Stanford

Joe Le Hsu

Assistant Professor of Medicine (Pulmonary and Critical Care)

Medicine - Pulmonary, Allergy & Critical Care Medicine

CLINICAL OFFICE (PRIMARY)

- **Chest Clinic**

  300 Pasteur Dr Rm A175

  MC 5351

  Stanford, CA 94305

  Tel (650) 725-7061 **Fax** (750) 498-6288

Bio

CLINICAL FOCUS

- Pulmonary Disease
- Pulmonary & Critical Care

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Medicine - Pulmonary, Allergy & Critical Care Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Parker B. Francis Fellow 2014, Parker B. Francis Foundation (2014-2017)
- K08 Awardee, NIH-NHLBI (8/2015)

PROFESSIONAL EDUCATION

- Board Certification: Pulmonary Disease, American Board of Internal Medicine (2008)
- Board Certification: Critical Care Medicine, American Board of Internal Medicine (2009)
- Medical Education: Tufts University School of Medicine (2002) MA
- Fellowship: Stanford University Pulmonary and Critical Care Fellowship (2009) CA
- Residency: Stanford University Internal Medicine Residency (2005) CA
- Internship: Stanford University Internal Medicine Residency (2003) CA
- Residency, Stanford University , Internal Medicine (2005)
- MPH, Boston University , Epidemiology (1996)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My lab is interested in translational research with a focus on pulmonary diseases in immune compromised persons. Using an airway transplant model, we have identified modifiable risk factors that may promote pathogen invasion in lung transplant recipients. We hope that these discoveries will lead to novel treatments for these prevalent infections. I am also the director of the Lung Graft Versus Host Disease clinic. In this clinic we are developing imaging methods for the earlier diagnosis of lung GVHD and conducting a phase II randomized controlled trial to study Pirfenidone for treatment of bronchiolitis obliterans syndrome after hematopoietic cell transplant.

CLINICAL TRIALS

- Parametric Response Mapping (PRM) for the Detection of Chronic Lung Injury in Hematopoietic Cell Transplant Recipients, Recruiting
- The Longitudinal Impact of Respiratory Viruses on Bronchiolitis Obliterans Syndrome After Allogeneic Hematopoietic Cell Transplantation (The RV-BOS Study), Recruiting
- The Safety and Tolerability of Pirfenidone for BOS After HCT, Not Recruiting
- A Study to Investigate Acute Respiratory Virus Infections in Participants at High Risk for Severe Illness, Not Specified

Publications

PUBLICATIONS

- **Lung Complications after Allogeneic Hematopoietic Cell Transplant and Outcomes: Implications Beyond Bronchiolitis Obliterans Syndrome.** *Transplantation and cellular therapy*
  Lai, Y. K., Sharifi, H., Arai, S., Scheck, A., Brondstetter, T., Epstein, D. J., Hsu, J. L.
  2026
- **Use of Home Spirometry for Steroid Tapering.** *Respirology case reports*
  Musa, Z., Moss, C. T., Borges, C. D., Sharifi, H., Hsu, J.
  2026; 14 (6): e70607
- **Lung Complications after Allogeneic Hematopoietic Cell Transplant and Outcomes: Implications Beyond BOS**
  Lai, Y., Shari, H., Arai, S., Scheck, A., Hsu, J. L.
  ELSEVIER SCIENCE INC.2026
- **Iron InducesAspergillusProteases in Cystic Fibrosis Allergic Bronchopulmonary Aspergillosis.** *American journal of respiratory cell and molecular biology*
  Chatterjee, P., Ahmad, A., Dhillon, E., Matthaiou, E. I., Abd El-Hafeez, A. A., Chiu, W., Illek, B., Stevens, D. A., Milla, C., Hsu, J. L.
  2025
- **Noninfectious pulmonary complications after hematopoietic cell transplantation: a comprehensive review.** *Respiratory medicine*
  Bertini, C., Soto, F., Brown, R., Bashoura, L., Cheng, G. S., Hensley, M. K., Hsu, J., Lai, Y. K., Sharifi, H., Sturek, J. M., Yanik, G. A., Yadav, H., Faiz, et al
  2025: 108336
- **Bronchiectasis in bronchiolitis obliterans syndrome after hematopoietic cell transplantation.** *Transplantation and cellular therapy*
  Epstein, D. J., Rodriguez-Ormaza, N., Sharifi, H., Lai, Y. K., Guo, H. H., Borges, C. H., Omar, S. H., Sahota, A., Dhillon, E. S., Musa, Z. M., Moss, C. T., Chatterjee, P., Hofmann, et al
  2025
- **Addressing Knowledge Gaps in the Early Detection of Bronchiolitis Obliterans Syndrome After Hematopoietic Cell Transplantation. An Official American Thoracic Society Research Statement.** *American journal of respiratory and critical care medicine*
  Cheng, G., Sheshadri, A., Turner, J., Williams, K. M., Hsu, J. L., Agoritsas, T., Ali, M. H., Bondeelle, L., Bouguet, G., Chanez, P., Cooke, K. R., Galban, C. J., Goldfarb, et al
  2025
- **Pirfenidone for the treatment of bronchiolitis obliterans syndrome related to chronic graft-versus-host disease.** *Blood advances*

