

Stanford



Andrew Sweatt

Clinical Assistant Professor, Medicine - Pulmonary, Allergy & Critical Care Medicine

CLINICAL OFFICE (PRIMARY)

- **Division of Pulmonary and Critical Care Medicine**

300 Pasteur Dr Rm H3143

MC 5236

Stanford, CA 94305

Tel (650) 723-6381 **Fax** (650) 725-5489

Bio

BIO

Dr. Sweatt is board certified in internal medicine, pulmonary diseases, and critical care medicine. He sub-specializes in the evaluation and treatment of pulmonary hypertension. He recently completed his subspecialty fellowship training in 2016, and thereafter joined the multidisciplinary pulmonary hypertension team at Stanford University as a clinician and translational researcher. He sees patients at the main Stanford University campus and East Bay site in Emeryville.

CLINICAL FOCUS

- Pulmonary Hypertension
- Pulmonary Disease

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Medicine - Pulmonary, Allergy & Critical Care Medicine

ADMINISTRATIVE APPOINTMENTS

- Stanford East Bay Pulmonary Hypertension Clinic Site Physician, Stanford Health Care, (2017- present)

HONORS AND AWARDS

- Research Support, NIH/NHLBI K12 Career Development Program in 'Omics' of Lung Diseases (2016- Present)
- Research Support, Blue Lips Foundation- Early Detection of Pulmonary Arterial Hypertension (2016- Present)
- Chief Fellow, Stanford University- Pulmonary and Critical Care Medicine Fellowship Program (2015-2016)
- Presidential Poster and Fellow-In-Training Awards, American College of Gastroenterology (2015)
- Resident Travel Award, American Thoracic Society (2012)
- Resident Teaching Award, University of Colorado Internal Medicine (2012)
- Colorado Governor's Presentation Selection, American College of Physicians (2011)
- Student Research Award, Society of Toxicology (2004)
- Team Captain, University of Connecticut Mens' Varsity Tennis Team (2004)

- New England and Nutmeg Scholar, University of Connecticut (2003-2004)
- University Scholar Program Participant, University of Connecticut (2003-2004)
- Director of Athletics Scholar-Athlete Award, University of Connecticut (2002-2004)
- Altshuler Family Scholarship, University of Connecticut (2002)
- Academic Merit Annual Award, University of Connecticut School of Engineering (2002)
- Academic-Athlete All-Star Team, Big East Conference (2001-2004)
- Magna Cum Laude with Honors Degree Distinction, University of Connecticut (2004)
- Salutatorian, Galena High School- Reno, NV (2000)
- Finalist, Wendy's High School Heisman Scholar Athlete Award (2000)
- Nationally ranked junior tennis player and Nevada High School Individual State Champion, United States Tennis Association (1998-2000)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American College of Chest Physicians (2014 - present)
- Member, American Thoracic Society (2011 - present)
- Representative, University of Colorado Housestaff Association (2011 - 2012)
- Member and Key Advocate, American College of Physicians (2010 - 2013)
- Member and Advocate, Physicians for Human Rights (2006 - 2009)
- Student Representative, Georgetown University School of Medicine Social Justice Committee (2006 - 2009)
- Member, American Medical Association (2005 - 2009)
- Member, Tau Beta Pi- international engineering honor society (2002 - 2005)
- Member, Eta Kappa Nu- international engineering honor society (2002 - 2005)
- Team Representative, University of Connecticut Student Athlete Advisory Council (2001 - 2004)

