vitro using cell culture models of human pulmonary endothelial cells and in vivo using mouse models of ALI induced by LPS or live bacteria.
Role: PI

P01 HL098050 Viswanathan Natarajan (PI) 6/1/2011-5/31/2016
NIH/NHLBI Role of Sphingolipids in the Pathobiology of Lung Injury

Project 3: Therapeutic Potential of FTY720 Analogues in Lung Injury

The project will mechanistically investigate the therapeutic effectiveness of novel analogues of FTY720 in ameliorating pulmonary vascular leak and lung injury in vitro and in vivo.
Role: Project PI (20%)

R56 HL088144 Dudek (PI) 9/1/2015-8/31/2016
NIH/NHLBI **Cortactin in Regulation of Pulmonary Vascular Permeability**

The central hypothesis of this project is that pulmonary vascular leak in acute lung injury (ALI) is regulated by cortactin function at the level of lung endothelium. These studies will mechanistically characterize the essential role for cortactin in regulating pulmonary vascular permeability, including the functional consequences of an ALI-associated coding SNP in the cortactin gene in vitro and in preclinical mouse models of ALI.
Role: PI (20%)

EDUCATION ACTIVITIES

Teaching

2002-present	ICU training of medical students, housestaff, and fellows during clinical service time (see below)
2006-08	2 nd year medical student Clinical Pathophysiology and Therapeutics course—Pulmonary case instructor
2006-09	2 nd year medical student Physical Diagnosis course—small group instructor
2009	Lecturer, Genetic Basis of Personalized Medicine graduate course, Univ. of Chicago
2009-24	Lecturer, Lung Genomics and Acute Lung Injury, PCOL 550 Biology and Pharmacology of the Lung graduate course, Dept. of Pharmacology, Univ. of Illinois at Chicago
2011	Teaching Attending of the Year, Univ. of Illinois at Chicago, Section of Pulmonary, Critical Care, Sleep, and Allergy
2012	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2013	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2015-19	Preceptor leader, Clinical Immersion Program, UIC Dept. of Bioengineering
2015	Teaching Attending of the Year, Univ. of Illinois at Chicago, Division of Pulmonary, Critical Care, Sleep, and Allergy
2016	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2020	Certificate of Teaching Excellence, awarded by the UIC Internal Medicine housestaff
2020	Teaching Attending of the Year, Univ. of Illinois at Chicago, Division of Pulmonary, Critical Care, Sleep, and Allergy

Mentoring

2008	Harry Rosenberg, B.S.—Undergraduate Senior Thesis Committee Univ. of Chicago (Thesis: Trafficking to the tight junction in epithelial cells: the minimal localizing domain of MLCK)
2008-2020	Lichun Wang, Ph.D.—postdoctoral fellow/research assistant professor Univ. of Chicago/ Univ. of Illinois, Chicago (Project: Regulation of pulmonary vascular permeability by FTY720 and analogs) Awards: -CSCR Trainee Travel Award 2010 -CSCR Trainee Travel Award 2011 -ATS Trainee Travel Award 2011 --CSCTR Trainee Travel Award 2018 Current position: Lead Statistical Analyst at Medpace, Inc.
2010-present	Patrick Belvitch, M.D.—postdoctoral fellow—primary mentor Univ. of Illinois Chicago (Project: The effects of cortactin-nmMLCK interaction on endothelial permeability) Awards: -ATS Trainee Travel Award 2011 -NRSA (1F32HL112571-01) Awarded 2012-13