Sharifi, H., Moss, C. T., Musa, Z., Bell, A., O'Donnell, C., Borges, C., Matthaiou, E. I., Johnston, L., Galban, C., Sheshadri, A., Yanik, G. A., Cheng, G. S., Hsu, et al
2025

- **Inflammatory markers and microbiome dysbiosis in hematopoietic cell transplant recipients with lung graft-versus-host disease.** *Transplantation and cellular therapy*
  Brehm, V., Wang, Z., Rocha, L., Jones, B., Jenq, R. R., Chang, C., Cheng, G., Hsu, J., Sharifi, H., Yanik, G., Luna, L., Waqar, A., Zaveri, et al
  2025

- **Macrophage ferroptosis inhibits Aspergillus conidial killing in lung transplantation.** *bioRxiv : the preprint server for biology*
  Matthaiou, E. I., El-Hafeez, A. A., Sharifi, H., Chatterjee, P., Zinter, M., Johansson, P., Dhillon, E., Chiu, W., Qian, J., Shaller, B., Chang, J., Pasupneti, S., Borges, et al
  2025

- **Allergic Bronchopulmonary Aspergillosis (ABPA) in the Era of Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Modulators.** *Journal of fungi (Basel, Switzerland)*
  Chatterjee, P., Moss, C. T., Omar, S., Dhillon, E., Hernandez Borges, C. D., Tang, A. C., Stevens, D. A., Hsu, J. L.
  2024; 10 (9)

- **Discordant High Activated Partial Thromboplastin Time Relative to Anti-Xa Values in Hospitalized Patients is an Independent Risk Factor for Increased 30-day Mortality.** *Seminars in thrombosis and hemostasis*
  Jin, J., Gummidipundi, S., Hsu, J., Sharifi, H., Boothroyd, D., Krishnan, A., Zehnder, J. L.
  2024

- **CT strain metrics allow for earlier diagnosis of bronchiolitis obliterans syndrome after hematopoietic cell transplant.** *Blood advances*
  Sharifi, H., Bertini, C. D., Alkhunaizi, M., Hernandez, M. P., Musa, Z., Borges, C., Turk, I., Bashoura, L., Dickey, B. F., Cheng, G. S., Yanik, G. A., Galban, C., Guo, et al
  2024

- **The Expanding Mycovirome of Aspergilli.** *Journal of fungi (Basel, Switzerland)*
  Battersby, J. L., Stevens, D. A., Coutts, R. H., Havlíček, V., Hsu, J. L., Sass, G., Kotta-Loizou, I.
  2024; 10 (8)

- **How I diagnose and treat organizing pneumonia in hematopoietic cell transplant recipients.** *Blood*
  Lai, Y. K., Sharifi, H., Hsu, J. L.
  2024