PROFESSIONAL EDUCATION

- Medical Education: Georgetown University School of Medicine (2009) DC
- Fellowship: Stanford University Pulmonary and Critical Care Fellowship (2016) CA
- Board Certification: Critical Care Medicine, American Board of Internal Medicine (2016)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2012)
- Residency: University of Colorado Internal Medicine Residency (2012) CO
- Bachelor of Science, University of Connecticut School of Engineering , Major- Biomedical Engineering (Chemical Engineering focus) Minor- Biotechnology (2004)
- Board Certification, Critical Care Medicine , American Board of Internal Medicine (2017)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Sweatt's research centers on using high-throughput molecular profiling and advanced bioinformatics tools, including machine learning and systems-based network analyses, to uncover novel phenotypes and improve understanding of pulmonary arterial hypertension (PAH). When previously supported by the NIH K12 Career Development Program and the American Thoracic Society (ATS) Foundation/Pulmonary Hypertension Association (PHA) Research Fellowship, he developed a machine learning approach to classify PAH patients solely on the basis of blood immune profiling, without initial guidance from clinical features. This agnostic strategy led to the discovery and validation of PAH immune phenotypes with distinct proteomic profiles that are independent of PAH etiology and stratify clinical risk. To build

on this foundational research, he now serves as PI of a NIH K23 project which seeks to understand PAH immune phenotypes with respect to their evolution during disease progression, mechanistic underpinnings, and therapeutic implications.

In other collaborative PAH research, he has contributed the development of blood biomarkers that relate to disease pathobiology and therapies under investigation, ascertained novel molecular and echocardiographic features of right heart maladaptation, and characterized new clinical sub-phenotypes. He serves as co-investigator for a NIH R21 project investigating exosome biology in PAH using a novel microfluidics platform.

In recognition of his scientific contributions, Dr. Sweatt holds appointed positions on the American Thoracic Society (ATS) Pulmonary Circulation Program Committee, ATS Program Review Subcommittee, PAH ICON International Genetics Consortium, PHA Research Room Committee, ATS Early Career Working Group, and AHA 3CPR Early Career Committee, among others.

Publications

PUBLICATIONS

