

CURRICULUM VITAE
Johns Hopkins University School of Medicine

Lonny Yarmus, DO

January 2018

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointment

2017-present Associate Professor of Oncology
2015-present Associate Professor of Medicine
2014-present Director of Clinical Operations, Division of Pulmonary and Critical Care Medicine
2014-present Director of Interventional Pulmonology at Johns Hopkins Bayview
2010-present Co-Director of Interventional Pulmonology at Johns Hopkins Hospital
2011-present Director, Interventional Pulmonary Fellowship Training Program
2010-present Co-Director of Interventional Pulmonology at Johns Hopkins Hospital
2013-present William Osler Inpatient Service, Janeway Firm Faculty

Personal Data

Address Division of Pulmonary and Critical Care Medicine
1830 East Monument Street, 5th Floor
Baltimore, MD 21287
Phone 410-502-2533
Fax 410-955-0036
Email lyarmus@jhmi.edu

Education and Training

Undergraduate

1994 B.A., Emory University, Atlanta, GA

Doctoral/Graduate

1997 Post-Baccalaureate degree, Harvard University, Boston, MA
1996-1997 Teaching Fellow, Harvard University Department of Physics
2003 Doctor of Osteopathy, University of New England, Biddeford, ME
2003-2004 Intern, Internal Medicine, Tufts University/Maine Medical Center, Portland, ME

Postdoctoral

2004-2006 Resident, Internal Medicine, Tufts University/Maine Medical Center
2006-2009 Post-doctoral Fellow, Pulmonary and Critical Care Medicine,
Tufts University/Maine Medical Center
2009-2010 Post-doctoral Fellow, Interventional Pulmonology, Johns Hopkins Hospital
2010-2011 Science of Clinical Investigation (SOCl) Certificate Program, Johns Hopkins University
Bloomberg School of Public Health
2013-2017 Masters of Business Administration, Johns Hopkins University Carey School of Business

Professional Experience

2009-2010 Assistant in Medicine
2010-2011 Instructor of Medicine, Johns Hopkins University School of Medicine
2010-present Co-Director of Interventional Pulmonology at Johns Hopkins Hospital
2010-present Instructor, Genes to Society, Johns Hopkins School of Medicine
2011-present Director, Interventional Pulmonary Fellowship Training Program
2011-2015 Assistant Professor of Medicine, Johns Hopkins University School of Medicine
2013-present William Osler Inpatient Service, Janeway Firm Faculty
2014-present Director of Interventional Pulmonology at Johns Hopkins Bayview
2014-present Director of Clinical Operations, Division of Pulmonary and Critical Care Medicine
2015-present Associate Professor of Medicine, Johns Hopkins University School of Medicine
2017-present Associate Professor of Oncology, Johns Hopkins University School of Medicine

RESEARCH ACTIVITIES

Peer Reviewed Original Science Publications

1. Restrepo A, Johnson TC, Widjaja D, **Yarmus L**, Meyer K, Clain DJ, Bodenheimer HC Jr, Min AD. The rate of treatment of HCV in patients co-infected with HIV. *Journal of Viral Hepatology*. 2005 Jan 12(1): 86-90.
2. **Yarmus L**, Napier M, Van der Kloot T, Feller-Kopman, D. A Randomized Prospective Trial of Rapid On-Site Transbronchial Needle Aspirate Specimens. *Journal of Bronchology and Interventional Pulmonology*. 2011 Apr;18(2):121-127.
3. Harvey C, Thimmulappa R, Sethi S, **Yarmus L**, Feller-Kopman D, Wise R, Biswal S. Nrf2-dependent immunomodulation of sulforaphane improves bacterial phagocytosis in COPD macrophages and inhibits bacterial burden and inflammation in cigarette smoke-exposed mice. *Sci Transl Med*. 2011 Apr 13;3(78):78ra32.
4. Ost D, Ernst A, Lei X, Feller-Kopman D, **Yarmus L**, Simoff M. Diagnostic Yield of Endobronchial Ultrasound Guided Transbronchial Needle Aspiration: Results of the AQUIRE Registry. *Chest*. 2011 Dec;140(6):1557-1566.
5. Tsai HC, Li H, Van Neste L, Cai Y, Robert C, Rassool FV, Shin JJ, Harbom KM, Beaty R, Pappou E, Harris J, Yen RW, Ahuja N, Brock MV, Stearns V, Feller-Kopman D, **Yarmus L**, Lin YC, Welm AL, Issa JP, Minn I, Matsui W, Jang YY, Sharkis SJ, Baylin SB, Zahnow CA. Transient Low Doses of DNA-Demethylating Agents Exert Durable Antitumor Effects on Hematological and Epithelial Tumor Cell. *Cancer Cell*. 2012 Mar 20;21(3):430-446.
6. Eberlein M, Arnaoutakis GJ, **Yarmus L**, Feller-Kopman D, Dezube R, Chahla MF, Bolukbas S, Reed RM, Klesney-Tait J, Parekh KR, Merlo CA, Shah AS, Orens JB, Brower RG. The effect of lung size mismatch on complications and resource utilization after bilateral lung transplantation. *J Heart Lung Transplant*. 2012 May; 31(5):492-500.
7. **Yarmus L**, Pandian V, Gilbert C, Schiavi A, Haider A, Chi A, Morad A, Miller C, Efron D, Stevens K, Gangidi S, Vaswani R, Haut E, Mirski M, Bhatti N, Feller-Kopman D. *Safety and efficiency of interventional pulmonologists performing percutaneous tracheostomy*. *Respiration*. 2012 Jun; 84(2):123-7.
8. Mirski MA, Pandian V, Bhatti N, Haut E, **Yarmus L**, D, Morad A, Haider A, Schiavi A, Efron D, Ulatowski J. Safety, efficiency, and cost-effectiveness of a multidisciplinary percutaneous tracheostomy program. *Crit Care Med*. 2012 Jun;40(6):1827-34.