- **Impact of C-reactive Protein on Anticoagulation Monitoring in Extracorporeal Membrane Oxygenation.** *Journal of cardiothoracic and vascular anesthesia*
  Madhok, J., O'Donnell, C., Jin, J., Owyang, C. G., Weimer, J. M., Pashun, R. A., Shudo, Y., McNulty, J., Chadwick, B., Ruoss, S. J., Rao, V. K., Zehnder, J. L., Hsu, et al
  2024

- **Coronavirus Disease-2019 Pneumonia: Clinical Manifestations.** *Clinics in chest medicine*
  Sharifi, H., Hsu, J.
  2023; 44 (2): 227-237

- **NCCN Guidelines Insights: Hematopoietic Cell Transplantation, Version 3.2022.** *Journal of the National Comprehensive Cancer Network : JNCCN*
  Saad, A., Loren, A., Bolanos-Meade, J., Chen, G., Couriel, D., Di Stasi, A., El-Jawahri, A., Elmariah, H., Farag, S., Gundabolu, K., Gutman, J., Ho, V., Hoeg, et al
  2023; 21 (2): 108-115

- **IMPACT OF C-REACTIVE PROTEIN ON ANTICOAGULATION MONITORING IN EXTRACORPOREAL MEMBRANE OXYGENATION**
  Madhok, J., ODonnell, C., Jin, J., Owyang, C., Weimer, J., Pashun, R., Shudo, Y., McNulty, J., Chadwick, B., Ruoss, S., Rao, V., Zehnder, J., Hsu, et al
  LIPPINCOTT WILLIAMS & WILKINS.2023: 54

- **A value-based approach to optimize red blood cell transfusion in patients receiving extracorporeal membrane oxygenation.** *Perfusion*
  Shudo, Y., Cheng, N., He, H., Rosenberg, C., Hiesinger, W., Hadhazy, E., Shepard, J., Krishna, P., Resnik, J., Fong, R., Hill, C., Hsu, J. L., Maggio, et al

2022: 2676591221128138

- **Epidemiology of lower respiratory tract infections and community-acquired respiratory viruses in patients with bronchiolitis obliterans syndrome after hematopoietic cell transplant: a retrospective cohort study.** *Transplantation and cellular therapy*
  Epstein, D. J., Liang, E. C., Sharifi, H., Lai, Y. K., Arai, S., Graber-Naidich, A., Sundaram, V., Nelson, J., Hsu, J. L.
  2022

- **Macrophage Lysosomal Alkalinization Drives Invasive Aspergillosis in a Mouse Cystic Fibrosis Model of Airway Transplantation.** *Journal of fungi (Basel, Switzerland)*
  Matthaiou, E. I., Chiu, W., Conrad, C., Hsu, J.
  2022; 8 (7)

- **Graft-versus-host disease may cause pulmonary restriction, but not all restriction is graft-versus-host disease.** *Blood advances*
  Sheshadri, A., Huang, H. J., Bashoura, L., Alousi, A. M., Alkhunaizi, M. A., Sharifi, H., Hsu, J. L.
  2022

- **The safety and tolerability of pirfenidone for bronchiolitis obliterans syndrome after hematopoietic cell transplant (STOP-BOS) trial.** *Bone marrow transplantation*
  Matthaiou, E. I., Sharifi, H., O'Donnell, C., Chiu, W., Owyang, C., Chatterjee, P., Turk, I., Johnston, L., Brondstetter, T., Morris, K., Cheng, G., Hsu, J. L.
  2022

- **From Mass to Flow: Emerging Sepsis Diagnostics Based on Flow Cytometry Analysis of Neutrophils.** *American journal of respiratory and critical care medicine*
  Verdonk, F., Hsu, J. L., Gaudilliere, B.
  2021

- **Harnessing the Potential of Multiomics Studies for Precision Medicine in Infectious Disease.** *Open forum infectious diseases*
  Ward, R. A., Aghaeepour, N., Bhattacharyya, R. P., Clish, C. B., Gaudilliere, B., Hacohen, N., Mansour, M. K., Mudd, P. A., Pasupneti, S., Presti, R. M., Rhee, E. P., Sen, P., Spec, et al
  2021; 8 (11): ofab483