- **Computational platform for doctor-artificial intelligence cooperation in pulmonary arterial hypertension prognostication: a pilot study.** *ERJ open research* Kheifets, V. O., Sweatt, A. J., Gomberg-Maitland, M., Ivy, D. D., Condliffe, R., Kiely, D. G., Lawrie, A., Maron, B. A., Zamanian, R. T., Stenmark, K. R. 2023; 9 (1)
- **Pulmonary Vasodilator Response of Combined Inhaled Epoprostenol and Inhaled Milrinone in Cardiac Surgical Patients.** *Anesthesia and analgesia* Elmi-Sarabi, M., Jarry, S., Couture, E. J., Haddad, F., Cogan, J., Sweatt, A. J., Rousseau-Saine, N., Beaubien-Souigny, W., Fortier, A., Denault, A. Y. 2022
- **Endogenous Retroviral Elements Generate Pathologic Neutrophils in Pulmonary Arterial Hypertension.** *American journal of respiratory and critical care medicine* Taylor, S., Isobe, S., Cao, A., Contrepois, K., Benayoun, B. A., Jiang, L., Wang, L., Melemenidis, S., Ozen, M. O., Otsuki, S., Shinohara, T., Sweatt, A. J., Kaplan, et al 2022
- **Peripheral Blood Inflammation Profile of Patients with Pulmonary Arterial Hypertension Using the High-Throughput Olink Proteomics Platform** *AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY* Mickael, C., Kheifets, V. O., Langouet-Astrie, C., Lee, M. H., Sanders, L. A., Trentin, C. O., Sweatt, A. J., Zamanian, R. T., Bull, T. M., Stenmark, K., Graham, B. B., Tuder, R. M. 2022; 66 (5): 581-583
- **Peripheral Blood Inflammation Profile of Patients with Pulmonary Arterial Hypertension Using the High-Throughput Olink Proteomics Platform.** *American journal of respiratory cell and molecular biology* Mickael, C., Kheifets, V. O., Langouet-Astrie, C., Lee, M. H., Sanders, L. A., Trentin, C. O., Sweatt, A. J., Zamanian, R. T., Bull, T. M., Stenmark, K., Graham, B. B., Tuder, R. M. 2022; 66 (5): 580-581
- **Harnessing Big Data to Advance Treatment and Understanding of Pulmonary Hypertension** *CIRCULATION RESEARCH* Rhodes, C. J., Sweatt, A. J., Maron, B. A. 2022; 130 (9): 1423-1444
- **Exploring disease interrelationships in patients with lymphatic disorders: A single center retrospective experience.** *Clinical and translational medicine* Rockson, S. G., Zhou, X., Zhao, L., Hosseini, D. K., Jiang, X., Sweatt, A. J., Kim, D., Tian, W., Snyder, M. P., Nicolls, M. R. 2022; 12 (4): e760
- **What's new in pulmonary hypertension clinical research: lessons from the best abstracts at the 2020 American Thoracic Society International Conference.** *Pulmonary circulation* Sweatt, A. J., Reddy, R., Rahaghi, F. N., Al-Naamani, N., American Thoracic Society Pulmonary Circulation Assembly Early Career Working Group 2021; 11 (3): 20458940211040713
- **Reply to: Multiple Manifestations of Systemic Sclerosis Affect Walk Distance.** *American journal of respiratory and critical care medicine*