9. Yung RC, Otell S, Illei P, Clark DP, Feller-Kopman D, **Yarmus L**, Askin F, Gabrielson E, Li QK. Improvement of cellularity on cell block preparations using the so-called tissue coagulum clot method during endobronchial ultrasound-guided transbronchial fine-needle aspiration. *Cancer Cytopathology*. 2012 Jun 25;129(3):185-195.
10. **Yarmus L**, Gilbert C, Akulian J, Feller-Kopman D. 2012. Novel Use of the Glide Scope for Rigid bronchoscopic placement of a Dynamic Y stent. *Annals of Thoracic Surgery*. 2012 Jul;94(1):308-10.
11. Pandian V, Gilstrap DL, Mirski MA, Haut ER, Haider AH, Efron DT, Bowman NM, **Yarmus LB**, Bhatti NI, Stevens KA, Vaswani R, Feller-Kopman D. Predictors of short-term mortality in patients undergoing percutaneous dilatational tracheostomy. *J Crit Care*. 2012 Aug;27(4):420.e9-15.
12. Pandian V, Miller CR, Mirski MA, Schiavi AJ, Morad AH, Vaswani RS, Kalmar CL, Feller-Kopman DJ, Haut ER, **Yarmus LB**, Bhatti NI. Multidisciplinary team approach in the management of tracheostomy patients. *Otolaryngol Head Neck Surg*. 2012 Oct; 147(4):684-691.
13. **Yarmus LB**, Akulian J, Gilbert C, Illei P, Dedhiya P, Merlo CA, Orens JB, Feller-Kopman D. Cryoprobe transbronchial lung biopsy in lung transplant patients: A Safety Pilot. *Chest*. 2013 Mar;143(3):621-6.
14. Akulian J, **Yarmus L**, Feller-Kopman D. The evaluation and clinical application of pleural physiology. *Clin Chest Med*. 2013 Mar;34(1):11-9.
15. **Yarmus LB**, Akulian JA, Gilbert C, Mathai SC, Sathiyamoorthy S, Sahetya S, Harris K, Gillespie C, Haas A, Feller-Kopman D, Sterman D, Lee HJ. Comparison of Moderate vs. deep sedation for endobronchial ultrasound transbronchial needle aspiration. *Annals of the American Thoracic Society*. 2013 Apr; 10(2):121-126.
16. Eapen GA, Shah AM, Lei X, Jimenez CA, Morice RC, **Yarmus L**, Filner J, Ray C, Michaud G, Greenhill SR, Sarkiss M, Casal R, Rice D, Ost DE. Complications, consequences, and practice patterns of endobronchial ultrasound-guided transbronchial needle aspiration: Results of the AQUIRE registry. *Chest*. 2013 Apr;143(4):1044-53.
17. **Yarmus LB**, Akulian J, Lechtzin N, Yasin F, Kamdar B, Ernst A, Ost DE, Ray C, Greenhill SR, Jimenez CA, Filner J, Feller-Kopman D. Comparison of 21-gauge and 22-gauge aspiration needle in endobronchial ultrasound-guided transbronchial needle aspiration: results of the American College of Chest Physicians Quality Improvement Registry, Education, and Evaluation Registry. *Chest*. 2013 Apr;143(4):1036-43.
18. Feller-Kopman D, Brigham E, Lechtzin N, **Yarmus L**. Training perspective: The Impact of starting an EBUS Program at a major academic center on Fellows' training of TBNA. *Ann Am Thorac Soc*. 2013 Apr;10(2):127-30.
19. Gilbert C, Akulian J, Feller-Kopman D, **Yarmus L**. Ergonomics and Bronchoscopy: A Survey of the American Association of Bronchology and Interventional Pulmonology. *J Bronchology Interv Pulmonol*. 2013 Apr;20(2):113-20.
20. Lee H, Feller-Kopman D, Shepherd RW, Almeida F, Bechara R, Berkowitz D, Chawla M, Folch E, Gillespie C, Haas A, Lee R, Majid A, Malhotra R, Musani A, Puchalski J, Sterman D, **Yarmus L**. Validation of an Interventional Pulmonary examination. *Chest*. 2013 Jun;143(6):1667-70.
21. De Souza Lawrence L, Ford E, Gilbert C, **Yarmus LB**, Meneshian A, Feller-Kopman D, Hales R. Novel applications of an injectable radio-opaque hydrogel tissue marker for management of thoracic malignancies. *Chest*. 2013 Jun;143(6):1635-41.
22. **Yarmus L**, Feller-Kopman D, Imad M, Kim S, Lee H. Procedural Volume and Structure of Interventional Pulmonary Fellowships: A Survey of Fellows and Fellowship Program Directors. *Chest*. 2013 Sep;144(3):935-9.
23. Gilbert C, Akulian J, Feller-Kopman D, Hayes M, **Yarmus L**. Interventional Pulmonology Procedures in the Pediatric Population. *Pediatr Pulmonol*. 2014. Jun;49(6):597-604.

24. **Yarmus LB**, Gilbert C, Lechtzin N, Imad M, Ernst A, Feller-Kopman D. The safety and feasibility of Interventional Pulmonologists performing bedside percutaneous endoscopic gastrostomy tube placement. *Chest*. 2013 Aug;144(2):436-40.
25. Zarogoulidis P, Petridis D, Ritzoulis C, Darwiche K, Spyrtos D, Huang H, Goldberg EP, **Yarmus L**, Li Q, Freitag L, Zarogoulidis K. Establishing the optimal nebulization system for paclitaxel, docetaxel, cisplatin, carboplatin and gemcitabine: Back to drawing the residual cup. *Int J Pharm*. 2013 Sep 10;453(2):480-7.
26. Gilbert CR, Chen A, Akulian JA, Lee HJ, Wahidi M, Argento AC, Tanner NT, Pastis NJ, Harris K, Sterman D, Toth JW, Chenna PR, Feller-Kopman D, **Yarmus L**. The use of convex probe endobronchial ultrasound-guided transbronchial needle aspiration in a pediatric population: A multicenter study. *Pediatr Pulmonol*. 2014. Aug;49(8):807-15.
27. Sussan TE, Ingole V, Kim JH, McCormick S, Negherbon J, Fallica J, Akulian J, **Yarmus L**, Feller-Kopman D, Wills-Karp M, Horton MR, Breyse PN, Agrawal A, Juvekar S, Salvi S, Biswal S. Source of Biomass Cooking Fuel Determines Pulmonary Response to Household Air Pollution. *Am J Respir Cell Mol Biol*. 2014. Mar;50(3):538-48.
28. Zarogoulidis P, Petridis D, Ritzoulis C, Darwiche K, Kioumis I, Porpodis K, Spyrtos D, Hohenforst-Schmidt W, **Yarmus L**, Huang H, Li Q, Freitag L, Zarogoulidis K. Internal mouthpiece designs as a future perspective for enhanced aerosol deposition. Comparative results for aerosol chemotherapy and aerosol antibiotics. *Int J Pharm*. 2013 Nov 18;456(2):325-31
29. Fysh ET, Tremblay A, Feller-Kopman D, Mishra EK, Slade M, Garske L, Clive AO, Lamb C, Boshuizen R, Ng BJ, Rosenstengel AW, **Yarmus L**, Rahman NM, Maskell NA, Lee YC. Clinical Outcomes of Indwelling Pleural Catheter-Related Pleural Infections: an international multicenter study. *Chest*. 2013 Nov;144(5):1597-602.
30. Akulian J, **Yarmus L**, Feller-Kopman D. Tissue acquisition and specimen processing in the diagnosis of NSCLC. *Semin Respir Crit Care Med*. 2013 Dec;34(6):787-91.
31. **Yarmus L**, Akulian J, Gilbert C, Feller-Kopman D, Lechtzin N, Ali S, Sathiyamoorthy V. Optimizing Endobronchial Ultrasound for Molecular Analysis: How many passes are needed? *Ann Am Thorac Soc*. 2013 Dec;10(6):636-43.
32. Sorokina A, Danilevskaya O, Averyanov A, Zabozaev F, Sazonov D, **Yarmus L**, Lee HJ. Comparative study of ex vivo probe-based confocal laser endomicroscopy and light microscopy in lung cancer diagnostics. *Respirology*. 2014 Aug;19(6):907-13.
33. **Yarmus L**, Lee H, Kidd D, Ortiz R, Thompson R, Akulian J, Gilbert C, Hughes A, Arias S, Feller-Kopman D. Comparison of Pleural Pressure Measuring Instruments. *Chest*. 2014. Oct;146(4):1007-12..
34. Tsiouda T, Zarogoulidis P, Petridis D, Pezirkianidis N, Kioumis I, **Yarmus L**, Huang H, Li Q, Hohenforst-Schmidt W, Porpodis K, Spyrtos D, Tsakiridis K, Pitsiou G, Kontakiotis T, Argyropoulou P, Kyriazis G, Zarogoulidis K. A multifactorial analysis of 1452 patients for smoking sensation. An outpatient lab experience. *J Cancer*. 2014 May 10;5(6):433-45
35. Gilbert C, Akulian J, Ortiz R, Lee H, **Yarmus L**. Novel bronchoscopic strategies for the diagnosis of peripheral lung lesions: present techniques and future directions. *Respirology*. 2014 Jul;19(5):636-44.
36. Hohenforst-Schmidt W, Zarogoulidis P, Linsmeier B, Kioumis I, Li Q, Huang H, Sachpatzidou D, Lampaki S, Organtzis J, Domvri K, Sakkas L, Zachariadis GA, Archontas KN, Kallianos A, Rapti A, **Yarmus L**, Zarogoulidis K, Brachmann J. Enhancement of Aerosol Cisplatin Chemotherapy with Gene Therapy Expressing ABC10 protein in Respiratory System. *Cancer*. 2014 Mar 24;5(5):344-50.
37. Lithoxopoulou H, Zarogoulidis K, Bostantzopoulou S, Eleftheriadou E, Zarogoulidis P, Huang H, Porpodis K, Kioumis I, Tsiouda T, **Yarmus L**, Kontakiotis T. Monitoring changes in quality of life in patients with lung cancer by using specialised questionnaires: implications for clinical practice. *Support Care Cancer*. 2014 Aug;22(8):2177-83.