- **Head-to-head Comparison of Qualitative Radiologist Assessment With Automated Quantitative Computed Tomography Analysis for Bronchiolitis Obliterans Syndrome After Hematopoietic Cell Transplantation.** *Journal of thoracic imaging*
  Sharifi, H., Guenther, Z. D., Leung, A. N., Johnston, L., Lai, Y. K., Hsu, J. L., Guo, H. H.
  2021

- **The Use of Factor Eight Inhibitor Bypass Activity (FEIBA) for the Treatment of Perioperative Hemorrhage in Left Ventricular Assist Device Implantation.** *Journal of cardiothoracic and vascular anesthesia*
  O'Donnell, C., Rodriguez, A. J., Madhok, J., Sharifi, H., Wang, H., O'Brien, C. G., Boyd, J., Hiesinger, W., Hsu, J., Hill, C. C.
  2021

- **Thoracic epidural analgesia in a lung transplant patient with an activated partial thromboplastin time falsely elevated by C-reactive protein.** *Canadian journal of anaesthesia = Journal canadien d'anesthesie*
  Simon, E. R., Hsu, J., Nwokeabia, D., Leong, M., Keeyapaj, W.
  2021

- **THE SAFETY AND EFFICACY OF PERIOPERATIVE FEIBA AFTER LEFT VENTRICULAR ASSIST DEVICE IMPLANTATION**
  ODonnell, C., Rodriguez, A., Madhok, J., Wang, H., Shad, R., Sharifi, H., Boyd, J., William, H., Hsu, J., Hill, C.
  LIPPINCOTT WILLIAMS & WILKINS.2021: 168

- **Hematopoietic Cell Transplantation Version 2.2020** *JOURNAL OF THE NATIONAL COMPREHENSIVE CANCER NETWORK*
  Saad, A., de Lima, M., Anand, S., Bhatt, V., Bookout, R., Chen, G., Couriel, D., Di Stasi, A., El-Jawahri, A., Giralt, S., Gutman, J., Ho, V., Horwitz, et al
  2020; 18 (5): 599–634

- **Physiology of the Assisted Circulation in Cardiogenic Shock: A State-of-the-Art Perspective.** *The Canadian journal of cardiology*
  Guihaire, J., Haddad, F., Hoppenfeld, M., Amsallem, M., Christle, J. W., Owyang, C., Shaikh, K., Hsu, J. L.
  2020; 36 (2): 170–83

- **Machine learning algorithms to differentiate among pulmonary complications after hematopoietic cell transplant.** *Chest*
  Sharifi, H. n., Lai, Y. K., Guo, H. n., Hoppenfeld, M. n., Guenther, Z. D., Johnston, L. n., Brondstetter, T. n., Chhatwani, L. n., Nicolls, M. R., Hsu, J. L.

2020

- **Differences in prevalence of ICU protocols between neurologic and non-neurologic patient populations** *JOURNAL OF CRITICAL CARE*
  Billington, M. E., Seethala, R. R., Hou, P. C., Takhar, S. S., Askari, R., Aisiku, I. P., O'Keeffe, T., Collins, C., Rokowski, L., Liebler, J., Ahoui, A., Nersiseyan, A., Shah, et al
  2019; 52: 63–67

- **Iron: an essential nutrient for Aspergillus fumigatus and a fulcrum for pathogenesis.** *Current opinion in infectious diseases*
  Matthaiou, E. I., Sass, G., Stevens, D. A., Hsu, J. L.
  2018; 31 (6): 506–11

- **Microhemorrhage-associated tissue iron enhances the risk forAspergillus fumigatusinvasion in a mouse model of airway transplantation.** *Science translational medicine*
  Hsu, J. L., Manouvakhova, O. V., Clemons, K. V., Inayathullah, M. n., Tu, A. B., Sobel, R. A., Tian, A. n., Nazik, H. n., Pothineni, V. R., Pasupneti, S. n., Jiang, X. n., Dhillon, G. S., Bedi, et al
  2018; 10 (429)