- Zamanian, R. T., Pinckney, A., Domsic, R. T., Medsger, T., Keyes-Elstein, L., Sweatt, A. J., Welch, B., Goldmuntz, E., Nicolls, M. R., Chung, L., NIH ASC01 Study Group
2021
- **NHLBI-CMREF Workshop Report on Pulmonary Vascular Disease Classification: JACC State-of-the-Art Review.** *Journal of the American College of Cardiology*
Oldham, W. M., Hemnes, A. R., Aldred, M. A., Barnard, J., Brittain, E. L., Chan, S. Y., Cheng, F., Cho, M. H., Desai, A. A., Garcia, J. G., Geraci, M. W., Ghiassian, S. D., Hall, et al
2021; 77 (16): 2040–52
 - **Safety and Efficacy of B-Cell Depletion with Rituximab for the Treatment of Systemic Sclerosis Associated Pulmonary Arterial Hypertension: A Multi-center, Double-blind, Randomized, Placebo-controlled Trial.** *American journal of respiratory and critical care medicine*
Zamanian, R. T., Badesch, D., Chung, L., Domsic, R. T., Medsger, T., Pinckney, A., Keyes-Elstein, L., D'Aveta, C., Spychala, M., White, R. J., Hassoun, P. M., Torres, F., Sweatt, et al
2021
 - **Prescription Patterns for Pulmonary Vasodilators in the Treatment of Pulmonary Hypertension Associated With Chronic Lung Diseases: Insights From a Clinician Survey.** *Frontiers in medicine*
Thomas, C. A., Lee, J., Bernardo, R. J., Anderson, R. J., Glinskii, V., Sung, Y. K., Kudelko, K., Hedlin, H., Sweatt, A., Kawut, S. M., Raj, R., Zamanian, R. T., de Jesus Perez, et al
1800; 8: 764815
 - **Severe Pulmonary Arterial Hypertension is Characterized by Increased Neutrophil Elastase and Relative Elafin Deficiency.** *Chest*
Sweatt, A. J., Miyagawa, K., Rhodes, C. J., Taylor, S., Del Rosario, P. A., Hsi, A., Haddad, F., Spiekerkoetter, E., Bental-Roof, M., Bland, R. D., Swietlik, E. M., Gräf, S., Wilkins, et al
2021
 - **The Right Heart Network and Risk Stratification in Pulmonary Arterial Hypertension.** *Chest*
Haddad, F., Contrepois, K., Amsallem, M., Denault, A. Y., Bernardo, R. J., Jha, A., Taylor, S., Arthur Ataam, J., Mercier, O., Kouznetsova, T., Vonk Noordegraaf, A., Zamanian, R. T., Sweatt, et al
2021
 - **Quantifying the Influence of Wedge Pressure, Age, and Heart Rate on the Systolic Thresholds for Detection of Pulmonary Hypertension.** *Journal of the American Heart Association*
Amsallem, M., Tedford, R. J., Denault, A., Sweatt, A. J., Guihaire, J., Hedman, K., Peighambari, S., Kim, J. B., Li, X., Miller, R. J., Mercier, O., Fadel, E., Zamanian, et al
2020: e016265
 - **PROGNOSTIC VALUE OF THE RELATIVE PULMONARY PRESSURE RATIO AND ITS TRAJECTORY IN PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION**
Bagherzadeh, S. P., Amsallem, M., Denault, A., Sweatt, A., Kudelko, K., Sung, Y., Haddad, F., Zamanian, R.
ELSEVIER SCIENCE INC.2020: 2096
 - **Targeted Proteomics of Right Heart Adaptation to Pulmonary Arterial Hypertension.** *The European respiratory journal*
Amsallem, M. n., Sweatt, A. J., Arthur Ataam, J. n., Guihaire, J. n., Lecerf, F. n., Lambert, M. n., Ghigna, M. R., Ali, M. K., Mao, Y. n., Fadel, E. n., Rabinovitch, M. n., de Jesus Perez, V. n., Spiekerkoetter, et al
2020
 - **Mural Cell SDF1 Signaling is Associated with the Pathogenesis of Pulmonary Arterial Hypertension.** *American journal of respiratory cell and molecular biology*
Yuan, K. n., Liu, Y. n., Zhang, Y. n., Nathan, A. n., Tian, W. n., Yu, J. n., Sweatt, A. J., Condon, D. n., Chakraborty, A. n., Agarwal, S. n., Auer, N. n., Zhang, S. n., Wu, et al
2020
 - **Genetic Admixture and Survival in Diverse Populations with Pulmonary Arterial Hypertension.** *American journal of respiratory and critical care medicine*
Karnes, J. H., Wiener, H. W., Schwantes-An, T. H., Natarajan, B. n., Sweatt, A. J., Chaturvedi, A. n., Arora, A. n., Batai, K. n., Nair, V. n., Steiner, H. E., Giles, J. B., Yu, J. n., Hosseini, et al
2020
 - **Hemodynamic trajectories and outcomes in patients with pulmonary arterial hypertension.** *Pulmonary circulation*
Amsallem, M. n., Bagherzadeh, S. P., Boulate, D. n., Sweatt, A. J., Kudelko, K. T., Sung, Y. K., Feinstein, J. A., Fadel, E. n., Mercier, O. n., Denault, A. n., Haddad, F. n., Zamanian, R. n.