38. Hohenforst-Schmidt W, Banckwitz R, Zarogoulidis P, Vogl T, Darwiche K, Goldberg E, Huang H, Simoff M, Li Q, Browning R, Freitag L, Turner JF, Pivert PL, **Yarmus L**, Zarogoulidis K, Brachmann J. Radiation Exposure of Patients by Cone Beam CT during Endobronchial Navigation - A Phantom Study. *J Cancer*. 2014 Feb 6;5(3):192-202
39. Pandian V, Miller CR, Schiavi AJ, **Yarmus L**, Contractor A, Haut ER, Feller-Kopman DJ, Mirski MA, Morad AH, Carey JP, Hillel AT, Maragos CS, Bhatti NI. Utilization of a standardized tracheostomy capping and decannulation protocol to improve patient safety. *Laryngoscope*. 2014 Aug;124(8):1794-800.
40. Akulian J, Feller-Kopman D, Lee H, **Yarmus L**. Advances in interventional pulmonology. *Expert Rev Respir Med*. 2014 Apr;8(2):191-208.
41. Zarogoulidis P, Kioumis I, Lampaki S, Organtzis J, Porpodis K, Spyratos D, Pitsiou G, Petridis D, Pataka A, Huang H, Li Q, **Yarmus L**, Hohenforst-Schmidt W, Pezirkianidis N, Zarogoulidis K Optimization of nebulized delivery of linezolid, daptomycin, and vancomycin aerosol. *Drug Design, Development and Therapy*. 2014 August;8 Pages 1065-1072.
42. Pandian V, Smith CP, Cole TK, Bhatti NI, Mirski MA, **Yarmus LB**, Feller-Kopman DJ. Optimizing Communication in Mechanically Ventilated Patients. *J Med Speech Lang Pathol*. 2014;21(4):309-318.
43. Feller-Kopman D, **Yarmus L**. Interventional pulmonology. *Semin Respir Crit Care Med*. 2014. Dec;35(6):629-30.
44. Lee HJ, Feller-Kopman D, Islam S, Majid A, **Yarmus L**. Analysis of Employment Data for Interventional Pulmonary Fellowship Graduates. *Ann Am Thorac Soc*. 2015 Apr;12(4):549-52.
45. Gilbert, C; Lee, Hans; Maldonado, Fabien; Skalski, H.; Wahidi, Momen; Choi, Philip; Bessich, Jamie; Sterman, Daniel; Argento, A; Shojaee, Samira; gorden, jed; Wilshire, Candice; Feller-Kopman, David; Ortiz, Ricardo; Nonyane, Bareng; **Yarmus, L**. The Use of Indwelling Tunneled Pleural Catheters for Recurrent Pleural Effusions in Patients with Hematologic Malignancies: A Multicenter Study. *Chest* 2015. Sep 1;148(3):752-8.
46. Thomas, R; Piccolo, Francesco; Miller, Daniel; MacEachern, Paul; Chee, Alex; Huseini, Taha; **Yarmus, L**; Bhatnagar, Rahul; Lee, Hans; Feller-Kopman, David; Maskell, Nicholas; Tremblay, Alain; Lee, Y C Gary. Intrapleural Fibrinolysis for the Treatment of Indwelling Pleural Catheter-Related Symptomatic Loculations – A Multi-Center Observational Study. *Chest* 2015. Sep 1;148(3):746-51.
47. Ost, D; Ernst, Armin; Grosu, Horiana; Lei, Xiudong; Diaz-Mendoza, Javier; Slade, Mark; Gildea, Thomas; Machuzak, Michael; Jimenez, Carlos; Toth, Jennifer; Kovitz, Kevin; Ray, Cynthia; Greenhill, Sara; Casal, Roberto; Almeida, Francisco; Wahidi, Momen; Eapen, George; **Yarmus, L**; Morice, Rodolfo; Benzaquen, Sadia; Simoff, Michael. Complications Following Therapeutic Bronchoscopy for Malignant Central Airway Obstruction: Results of the AQUIRE Registry. *Chest* 2015. Aug 1;148(2):450-71.
48. Gilbert, C; Lee, Hans; Feller-Kopman; **Yarmus, L**. A Quality Improvement Intervention to Reduce Indwelling Tunneled Pleural Catheter Pleural Infection Rates. *Ann Am Thorac Soc*. 2015. Jun;12(6):847-53.
49. Arias S, Lee H, Semaan R, Frimpong B, Ortiz R, Feller-Kopman D, Oakjones-Burgess K, **Yarmus L**. Use of Electromagnetic Navigational Transthoracic Needle Aspiration (E-TTNA) for Sampling of Lung Nodules. *J Vis Exp*. 2015 May 23;(99):e52723.
50. Shafiq M, Frick KD, Lee H, **Yarmus L**, Feller-Kopman DJ. Management of Malignant Pleural Effusion: A Cost-Utility Analysis. *J Bronchology Interv Pulmonol*. 2015 Jul;22(3):215-25.
51. Ost DE, Ernst A, Lei X, Kovitz KL, Benzaquen S, Diaz-Mendoza J, Greenhill S, Toth J, Feller-Kopman D, Puchalski J, Baram D, Karunakara R, Jimenez CA, Filner JJ, Morice RC, Eapen GA, Michaud GC, Estrada-Y-Martin RM, Rafeq S, Grosu HB, Ray C, Gilbert CR, **Yarmus LB**, Simoff M. Diagnostic Yield and Complications of Bronchoscopy for Peripheral Lung Lesions: Results of the AQUIRE Registry. *Am J Respir Crit Care Med*. 2015. 2016 Jan 1;193(1):68-77