- **Pulmonary Infections in Immunocompromised Hosts: Clinical.** *Journal of thoracic imaging*
  Vazquez Guillamet, C. n., Hsu, J. L., Dhillon, G. n., Vazquez Guillamet, R. n.
  2018

- **Aspergillus-related pulmonary diseases in lung transplantation** *MEDICAL MYCOLOGY*
  Pasupneti, S., Manouvakhova, O., Nicolls, M. R., Hsu, J. L.
  2017; 55 (1): 96-102

- **Enhanced Electrochemical Sensing with Carbon Nanotubes Modified with Bismuth and Magnetic Nanoparticles in a Lab-on-a-Chip** *CHEMNANOMAT*
  Jothimuthu, P., Hsu, J. L., Chen, R., Inayathullah, M., Pothineni, V. R., Jan, A., Gurtner, G. C., Rajadas, J., Nicolls, M. R.
  2016; 2 (9): 904-910

- **Enhanced Electrochemical Sensing with Carbon Nanotubes Modified with Bismuth and Magnetic Nanoparticles in a Lab-on-a-Chip.** *ChemNanoMat : chemistry of nanomaterials for energy, biology and more*
  Jothimuthu, P., Hsu, J. L., Chen, R., Inayathullah, M., Pothineni, V. R., Jan, A., Gurtner, G. C., Rajadas, J., Nicolls, M. R.
  2016; 2 (9): 904-910

- **Microvascular injury after lung transplantation** *CURRENT OPINION IN ORGAN TRANSPLANTATION*
  Nicolls, M. R., Hsu, J. L., Jiang, X.
  2016; 21 (3): 279-284

- **Effects of Iron Chelators on the Formation and Development of Aspergillus fumigatus Biofilm** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Nazik, H., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K., Spormann, A. M., Martinez, M., Chen, V., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (10): 6514-6520

- **Effects of Iron Chelators on the Formation and Development of Aspergillus fumigatus Biofilm.** *Antimicrobial agents and chemotherapy*
  Nazik, H., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K., Spormann, A. M., Martinez, M., Chen, V., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (10): 6514-20

- **Targeted complement inhibition and microvasculature in transplants: a therapeutic perspective.** *Clinical and experimental immunology*
  Khan, M. A., Hsu, J. L., Assiri, A. M., Broering, D. C.
  2015

- **Erratum for Nazik et al., effects of iron chelators on the formation and development of Aspergillus fumigatus biofilm.** *Antimicrobial agents and chemotherapy*
  Nazik, H. n., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K. n., Spormann, A. M., Martinez, M. n., Chen, V. n., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (11): 7160

- **Efficacy of Transthoracic Echocardiography for Diagnosing Heart Failure in Septic Shock** *AMERICAN JOURNAL OF THE MEDICAL SCIENCES*

Beraud, A., Guillamet, C. V., Hammes, J. L., Meng, L., Nicolls, M. R., Hsu, J. L.
2014; 347 (4): 295-298