2020; 10 (4): 2045894020941343

- **Survival implications of pulmonary hypertension in end-stage COPD**
Kapasi, A., Halloran, K., Hirji, A., Lien, D., Mooney, J., Raj, R., Sweatt, A., Weinkauff, J., Zamanian, R.
EUROPEAN RESPIRATORY SOC JOURNALS LTD.2019
- **Elevated pulmonary vascular resistance is associated with increased risk of death in IPF**
Kapasi, A., Halloran, K., Hirji, A., Lien, D., Mooney, J., Raj, R., Sweatt, A., Weinkauff, J., Zamanian, R.
EUROPEAN RESPIRATORY SOC JOURNALS LTD.2019
- **Discovery of Distinct Immune Phenotypes Using Machine Learning in Pulmonary Arterial Hypertension** *CIRCULATION RESEARCH*
Sweatt, A. J., Hedlin, H. K., Balasubramanian, V. n., Hsi, A., Blum, L. K., Robinson, W. H., Haddad, F., Hickey, P. M., Condliffe, R., Lawrie, A., Nicolls, M. R., Rabinovitch, M., Khatri, et al
2019; 124 (6): 904–19
- **Discovery of Distinct Immune Phenotypes Using Machine Learning in Pulmonary Arterial Hypertension.** *Circulation research*
Sweatt, A. J., Hedlin, H. K., Balasubramanian, V. n., Hsi, A. n., Blum, L. K., Robinson, W. H., Haddad, F. n., Hickey, P. M., Condliffe, R. A., Lawrie, A. n., Nicolls, M. R., Rabinovitch, M. n., Khatri, et al
2019
- **Circulating plasmablasts are elevated and produce pathogenic anti-endothelial cell autoantibodies in idiopathic pulmonary arterial hypertension.** *European journal of immunology*
Blum, L. K., Cao, R. R., Sweatt, A. J., Bill, M. n., Lahey, L. J., Hsi, A. C., Lee, C. S., Kongpachith, S. n., Ju, C. H., Mao, R. n., Wong, H. H., Nicolls, M. R., Zamanian, et al
2018
- **Identification of Biomarkers Predictive of Pulmonary Arterial Hypertension in Systemic Sclerosis**
Kolstad, K. D., Holmes, T., Rosenberg-Hasson, Y., Sweatt, A., Zamanian, R. T., Li, S., Steen, V. D., Utz, P. J., Chung, L.
WILEY.2017
- **Right Heart End-Systolic Remodeling Index Strongly Predicts Outcomes in Pulmonary Arterial Hypertension: Comparison With Validated Models.** *Circulation. Cardiovascular imaging*
Amsallem, M., Sweatt, A. J., Aymami, M. C., Kuznetsova, T., Selej, M., Lu, H., Mercier, O., Fadel, E., Schnitger, I., McConnell, M. V., Rabinovitch, M., Zamanian, R. T., Haddad, et al
2017; 10 (6)
- **Features and Outcomes of Methamphetamine Associated Pulmonary Arterial Hypertension.** *American journal of respiratory and critical care medicine*
Zamanian, R. T., Hedlin, H. n., Greuenwald, P. n., Wilson, D. M., Segal, J. I., Jorden, M. n., Kudelko, K. n., Liu, J. n., Hsi, A. n., Rupp, A. n., Sweatt, A. J., Tuder, R. n., Berry, et al
2017
- **Serial Vasoreactivity Reassessment is a Prognostic Tool in Pulmonary Arterial Hypertension** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Spiekerkoetter, E., Hsi, A., Sung, Y., De Jesus Perez, V., Kudelko, K., Zamanian, R.
2016; 193: A6464
- **DLCO Change in Pulmonary Arterial Hypertension Reflects Vascular Function as Determined by Longitudinal Response to Inhaled Nitric Oxide** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Spiekerkoetter, E., Hsi, A., Sung, Y., Kudelko, K., De Jesus Perez, V., Zamanian, R.
2016; 193: A7320
- **Right Heart End-Systolic Remodeling Index Strongly Predicts Outcomes in Pulmonary Arterial Hypertension, Insights From a Network Analysis** *Circulation*
Amsallem, M., Sweatt, A., Aymami, M., Kuznetsova, T., Mercier, O., Fadel, E., McConnell, M., Rabinovitch, M., Zamanian, R., Haddad, F.
2016; 134: A18038
- **Comprehensive Characterization of Insulin Resistance and its Association with Ventricular Function in Pulmonary Hypertension** *American Journal of Respiratory and Critical Care Medicine*
Wells, R., Sweatt, A., Cuttica, M., Dash, R., Abbasi, F., Van de Veerdonk, M., Preston, I., Hemnes, A., Gomberg-Maitland, M., Zamanian, R.
2016; 193: A6462
- **Evaluation of Changes in Static and Pulsatile Hemodynamic Indices Across Longitudinal Vasoreactivity Tests in Pulmonary Arterial Hypertension** *American Journal of Respiratory and Critical Care Medicine*