52. **Yarmus L**, Akulian J, Ortiz R, Thompson R, Oakjones-Burgess K, Arias S, Semaan R, Feller-Kopman D, Lee H, Wang KP. A randomized controlled trial evaluating airway inspection effectiveness during endobronchial ultrasound bronchoscopy. *J Thorac Dis*. 2015 Oct;7(10):1825-32.
53. **Yarmus LB**, Semaan RW, Arias SA, Feller-Kopman D, Ortiz R, Bösmüller H, Illei PB, Frimpong BO, Oakjones-Burgess K, Lee HJ. A Randomized Controlled Trial of a Novel Sheath Cryoprobe for Bronchoscopic Lung Biopsy in a Porcine Model. *Chest*. 2016 Aug;150(2):329-36.
54. Gilbert CR, Casal RF, Lee HJ, Feller-Kopman D, Frimpong B, Dincer HE, Podgaetz E, Benzaquen S, Majid A, Folch E, Gorden JA, Chenna P, Chen A, Abouzgheib W, Sanny Nonyane BA, **Yarmus LB**. Use of One-Way Intrabronchial Valves in Air Leak Management After Tube Thoracostomy Drainage. *Ann Thorac Surg*. 2016 May;101(5):1891-6.
55. **Yarmus LB**, Arias S, Feller-Kopman D, Semaan R, Wang KP, Frimpong B, Oakjones Burgess K, Thompson R, Chen A, Ortiz R, Lee HJ. Electromagnetic navigation transthoracic needle aspiration for the diagnosis of pulmonary nodules: a safety and feasibility pilot study. *J Thorac Dis*. 2016 Jan;8(1):186-94.
56. Semaan RW, Hazbon MP, Arias SA, Lerner AD, **Yarmus LB**, Feller-Kopman DJ, Lee HJ. Academic Productivity of Interventional Pulmonology Training Programs. *Ann Am Thorac Soc*. 2016 Apr;13(4):536-9
57. Krochmal R, Reddy C, **Yarmus L**, Desai NR, Feller-Kopman D, Lee HJ. Patient evaluation for rapid pleurodesis of malignant pleural effusions. *J Thorac Dis*. 2016 Sep;8(9):2538-2543.
58. Belanger AR, Nguyen K, Osman U, Gilbert CR, Allen K, Al Rais AF, **Yarmus L**, Akulian JA. Pleural effusions in non-transplanted cystic fibrosis patients. *J Cyst Fibros*. 2017 Jul;16(4):499-502.
59. Pandian V, Hutchinson CT, Schiavi AJ, Feller-Kopman DJ, Haut ER, Parsons NA, Lin JS, Gorbakkin C, Angamuthu PG, Miller CR, Mirski MA, Bhatti NI, **Yarmus LB**. Predicting the need for nonstandard tracheostomy tubes in critically ill patients. *J Crit Care*. 2017 Feb;37:173-178.
60. Semaan RW, Lee HJ, Feller-Kopman D, Lerner AD, Mallow CM, Thiboutot J, Arias SA, **Yarmus LB**. Same-Day Computed Tomographic Chest Imaging for Pulmonary Nodule Targeting with Electromagnetic Navigation Bronchoscopy May Decrease Unnecessary Procedures. *Ann Am Thorac Soc*. 2016 Dec;13(12):2223-2228.
61. O'Connell OJ, Almeida FA, Simoff MJ, **Yarmus L**, Lazarus R, Young B, Chen Y, Semaan R, Saettele TM, Cicensia J, Bedi H, Kliment C, Li L, Sethi S, Diaz-Mendoza J, Feller-Kopman D, Song J, Gildea T, Lee H, Grosu HB, Machuzak M, Rodriguez-Vial M, Eapen GA, Jimenez CA, Casal RF, Ost DE. A Prediction Model to Help with the Assessment of Adenopathy in Lung Cancer (HAL). *Am J Respir Crit Care Med*. 2017 Jun 15;195(12):1651-1660.
62. Scholten EL, Semaan R, Illei P, Mallow C, Arias S, Feller-Kopman D, Oakjones-Burgess K, Frimpong B, Ortiz R, Lee H, **Yarmus L**. Stylet Usage Does Not Improve Diagnostic Outcomes in Endobronchial Ultrasound Transbronchial Needle Aspiration: A Randomized Clinical Trial. *Chest*. 2017 Mar;151(3):636-642.
63. Wahidi MM, Reddy C, **Yarmus L**, Feller-Kopman D, Musani A, Shepherd RW, Lee H, Bechara R, Lamb C, Shofer S, Mahmood K, Michaud G, Puchalski J, Rafeq S, Cattaneo SM, Mullon J, Leh S, Mayse M, Thomas SM, Peterson B, Light RW. Randomized Trial of Pleural Fluid Drainage Frequency in Patients with Malignant Pleural Effusions-The ASAP Trial. *Am J Respir Crit Care Med*. 2017 Apr 15;195(8):1050-1057.
64. Arias S, Liu QH, Frimpong B, Lee H, Feller-Kopman D, **Yarmus L**, Wang KP. Role of the Endobronchial Landmarks Guiding TBNA and EBUS-TBNA in Lung Cancer Staging. *Can Respir J*. 2016; 2016:1652178.
65. Lee HJ, Coleman B, Lerner AD, Feller-Kopman D, Semaan R, Frimpong B, **Yarmus L**. Procedural Learning Perspectives of Pulmonary Fellows and Practitioners. *J Bronchology Interv Pulmonol*. 2017 Jul;24(3):200-205.
66. Zarogoulidis P, Huang H, Bai C, Petridis D, Papadopoulou S, Faniadou E, Eleftheriadou E, Trakada G, Cristoforos K, Rapti A, **Yarmus L**, Kopman DF, Man YG, Hohenforst-Schmidt W. Nab-paclitaxel as First