- CSCR Trainee Travel Award 2012
 - American Lung Association research funding 2015-17
 - NIH K08 Mentored Career Development Award 2017-2022 (primary mentor)
 - CSCTR K Award 2018
 - NIH R01 Principal Investigator (2024-2029)
 - Current position: Associate Professor of Medicine, Univ. of Illinois, Chicago
- 2010-12 Parvathi Viswanathan—Biomechanical Engineering Masters Advisor and Thesis Committee
Univ. of Illinois, Chicago
(Thesis: Characterization of endothelial elastic properties and gap closure under barrier-regulatory agonists)
- 2013-present Eleftheria Letsiou, Ph.D.—postdoctoral fellow—primary mentor
Univ. of Illinois, Chicago
(Project: The role of endothelial microparticles in acute lung injury)
Awards: -ATS Trainee Travel Award 2013
-AHA Postdoctoral Fellowship Grant—Awarded 2013-15
-CSCTR Trainee Travel Award 2014
-ATS Trainee Travel Award 2014
-European Respiratory Society, Young Scientist Sponsorship, ERS International Conference, 2014
-CSCTR Trainee Travel Award 2015
-ATS Trainee Travel Award 2015
-Hermann Rahn Award for Excellence in Pulmonary Research from the American Physiological Society, 2015
-Marie Curie European Respiratory Society Fellowship 2016-18
-AHA Career Development Award— 2022-25
-ALA Innovation Award—2025-27
Current position: Research Assistant Professor, Univ. of Illinois, Chicago
- 2013-17 Alicia Rizzo—M.D./Ph.D.—primary research mentor for MD/PhD training at Univ. of Illinois Chicago
(PhD Thesis: The effects of imatinib on endothelial dysfunction in acute lung injury)
-AHA Predoctoral Fellowship Grant—Awarded 2014-16
-CSCTR Trainee Travel Award 2013
-CSCTR Trainee Oral Abstract Award 2014
-CSCTR Trainee Travel Award 2015
-ATS Trainee Travel Award 2014
-ATS Trainee Travel Award 2015
-UIC CCTS Pre-doctoral Education for Clinical and Translational Scientists (PECTS) Fellowship Award 2014-15
-Chancellor's Graduate Research Fellowship (UIC) 2014
-NIH F30 Award—Awarded 2014-16
-Dr. Edward P. Cohen Medical Scientist Training Award 2015
-Hermann Rahn Award for Excellence in Pulmonary Research from the American Physiological Society, 2016

Current position: Assistant Professor of Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, University of Pittsburgh

- 2013-14 Yuka Shimizu, Ph.D. candidate—member of thesis review committee
Univ. of Illinois, Chicago
- 2013-17 David Ebenezer, Ph.D. candidate—member of thesis review committee
Univ. of Illinois, Chicago
- 2014-16 Justin Sysol, M.D./Ph.D. candidate—member of thesis review committee
Univ. of Illinois, Chicago
- 2014-15 Brittany Brinley, D.O.—research mentor for Internal Medicine resident, Mercy Hospital, Chicago
-CSCTR Trainee Travel Award 2015
- 2015-16 Venkateswan Elangovan/Ph.D. candidate—member of thesis review committee
Univ. of Illinois, Chicago
- 2015-present Dustin Fraidenburg, M.D.—postdoctoral fellow—co-primary mentor
Univ. of Illinois, Chicago
(Project: Impaired hypoxic pulmonary vasoconstriction after LPS-induced acute lung injury is mediated through activation of NFAT)
-NIH K08 Mentored Career Development Award 2017-2022 (co-primary mentor)
-CSCTR K Award 2018
-NIH R56 Principal Investigator (2024-2025)
Current position: Associate Professor of Medicine, Univ. of Illinois, Chicago
- 2016 Cody Schott, M.D./Ph.D. candidate—member of Ph.D. thesis review committee
Univ. of Illinois, Chicago
- 2016-18 Takeshi Kawasaki, M.D./Ph.D.—research mentor during Visiting Scholar period in the laboratory
Univ. of Illinois, Chicago
(Project: The role of DPP4 inhibition in acute lung injury)
-CSCTR Trainee Travel Award 2017
Current position: Professor of Pulmonology, Chiba University, Chiba, Japan
- 2017-18 Nirmal Desai, M.D. student
Univ. of Illinois, Chicago
(Project: Measurement of lung mechanics in response to MRSA-induced injury in Cortactin Deficient Mice)
-Craig Fellowship Award summer 2017
- 2017-21 Yu Ma Htwe, M.D.—postdoctoral fellow—primary mentor
Univ. of Illinois, Chicago
(Project: The effects of gVPLA₂ on endothelial permeability)
-ATS Trainee Travel Award 2018