- Sweatt, A., Spiekerkoetter, E., Hsi, A., Sung, Y., Kudelko, K., De Jesus Perez, V., Zamanian, R.
2016; 193: A7319
- **Kaposiform Lymphangiomas: An Unforeseen Cause of Spontaneous Hemothorax and Episodic Hemoptysis** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Regalia, K.
2016; 193: A3346
 - **Using Near-Infrared Spectroscopy to Characterize the Effects of Inhaled Nitric Oxide on Skeletal Muscle Oxygen Saturation in Adults with Pulmonary Arterial Hypertension** *American Journal of Respiratory and Critical Care Medicine*
Brian, S., Kholdani, C., Sweatt, A., Hedlin, H., Hsi, A., Spiekerkoetter, E., Zamanian, R.
2016; 193: A3961
 - **High Prevalence of Gastroparesis in Post-Lung Transplant Patients and Pyloric Botox for the Prevention of Bronchiolitis Obliterans Syndrome** *American Journal of Gastroenterology*
Regalia, K., Sweatt, A., Wang, L., Nguyen, L.
2015; 110: S1028
 - **Evolving Epidemiology and Definitions of the Acute Respiratory Distress Syndrome and Early Acute Lung Injury** *CLINICS IN CHEST MEDICINE*
Sweatt, A. J., Levitt, J. E.
2014; 35 (4): 609-?
 - **Interventional Pulmonologist Perspective: Treatment of Malignant Pleural Effusion** *CURRENT TREATMENT OPTIONS IN ONCOLOGY*
Sweatt, A. J., Sung, A.
2014; 15 (4): 625-643
 - **Interventional pulmonologist perspective: treatment of malignant pleural effusion.** *Current treatment options in oncology*
Sweatt, A. J., Sung, A.
2014; 15 (4): 625-643
 - **Evolving epidemiology and definitions of the acute respiratory distress syndrome and early acute lung injury.** *Clinics in chest medicine*
Sweatt, A. J., Levitt, J. E.
2014; 35 (4): 609-624
 - **A Microarray Biosensor for Multiplexed Detection of Microbes Using Grating-Coupled Surface Plasmon Resonance Imaging** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Marusov, G., Sweatt, A., Pietrosimone, K., Benson, D., Geary, S. J., Silbart, L. K., Challa, S., Lagoy, J., Lawrence, D. A., Lynes, M. A.
2012; 46 (1): 348-359
 - **The effect of plasma transfusion on oxygenation in critically ill patients with chronic liver disease** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Biggins, S., Rosen, H., Clark, B., Smart, A., Moss, M., Benson, A.
2012; 185: A1151
 - **A Case of Multi-Organ Langerhans Cell Histiocytosis Responsive to Tobacco Cessation** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Rizeq, M., Sandberg, M.
2012; 185: A5429
 - **A dosing formula for INR-targeted plasma transfusion in bleeding patients with chronic liver disease** *American Journal of Respiratory and Critical Care Medicine*
Sweatt, A., Moss, M., Tripputi, M., Benson, A.
2011; 183: A5828
 - **Spastic Esophageal Motility Disorders in Post-Lung Transplant Patients** *59th Annual Aspen Lung Conference*
Regalia, K., Sweatt, A., Chhatwani, L., Mooney, J., Dhillon, G., Nguyen, L.
2016
 - **When a Pain in the Neck May Have Helped: Painless Subacute Granulomatous Thyroiditis Causing Fever of Unknown Origin** *American College of Physicians National Meeting*
Sweatt, A., Mascolo, M.
2012

PRESENTATIONS

- Is Deep Immunophenotyping on the Horizon in Pulmonary Arterial Hypertension - Proteomic and Genomic Deep Phenotyping in PAH International Symposium (May 13, 2016)
- Selected Highlights from ATS 2016- Pulmonary Circulation Assembly Journal Club Webinar - American Thoracic Society Pulmonary Circulation Assembly (8/12/2016)