- Line Treatment for NSCLC in Elderly Patients More Than 75 Years Old. *J Cancer*. 2017 Jun 4;8(9):1673-1678.
67. Munoz ML, Lechtzin N, Li QK, Wang K, **Yarmus** LB, Lee HJ, Feller-Kopman DJ. Bronchoscopy with endobronchial ultrasound guided transbronchial needle aspiration vs. transthoracic needle aspiration in lung cancer diagnosis and staging. *J Thorac Dis*. 2017 Jul;9(7):2178-2185.
68. Yuan W, Brown R, Mitzner W, **Yarmus** L, Li X. Super-achromatic monolithic microprobe for ultrahigh-resolution endoscopic optical coherence tomography at 800 nm. *Nat Commun*. 2017 Nov 16;8(1):1531.
69. Lee HJ, Labaki, W, Yu D, Salwen B, Gilbert C, Schneider A, Ortiz R, Feller-Kopman D, Arias S, **Yarmus L**. Airway stent complications: the role of follow-up bronchoscopy as a surveillance method. *J Thorac Dis* 2017 Dec;9(11):4651-4659.
70. Tsukada H, Entcheva-Dimitrov P, Ernst A, Rafeq S, Keating JH, Seward KP, **Yarmus** L. Pharmacokinetics and safety of paclitaxel delivery into porcine airway walls by a new endobronchial drug delivery catheter. *Respirology*. 2017 Nov 14. doi: 10.1111/resp.13214. [Epub ahead of print]

Inventions, Patents, Copyrights+

2013 Patent number **5038260b** (August 1, 2013)
Encapsulated cryoprobe for flexible bronchoscopic sampling of lung parenchyma

Extramural Funding

Current Grants

7/1/2016-6/30/2020 Micro Coherence Imaging Technology for Assessing Obstructive Lung Disease in vivo
NIH R01 HL121788-01A1
PI: Brown
Col: Yarmus

8/1/2014-7/31/2018 Broncho-adventitial Drug Delivery: Paclitaxel for Bronchial Carcinoma
NIH/NCI R42 2R42CA141907-02
First IP NIH grant ever awarded
PI: Yarmus

6/30/2017-5/31/2018 NanoSpectrometer Based Lung Cancer Biomarker Discovery and Confirmation Study
Nanobeak, Inc.
PI: Yarmus

11/1/2017-10/31/2020 Gravity vs Suction Drainage in Malignant Pleural Effusions
Rocket Medical
PI: Yarmus

7/1/2016-6/30/2018 A Phase III Study of Remimazolam in Patients Undergoing Bronchoscopy
Paion, Mahwah, NJ
PI: Yarmus

9/1/2013-8/31/2017 Biomarker Levels during Indwelling Pleural Catheter Sample Testing
Rocket Medical, London, England
PI: Yarmus

Pending

The Molecular Pathogenesis of Benign Stenosis of the Airways
NIH R21 (application pending)
\$275,000
PI Yarmus, LB
Percent Effort (40%)

Previous

- 7/1/2014-6/30/2017 Fluoroscopy vs Radial EBUS for Nodule Diagnostic Yield
Olympus
PI Yarmus
Percent Effort: (5%)
- 7/1/2014-6/30/2017 Randomized Controlled Trial of EBUS Needles for Molecular Assessment
Cook Medical
PI Yarmus
Percent Effort: (5%)
- 7/1/2013-6/30/2017 Early diagnosis of pulmonary nodules using a plasma proteomic classifier
Integrated Diagnostics, Seattle, Washington
\$126,254
PI: Yarmus, LB
Percent Effort: (5%)
- 1/1/2014-12/31/2016 Lung Function Improvement after Bronchoscopic Lung Volume Reduction with
Pulmonx Endobronchial Valves used in Treatment of Emphysema (LIBERATE).
Pulmonx, Redwood City, California
\$1,071,321
PI: Yarmus, LB
Percent Effort: (5%)
- 3/15/2014-3/14/2015 Treatment of Airway Stenosis after Undergoing Lung Transplant (T-ASSAULT)
American Association of Bronchology and Interventional Pulmonology
\$25,000
PI: Yarmus, LB
Percent Effort: (10%)
- 3/15/2013-3/14/2014 Airway Stenosis after Undergoing Lung Transplant (ASSAULT)
American Association of Bronchology and Interventional Pulmonology
\$10,000
PI: Yarmus, LB
PI (10%)
- 7/1/2013-6/30/2014 The Analysis of the EBUS scope as a Hybrid Bronchoscope
Fuji Corporation, Japan
\$65,000
PI: Yarmus, LB

Percent Effort: 7.5%

- 8/1/2013-7/31/2014 Navigational bronchoscopy and transthoracic needle biopsy for the diagnosis of peripheral pulmonary nodules: A safety and feasibility study
Veran Medical Technologies, St. Louis, Missouri
\$60,000
PI: Yarmus, LB
Percent Effort: 5%
- 10/1/2007-7/31/2009 A Randomized Prospective Trial of Rapid On-Site Evaluation of Transbronchial Needle Aspirate Specimens
Maine Medical Center Research Committee
\$10,200
PI: Yarmus, LB
- 7/1/2011-6/30/2012 A Survey of Dedicated Interventional Pulmonology Fellowships in the United States
American Association of Bronchology and Interventional Pulmonology
\$3,000
PI: Yarmus, LB

Research Program Building/Leadership

- 2012-present Director, ASSAULTnet (Airway Stenosis After Undergoing Lung Transplantation) multi-centered research network investigating airway stenosis by initiating clinical trials
- 2013-present Founder and Director, Interventional Pulmonary Outcomes Group (IPOG); the first multicentered research consortium within the IP community to organize a collaborative clinical trials center.
- 2013-present Director, Johns Hopkins Interventional Pulmonary Research Core. In this capacity, I am responsible for directing the translational, clinical and basic research projects efforts, overseeing the research lab team and building significant extramural funding since the creation of the core.
- 2014-present Director, Hopkins Lung Tissue (HOLT) Biorepository; a divisional multidisciplinary collaborative research-working group to organize and facilitate translational research through human specimens

EDUCATIONAL ACTIVITIES

Educational Publications

Peer Reviewed Publications (i.e., consensus statements, expert opinions)

1. Ernst A, Wahidi MM, Read CA, Buckley JD, Addrizzo-Harris DJ, Shah PL, Herth FJ, de Hoyos Parra A, Ornelas J, **Yarmus L**, Silvestri GA. Adult Bronchoscopy Training: Current State and Suggestions for the Future: CHEST Expert Panel Report. *Chest*. 2015. Aug 1;148(2):321-32.
2. McSparron JI, Michaud GC, Gordon PL, Channick CL, Wahidi MM, **Yarmus LB**, Feller-Kopman DJ, Makani SS, Koenig SJ, Mayo PH, Kovitz KL, Thomson CC; for the Skills-based Working Group of the Education Committee, American Thoracic Society. Simulation for Skills-based Education in Pulmonary and Critical Care Medicine. *Ann Am Thorac Soc*. 2015 Apr;12(4):579-86.