-ATS Abstract Scholarship 2018

2017	Nicholas Polite, B.S. summer student Depaul University (Project: Isolation of primary lung endothelial cells from mice)
2017-19	Karina Esparza, Ph.D. candidate—member of thesis review committee Univ. of Illinois, Chicago (Thesis: Thiostrepton in phospholipid micelles: development of scalable production method and in vivo evaluation)
2018-19	American Thoracic Society Mentoring program participant
2018-22	Mounica Bandela—bioengineering Ph.D. candidate—primary mentor Univ. of Illinois, Chicago (Thesis: Cortactin mediates endothelial responses to cigarette smoke injury) -CSCTR Trainee Travel Award 2019 -UIC Provost's Graduate Research Award 2020 -UIC Deiss Award for Graduate Research 2021 -American Heart Association Predoctoral fellowship 2021-22 -Ph.D degree awarded 2022 Current position: Staff Scientist, Lawrence Berkeley National Laboratory
2019-present	Alison Ha—Ph.D.—member of PhD thesis review committee Univ. of Illinois, Chicago from 2019-23 (PhD Thesis: Aberrant autotaxin/LPA signaling in the pathogenesis of bronchopulmonary dysplasia) Primary research mentor for T32 postdoctoral training at Univ. of Illinois Chicago 2023-2025 (T32 project: MRSA-induced epigenetic upregulation of CYP1A1 mediates lung endothelial injury and acute lung injury) -UIC Postdoctoral Travel Award 2024 -ATS Abstract Scholarship for presentation at the 2025 annual international conference -NIH F32 Postdoctoral fellowship Award 2025-27
2020-present	Xue Geng— bioengineering Ph.D. candidate— member of thesis review committee Univ. of Illinois, Chicago (Thesis: Neuroprotective effects of docosahexaenoic acid on neuronal cell function: from oxidative/inflammatory pathways to nuclear mechanics during aging and exosome production)

Editorial Activities

Ad hoc scientific peer reviewer for the following journals:

Acta Physiologica
American Journal of Physiology Cell Physiology
American Journal of Physiology Heart and Circulatory Physiology
American Journal of Physiology Lung Cellular and Molecular Physiology
American Journal of Respiratory Cell and Molecular Biology
American Journal of Respiratory and Critical Care Medicine
Annals of the American Thoracic Society
Antioxidants & Redox Signaling
Biochimica et Biophysica Acta - Molecular Basis of Disease
Biophysical Journal
Blood
British Journal of Pharmacology
Cellular Physiology and Biochemistry
Cellular Signalling
Comprehensive Physiology
Critical Care Medicine
European Respiratory Journal
Interface Focus
International Journal of Biochemistry and Cell Biology
Journal of Applied Physiology
Journal of Clinical Investigation
Journal of Gerontology: Biological Sciences
Journal of Heart and Lung Transplantation
Journal of Neuroinflammation
Journal of Pharmacy and Pharmacology
Journal of Physiology
Laboratory Investigation
Lancet
Medical Science Monitor
Microvascular Research
Molecular Medicine
Neuroscience Letters
OMICS Publishing Group: Allergy & Therapy
Physiological Reports
Pulmonary Circulation
Science Translational Medicine
Scientific Reports
Thorax
Translational Research
Vascular Pharmacology

2004-2009	Editor, American Thoracic Society Pulmonary Circulation Assembly web-based Journal Club
2009-19	Member of Editorial Advisory Board for <i>Translational Research</i>
2010-present	Member of Editorial Advisory Board for <i>Pulmonary Circulation</i>
2012-present	Member of Editorial Advisory Board for <i>American Journal of Physiology Lung Cellular and Molecular Physiology</i>
2014-present	Member of Editorial Advisory Board for <i>American Journal of Respiratory and Critical Care Medicine</i>