- **Application of a non-amplification-based technology to detect invasive fungal pathogens** *DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE*
  Hsu, J. L., Binkley, J., Clemons, K. V., Stevens, D. A., Nicolls, M. R., Holodniy, M.
  2014; 78 (2): 137-140
- **Promotion of airway anastomotic microvascular regeneration and alleviation of airway ischemia by deferoxamine nanoparticles.** *Biomaterials*
  Jiang, X., Malkovskiy, A. V., Tian, W., Sung, Y. K., Sun, W., Hsu, J. L., Manickam, S., Wagh, D., Joubert, L., Semenza, G. L., Rajadas, J., Nicolls, M. R.
  2014; 35 (2): 803-813
- **Aspergillus fumigatus Invasion Increases with Progressive Airway Ischemia** *PLOS ONE*
  Hsu, J. L., Khan, M. A., Sobel, R. A., Jiang, X., Clemons, K. V., Nguyen, T. T., Stevens, D. A., Martinez, M., Nicolls, M. R.
  2013; 8 (10)
- **Tie2-dependent VHL knockdown promotes airway microvascular regeneration and attenuates invasive growth of Aspergillus fumigatus** *JOURNAL OF MOLECULAR MEDICINE-JMM*
  Jiang, X., Hsu, J. L., Tian, W., Yuan, K., Olcholski, M., Perez, V. D., Semenza, G. L., Nicolls, M. R.
  2013; 91 (9): 1081-1093
- **Vasopressin Compared with Norepinephrine Augments the Decline of Plasma Cytokine Levels in Septic Shock** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
  Russell, J. A., Fjell, C., Hsu, J. L., Lee, T., Boyd, J., Thair, S., Singer, J., Patterson, A. J., Walley, K. R.
  2013; 188 (3): 356-364
- **Propofol infusion syndrome resuscitation with extracorporeal life support: a case report and review of the literature.** *Annals of intensive care*
  Mayette, M., Gonda, J., Hsu, J. L., Mihm, F. G.
  2013; 3 (1): 32-?
- **Potential for overuse of corticosteroids and vasopressin in septic shock.** *Critical care (London, England)*
  Hsu, J. L., Liu, V., Patterson, A. J., Martin, G. S., Nicolls, M. R., Russell, J. A.
  2012; 16 (5): 447
- **The diagnostic yield of CT-guided percutaneous lung biopsy in solid organ transplant recipients** *CLINICAL TRANSPLANTATION*
  Hsu, J. L., Kuschner, W. G., Paik, J., Bower, N., Guillamet, M. C., Kothary, N.
  2012; 26 (4): 615-621
- **Diagnosing invasive fungal disease in critically ill patients** *CRITICAL REVIEWS IN MICROBIOLOGY*
  Hsu, J. L., Ruoss, S. J., Bower, N. D., Lin, M., Holodniy, M., Stevens, D. A.
  2011; 37 (4): 277-312
- **One-year outcomes of community-acquired and healthcare-associated pneumonia in the Veterans Affairs Healthcare System** *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES*
  Hsu, J. L., Siroka, A. M., Smith, M. W., Holodniy, M., Meduri, G. U.
  2011; 15 (6): E382-E387
- **Understanding and Identifying Bias and Confounding in the Medical Literature** *SOUTHERN MEDICAL JOURNAL*
  Hsu, J. L., Banerjee, D., Kuschner, W. G.
  2008; 101 (12): 1240-1245
- **Epstein-Barr virus and breast cancer: State of the evidence for viral carcinogenesis** *CANCER EPIDEMIOLOGY BIOMARKERS & PREVENTION*
  Glaser, S. L., Hsu, J. L., Gulley, M. L.
  2004; 13 (5): 688-697
- **Hodgkin's disease in Asians: incidence patterns and risk factors in population-based data** *LEUKEMIA RESEARCH*
  Glaser, S. L., Hsu, J. L.

2002; 26 (3): 261-269

- **Epstein-Barr virus-associated malignancies: epidemiologic patterns and etiologic implications** *CRITICAL REVIEWS IN ONCOLOGY HEMATOLOGY*
  Hsu, J. L., Glaser, S. L.
  2000; 34 (1): 27-53

- **Absence of Epstein-Barr virus EBER-1 transcripts in an epidemiologically diverse group of breast cancers** *INTERNATIONAL JOURNAL OF CANCER*
  Glaser, S. L., Ambinder, R. F., DiGiuseppe, J. A., Horn-Ross, P. L., Hsu, J. L.
  1998; 75 (4): 555-558

- **Racial/ethnic differences in breast cancer survival among San Francisco Bay Area women** *JOURNAL OF THE NATIONAL CANCER INSTITUTE*
  Hsu, J. L., Glaser, S. L., West, D. W.
  1997; 89 (17): 1311-1312