3. Wahidi MM, Herth F, Yasufuku K, Shepherd RW, **Yarmus L**, Chawla M, Lamb C, Casey KR, Patel S, Silvestri GA, Feller-Kopman DJ. Technical Aspects of Endobronchial Ultrasound Guided Transbronchial Needle Aspiration: CHEST Guideline and Expert Panel Report. *Chest*. 2015. [Epub ahead of print]

Invited Review Articles

1. **Yarmus L**, Feller-Kopman D. The role of Endobronchial Ultrasound in Mediastinal Staging. *Pathology Case Reviews*. 2009 Oct 14(5):183-188.
2. **Yarmus L**, Feller-Kopman D. Emerging Technologies for the Thorax: Indications, Management and Complications. *Respirology*. 2010 Feb;15(2):208-19.
3. **Yarmus L**, Feller-Kopman D. Bronchoscopes in the 21st Century. *Clinics in Chest Medicine*. 2010 Mar 31(1):19-27.
4. Lee H, **Yarmus L**. The New Application and Match Systems for Interventional Pulmonology Fellowships. *Journal of Bronchology and Interventional Pulmonology*. 2011 Jan;18(1):5-6.
5. **Yarmus L**, Feller-Kopman D, Wang KP. 2011. Factors Influencing the Diagnostic Yield of Endobronchial Ultrasound-guided Transbronchial Needle Aspiration. *Journal of Bronchology and Interventional Pulmonology*. 2011 Apr;18(2): 115-117.
6. **Yarmus L**, Feller-Kopman D. *Pneumothorax in the critically ill patient*. *Chest*. 2012 Apr;141(4): 1098-105.
7. Gilbert C, **Yarmus L**, Feller-Kopman D. Use of endobronchial ultrasound and endoscopic ultrasound to stage the mediastinum in early-stage lung cancer. *J Natl Compr Canc Netw*. 2012 Oct 1;10(10):1277-82.
8. Zarogoulidis P, Darwiche K, Huang H, Spyrtos D, **Yarmus L**, Li Q, Kakolyris S, Syrigos K, Zarogoulidis K. Time recall; future concept of chronomodulating chemotherapy for cancer. *Curr Pharm Biotechnol*. 2013 Jul;14(6):632-42.
9. Zarogoulidis P, **Yarmus L**, Darwiche K, Walter R, Huang H, Li Z, Zaric B, Tsakiridis K, Zarogoulidis K. Interleukin-6 cytokine: a multifunctional glycoprotein for cancer. *Immunome Res*. 2013 Aug 12;9(62).
10. Zarogoulidis P, Darwiche K, , Tsakiridis K, Teschler H, **Yarmus L**, Zarogoulidis K, Freitag L. Learning from the Cardiologists and Developing Eluting Stents Targeting the Mtor Pathway for Pulmonary Application; A Future Concept for Tracheal Stenosis. *J Mol Genet Med*. 2013 Aug 7:65.
11. Zarogoulidis P, Darwiche K, Sakkas A, **Yarmus L**, Huang H, Li Q, Freitag L, Zarogoulidis K, Malecki M. Suicide Gene Therapy for Cancer - Current Strategies. *J Genet Syndr Gene Ther*. 2013 Aug 9;4.
12. Zarogoulidis P, **Yarmus L**, Zarogoulidis K. New insights for IL-6 targeted therapy as an adjuvant treatment for non-small-cell lung cancer. *Ther Deliv*. 2013 Oct;4(10):1221-3.
13. Zarogoulidis P, Darwiche K, **Yarmus L**, Spyrtos D, Secen N, Hohenforst-Schmidt W, Katsikogiannis N, Huang H, Gschwendtner A, Zarogoulidis K. Defense mechanisms of the respiratory system and aerosol production systems. *Med Chem*. 2014 Mar;10(2):123-36.
14. Mavroudi M, Zarogoulidis P, Porpodis K, Kioumis I, Lampaki S, **Yarmus L**, Malecki R, Zarogoulidis K, Malecki M Stem cells' guided gene therapy of cancer: New frontier in personalized and targeted therapy. *J Cancer Res Ther*. 2014;2(1):22-33.
15. Gilbert CR, **Yarmus L**, Feller-Kopman D. Educating the next generation of pulmonary fellows in transbronchial needle aspiration. Leading the blind to see. *Ann Am Thorac Soc*. 2014 Jun;11(5):828-32.
16. Krochmal R, Arias S, **Yarmus L**, Feller-Kopman D, Lee H Diagnosis and management of pulmonary nodules. 2014 *Expert Rev Respir Med*. Aug 23:1-15.
17. Zarogoulidis P, Lampaki S, **Yarmus L**, Kioumis I, Pitsiou G, Katsikogiannis N, Hohenforst-Schmidt W, Li Q, Huang H, Sakkas A, Organtzis J, Sakkas L, Mpoukovinas I, Tsakiridis K, Lazaridis G, Syrigos K, Zarogoulidis K. Interleukin-7 and Interleukin-15 for Cancer. *J Cancer* 2014; 5(9):765-773.
18. Feller-Kopman D, **Yarmus L**. Training in interventional pulmonology. *Semin Respir Crit Care Med*. 2014 Dec;35(6):631-5.