Invited Lectures and Oral Presentations

- 2005 FDA Center for Drug Evaluation and Research, Pulmonary Medicine Update
- 2005 NIH/NIAID Expert Panel Workshop on Pulmonary Threat Workshop
- 2006 ATS Pulmonary Circulation Grover Conference on Rho GTPases: “Rho GTPases in Acute Lung Injury”
- 2006 University of Chicago Medical Grand Rounds: “Hypoxemia in a 60 yo Man: A Case of Too Much of a Good Thing”
- 2007 The University of Texas Medical Branch McLaughlin Symposium on the Microcirculation in Acute Viral and Bacterial Infections: “Genomic Insights into Inflammatory Lung Injury and Vascular Barrier Regulation”
- 2007 The University of Rochester, Division of Pulmonary & Critical Care Medicine, featured speaker at both Lung Biology Series and City-wide Clinical Rounds
- 2009 Featured speaker at Building a Firewall: Endothelial Barrier Dysfunction mini-symposium at ATS annual meeting: “Mechanistic Insights into Endothelial Barrier Regulation from Sphingosine 1-Phosphate-Related Compounds”
- 2009 The University of Pittsburgh, Division of Pulmonary & Critical Care Medicine, featured speaker at Pulmonary Grand Rounds: “Regulation of Pulmonary Vascular Permeability: Insights into Future ARDS Therapies?”
- 2009 Indiana University, Division of Pulmonary, Allergy, Critical Care and Occupational Medicine, featured speaker at Pulmonary Research Conference: “Regulation of Pulmonary Vascular Permeability: Insights into Future ARDS Therapies?”
- 2009 Pulmonary Research Group Fall 2009 Symposium on The Role of Ceramide, Sphingomyelinases and Sphingosine 1-Phosphate Signaling in Pulmonary Diseases, featured speaker: “S1P Receptors in Inflammatory Lung Injury”
- 2009 The University of Illinois at Chicago, Section of Pulmonary, Critical Care, Sleep and Allergy, featured speaker at Pulmonary Research Conference: “Mechanistic Insights into Pulmonary Vascular Permeability from Sphingosine 1-Phosphate-Related Compounds”
- 2010 Rush University Medical Center, Department of Pharmacology, featured speaker at Vascular Biology Group seminar: “Regulation of Endothelial Permeability by S1P and Related Compounds”

- 2010 Featured speaker at Point-Counter Point: An Update in Endothelial Barrier Function sponsored by the American Physiological Society Respiration Section at the annual Experimental Biology meeting: “Rac1 Mediates Endothelial Barrier Protection”
- 2010 Featured speaker at Mechanisms of Acute Lung Injury: Role of Endothelium mini-symposium at ATS annual meeting: “A Single Nucleotide Polymorphism in the Human Cortactin Gene Associates with Sickle Cell Disease and Alters Protein Function”
- 2010 University of Pittsburgh, Department of Environmental and Occupational Health, featured speaker at mini-symposium Fats, Bug, and Mammals: “Group V Phospholipase A₂ (gVPLA₂) Regulates Human Pulmonary Endothelial Permeability”
- 2010 Invited speaker at Harvard Medical School Seminars in Vascular Biology series, Bioengineering, Biotechnology and Biomechanics of the Vasculature: “Cortactin Regulates Endothelial Cytomechanics to Determine Pulmonary Vascular Permeability”
- 2011 Brown University, Department of Medicine, featured speaker at Pulmonary Research Conference: “Cortactin Regulates the Endothelial Cytoskeleton and Pulmonary Vascular Permeability”
- 2011 University of South Alabama, Department of Medicine, featured speaker at Grand Rounds: “Evolving Therapies for the Acute Respiratory Distress Syndrome (ARDS)”, and featured speaker at Center for Lung Biology Research Conference: “Cortactin Regulates the Endothelial Cytoskeleton and Pulmonary Vascular Permeability”
- 2012 Medical College of Wisconsin, Department of Medicine, featured speaker at Pulmonary-Radiology joint conference: “Regulation of Pulmonary Vascular Permeability: Insights into the Acute Respiratory Distress Syndrome”
- 2012 Mercy Hospital, Chicago, IL, invited speaker at Department of Medicine Grand Rounds: “Acute Respiratory Distress Syndrome (ARDS)”
- 2012 Northwestern University, featured speaker at NUANCE-Bruker International Symposium, Scanning Probe Microscopy for Energy Application and Quantitative Nano-Biomechanics: “Scanning Probe Microscopy in Biological Applications: Insights into Pulmonary Vascular Barrier Function”
- 2012 Invited speaker at University of Illinois, Chicago, Institute for Personalized Respiratory Medicine Symposium, Translational Research Approaches to Reduce Health Disparities in Lung Disease: “Acute Chest Syndrome in Sickle Cell Disease: Novel Mechanisms”
- 2013 Invited speaker at Boehringer Ingelheim Scientific Expert Symposium: ARDS, Biberach, Germany: “Sphingolipids in Acute Lung Injury”
- 2013 Featured speaker at Forcing The Issue: The Lung Response To Injury science core symposium at ATS annual meeting: “Cytoskeletal Protective Responses To Acute Lung Injury”