19. Lampaki,S; Lazaridis,G; Zarogoulidis,K; Kioumis,I; Karavasilis,V; **Yarmus,L**; Freitag,L ; Zarogoulidis , P. Defining the role of tyrosine kinase inhibitors in early stage non-small cell lung cancer. *Journal of Cancer*. 2015. May 7;6(6):568-74.
20. Akulian JA, **Yarmus L**, Feller-Kopman D. The role of cricothyrotomy, tracheostomy, and percutaneous tracheostomy in airway management. *Anesthesiol Clin*. 2015 Jun;33(2):357-67.
21. DiBardino DM, **Yarmus LB**, Semaan RW. Transthoracic needle biopsy of the lung. *J Thorac Dis*. 2015 Dec;7(Suppl 4):S304-16.
22. Arias S, **Yarmus L**, Argento AC. Navigational transbronchial needle aspiration, percutaneous needle aspiration and its future. *J Thorac Dis*. 2015 Dec;7(Suppl 4):S317-28
23. Semaan R, **Yarmus L**. Rigid bronchoscopy and silicone stents in the management of central airway obstruction. *J Thorac Dis*. 2015 Dec;7(Suppl 4):S352-62.
24. Hohenforst-Schmidt W, Zarogoulidis P, Pitsiou G, Linsmeier B, Tsavlis D, Kioumis I, Papadaki E, Freitag L, Tsiouda T, Turner JF, Browning R, Simoff M, Sachpekidis N, Tsakiridis K, Zaric B, **Yarmus L**, Baka S, Stratakos G, Rittger H. Drug Eluting Stents for Malignant Airway Obstruction: A Critical Review of the Literature. *J Cancer*. 2016 Jan 13;7(4):377-90
25. Hohenforst-Schmidt W, Zarogoulidis P, Steinheimer M, Benhassen N, Tsiouda T, Baka S, **Yarmus L**, Stratakos G, Organtzis J, Pataka A, Tsakiridis K, Karapantzos I, Karapantzou C, Darwiche K, Zissimopoulos A, Pitsiou G, Zarogoulidis K, Man YG, Rittger H. Tyrosine Kinase Inhibitors for the Elderly. *J Cancer*. 2016 Mar 21;7(6):687-93
26. Restrepo MI, Chalmers JD, Song Y, Mallow C, Hewlett J, Maldonado F, **Yarmus L**. Year in review 2016: Respiratory infections, acute respiratory distress syndrome, pleural diseases, lung cancer and interventional pulmonology. *Respirology*. 2017 Apr;22(3):602-611.
27. Corcoran JP, Tazi-Mezalek R, Maldonado F, **Yarmus LB**, Annema JT, Koegelenberg CFN, St Noble V, Rahman NM. State of the art thoracic ultrasound: intervention and therapeutics. *Thorax*. 2017 Sep;72(9):840-849.

Editorials

1. Wang KP, Feller-Kopman D, Mehta A, Sharma M, **Yarmus L**. Endobronchial ultrasound and esophageal ultrasound: just because we can, does not necessarily mean we should. *Chest*. 2011 Jul;140(1):271-2.
2. **Yarmus L**, Feller-Kopman D, Browning R, Wang KP. TBNA: should EBUS be used on all lymph node aspirations? *J Bronchology Interv Pulmonol*. 2011 Apr;18(2):115-7.
3. Gilbert CR, **Yarmus LB**, Feller-Kopman DJ, Lee HJ, Gorden JA. The Undefined Value of Pleural Interventions in Advanced Heart Failure and Recurrent Pleural Effusions. *Ann Am Thorac Soc*. 2016 Mar;13(3):447-8.
4. Akulian JA, **Yarmus L**. If they don't degrade can indwelling pleural catheters evolve? *Respirology*. 2016 Jul;21(5):787-8
5. Semaan RW, Lerner AD, Lee HJ, Feller-Kopman D, **Yarmus LB**. Electromagnetic Guidance for the Diagnosis of Pulmonary Nodules: Don't Put the Nail in the Coffin. *Am J Respir Crit Care Med*. 2016 Jul 1;194(1):121.
6. Lerner AD, **Yarmus L**, Gorden JA, Gilbert CR. Intrabronchial valves for persistent air-leaks: what's the verdict?. *Expert Rev Respir Med*. 2016 Oct 3:1-3.
7. Maldonado F, Yarmus, L. Response to A Randomized Controlled Trial of a Novel Sheath Cryoprobe for Bronchoscopic Lung Biopsy in a Porcine Model. *Chest*. 2017 Feb;151(2):513-514.

8. Semaan R, **Yarmus L**. Reply: Same-Day Computed Tomographic Chest Imaging for Pulmonary Nodule Targeting with Electromagnetic Navigation Bronchoscopy: Will It Prevent Unnecessary Procedures? *Ann Am Thorac Soc*. 2017 Mar;14(3):479-480.

Case Reports

1. Hayes M, Feller-Kopman D, **Yarmus L**. Cracking the Case of Foreign Body Aspiration. *Journal of Bronchology and Interventional Pulmonology*. 2011 Jul;18(3): 290-291.
2. Cole K, Sosnay P, **Yarmus L**, Zuckerman J. 2011, The Novel CFTR Mutation A457P in a Male with a Delayed Diagnosis Cystic Fibrosis. *Case Reports in Medicine*. 2011:903910.
3. Owens R, Johnson J, **Yarmus L**, Quinn J. 2011. Community Transmission in the United States of a CTX M-15-Producing Sequence Type ST131 Escherichia coli Strain Resulting in Death. *Journal of Clinical Microbiology*. 2011 Sep;49(9):3406-8.
4. Reed R, D'Alessio F, **Yarmus L**, Feller-Kopman. Abdominal Compartment Syndrome Due to Subcutaneous Emphysema. *BMJ Case Reports*. Feb 25; 2012.
5. Fischer W, Feller-Kopman D, Shah A, Orens J, Illei P, **Yarmus L**. Endobronchial valve therapy for pneumothorax as a bridge to lung transplantation. *J Heart Lung Transplant*. 2012 Mar;31(3):334-6.
6. George T, Knudsen K, Sodha N, Beaty B, Feller-Kopman D, Shah A, **Yarmus L**. Respiratory Support with Venovenous Extracorporeal Membrane Oxygenation during Stenting of Tracheobronchomalacia. *Annals of Thoracic Surgery*. 2012 Nov;94(5):1736-7.
7. Kolb T, Terry P, Pearse D, Gilbert C, **Yarmus L**. Bronchial dieulafoy disease in situ. *Am J Respir Crit Care Med*. 2012 Dec 1;186(11):1191.
8. Xiang Y, Zhang F, Akulian J, **Yarmus L**, Feller-Kopman D, Wang KP. EBUS-TBNA by a new Fuji EBUS scope. *J Thorac Dis*. 2013 Feb;5(1):36-9.
9. Jamieson DB, Bose S, Feller-Kopman D, Imad M, **Yarmus L**. A therapeutic thoracoscopy. *Ann Am Thorac Soc*. 2013 Apr;10(2):163-5.
10. Dezube R, Akulian J, Terry P, **Yarmus L**. Chronic Expanding Hematoma of the Lung. *Am J Respir Crit Care Med*. 2013 Dec 1;188(11):e71.
11. Ortiz R, Hayes M, Arias S, Lee HJ, Feller-Kopman D, **Yarmus L**. Pneumomediastinum and pneumopericardium after endobronchial ultrasound-guided transbronchial needle aspiration. *Ann Am Thorac Soc*. 2014 May;11(4):680-1.
12. Akulian J, Pathak V, Lessne M, Hong K, Feller-Kopman D, Lee H, **Yarmus L**. A novel approach to endobronchial closure of a bronchial pleural fistula. *Ann Thorac Surg*. 2014 Aug;98(2):697-9.
13. Miller PE, Arias S, Lee H, **Yarmus L**, Feller-Kopman D. Complications associated with the use of the amplatzer device for the management of tracheoesophageal fistula. *Ann Am Thorac Soc*. 2014 Nov;11(9):1507-9.
14. Psallidas I, Helm EJ, Maskell NA, **Yarmus L**, Feller-Kopman DJ, Gleeson FV, Rahman NM. Iatrogenic injury to the intercostal artery: aetiology, diagnosis and therapeutic intervention. *Thorax*. 2015. Aug;70(8):802-4.
15. Arias S, Semaan R, Lee H, Molena D, Feller-Kopman D, **Yarmus L**. Tridimensional Medical Thoracoscopy. *Ann Am Thorac Soc*. 2015 Jun;12(6):945-7.
16. Gilbert CR, Abendroth C, **Yarmus LB**. The Intranodal Presence of Coexisting Granulomatous Inflammation and Carcinoma During Transbronchial Needle Aspiration of Intrathoracic Lymphadenopathy. *Journal Bronchology Interv Pulmonol*. 2017 Jan;24(1):80-83.