- 2013 University of Chicago, invited speaker at Pulmonary section research conference: "Regulation of Pulmonary Vascular Leak: Insights into ARDS Pathogenesis and Potential Therapies"
- 2013 University of Chicago Medical Grand Rounds, Mark and Nanciann Huening Critical Care Speaker: "Acute Respiratory Distress Syndrome: Moving Beyond Vent Management"
- 2014 Invited speaker at Northwestern University Division of Allergy and Immunology, research conference: "Regulation of Pulmonary Inflammatory Disease by the Endothelial Cytoskeleton"
- 2015 University of South Florida, invited speaker at the Department of Molecular Pharmacology & Physiology Bioscience Seminar: "Regulation of Pulmonary Vascular Permeability by Sphingolipids"
- 2015 Georgia Regents University, invited speaker at the Vascular Biology Center Research Seminar Series: "Regulation of Pulmonary Vascular Permeability: Insights into Potential ARDS Therapies"
- 2016 University of Chicago, invited speaker at Pulmonary section research conference: "Targeting Abl kinases and gVPLA₂ in Acute Lung Injury"
- 2017 Featured speaker at Embracing the heterogeneity of lung injury: a bedside to bench to bedside perspective symposium for Experimental Biology annual meeting: "An Individualized Approach to ARDS: Where Do We Go from Here?"
- 2017 Northwestern University, featured speaker at 2017 Annual Lung Symposium: "Targeting Abl Kinases in Acute Lung Injury"
- 2017 University of Colorado, invited speaker at Pulmonary Division research conference; "Repurposing Drugs for ARDS: Insights from the Lung Endothelium"
- 2017 Invited speaker at ATS Pulmonary Circulation Grover Conference: "Regulation of Lung Endothelial Permeability and Inflammation by the Actin Cytoskeleton"
- 2019 University of Southern California, invited speaker at Pulmonary Division research conference; "Targeting the Lung Endothelium to Repurpose Drugs for ARDS"
- 2019 Invited speaker at Chiba University, Chiba, Japan, Department of Respiriology, "ARDS: Strategies for Improving Therapy"
- 2019 Featured speaker at Recent Advances in ARDS symposium at Japanese Respiratory Society 2019 annual meeting: "Therapeutic Targeting of Lung Endothelial Permeability in ARDS"
- 2019 Featured speaker at FASEB Science Research Conference in Lisbon, Portugal, entitled The Lysophospholipid and Related Mediators Conference: From Bench to Clinic: "Regulation of Pulmonary Vascular Permeability by the Sphingosine-1-phosphate Pathway"

- 2019 Invited speaker at Indiana University Pediatric and Adult Pulmonary and Critical Care Medicine Research and Scholarship Day: “Research Career Development: Purpose and Persistence”
- 2019 Keynote speaker at Indiana University Pediatric and Adult Pulmonary and Critical Care Medicine Research and Scholarship Day: “Repurposing Drugs for ARDS: Insights from Studying the Lung Endothelium”
- 2020 Invited speaker at Emory University, Department of Medicine, Cardiovascular Biology Seminar: “Cytoskeletal Regulation of Pulmonary Vascular Permeability”
- 2022 Invited speaker at the University of Rochester Lung Biology and Disease Program research seminar series: “The Sphingosine-1-phosphate Pathway in Pulmonary Vascular Permeability and Acute Lung Injury”
- 2023 Invited speaker at the Chicago Multi-institutional Pulmonary Research Day, hosted by Northwestern University: “Training the Next Generation of Scientists at UIC”
- 2025 Invited speaker at the Ohio State University, Department of Physiology and Cell Biology, visiting professor research seminar: “MRSA-induced Endothelial Dysfunction and Acute Lung Injury: A Mechanistic Search for Novel Therapies”