Letters, correspondence

1. **Yarmus L.** Mirski, M. Not all indications for tracheostomy are created equal. *Crit Care Med*, 2013 May;41(5):e58-9.
2. Lee HJ, **Yarmus L.** Response. *Chest*. 2014 Feb;145(2):425-6.
3. Gilbert C, Feller-Kopman D, **Yarmus L.** Response. *Chest*. 2014 Feb;145(2):422-3.
4. Gilbert CR, Lee HJ, Feller-Kopman D, **Yarmus LB.** The continuing search for the peripheral pulmonary nodule and virtual bronchoscopy. *Am J Respir Crit Care Med*. 2014 Feb 1;189(3):367-8.

Book Chapters

1. **Yarmus L,** Feller-Kopman D. New Bronchoscopic Instrumentation: A Review and Update in Rigid Bronchoscopy. 2010. In *Interventional Pulmonology*, Beamis J, Mathur P, Mehta A Editors, Informa Healthcare, New York.
2. **Yarmus L,** Feller-Kopman D. Pulmonary Physiology, Pulmonary Function Tests and Bronchoscopic Techniques. 2011. In *Johns Hopkins Cardiothoracic Surgery*, Yuh D, Vricella L, Yang S Editors, McGraw Hill, New York.
3. **Yarmus L.** Percutaneous Tracheostomy. 2011. In *Principles and Practice of Interventional Pulmonology*, Ernst A, Herth F Editors, Springer, Louisiana.
4. Gilbert C, Akst L, **Yarmus L.** Diseases and Management of the Trachea. 2012. In *Otolaryngology*, McGraw Hill, New York.
5. Gilbert C, **Yarmus L.** Interventional Pulmonology. 2013. In *Current Therapy in Thoracic and Cardiovascular Surgery*. Elsevier, New York.
6. Arias S, **Yarmus L.** Endobronchial Ultrasound. 2016. In *Diagnostic Evaluation of the Respiratory System*. Jaypee Brothers, India.

Other Media

1. **Yarmus L,** Wahidi M, Finley D. Bronchoscopic Lung Volume Reduction. *ACCP Newsletter, Chest Physician*. 2012.

Teaching

Classroom Instruction

2010-present Instructor, Genes to Society, Johns Hopkins School of Medicine

Clinical Instruction

2007-present Intern procedural workshop: Thoracentesis and Central Venous Access instructor
2009-present Pulmonary Fellows Introduction to Bronchoscopy instructor
2010-present Anesthesia Critical Care Fellows Introduction to Bronchoscopy instructor
2010-present Johns Hopkins University medical tutorial instructor
2013-present Osler Firm Faculty, Janeway Service instructor

CME Instruction

2009 Update in Pulmonary and Critical Care Medicine, Bar Harbor, ME
2010 Management of Pleural Disease: 100th Anniversary of Thoracoscopy, Pulmonary CME course, Baltimore, MD

2011	Critical Care Ultrasound, Pulmonary/Critical Care and Anesthesia/Critical Care Course, Baltimore, MD
2011	2 nd Annual Management of Pleural Disease Pulmonary CME course, Baltimore, MD
2011	Pulmonary Nodules, Washington University in St Louis, Missouri
2011	Thoracic Ultrasound, Washington University in St Louis, Missouri
2012	EBUS and Advanced Diagnostic Bronchoscopy, Pulmonary CME course, Cambridge, MD
2012	Third Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD
2012	Pulmonary Nodules, Washington University in St Louis, Missouri
2012	Thoracic Ultrasound, Washington University in St Louis, Missouri
2013	EBUS and Advanced Diagnostic Bronchoscopy. Pulmonary CME course, Cambridge, MD
2013	Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course, Cambridge, Maryland
2013	Percutaneous Tracheostomy Pulmonary CME Course, Johns Hopkins University, Baltimore, MD
2013	Pulmonary Nodules, Washington University in St Louis, Missouri
2013	Thoracic Ultrasound, Washington University in St Louis, Missouri
2014	Fourth Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD
2014	EBUS and Advanced Diagnostic Bronchoscopy. Pulmonary CME course, Cambridge, MD
2014	Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course, Sulphur Springs, WV
2014	Pulmonary Nodules, Washington University in St Louis, Missouri
2014	Thoracic Ultrasound, Washington University in St Louis, Missouri
2014	Lung Cancer Updates and Pearls. Pulmonary CME Course, Chapel Hill, NC
2014	Fifth Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD
2015	Thirteenth Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course, Isle of Palms, SC
2015	EBUS and Advanced Diagnostic Bronchoscopy. Pulmonary CME course, Cambridge, MD
2016	Second Annual Lung Cancer Updates and Pearls. Pulmonary CME Course, Chapel Hill, NC
2016	Sixth Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD

Workshops

2010-present	American College of Chest Physicians EBUS Bronchoscopy Education
2010	American College of Chest Physicians Difficult Airway Course
2011-present	American Thoracic Society Endobronchial Ultrasound
2011-present	American Thoracic Society Pleural Disease
2012	American College of Chest Physicians GAIN NSCLC Regional Summit, Summit Chair
2012-2014	American Association of Bronchology and Interventional Pulmonology Chair, Translational Science Section
2013-2014	American College of Chest Physicians EMPOWER NSCLC Regional Summit, Summit Chair
2014	Society of Thoracic Surgeons Advanced and Therapeutic Bronchoscopy
2014	American Society of Clinical Pathology Lung Cancer Expert Panel
2014	Chinese Thoracic Society and American Thoracic Society Advanced and Therapeutic Bronchoscopy

2010	“Management of Pleural Disease: 100 th Anniversary of Thoracoscopy,” Pulmonary CME course, Baltimore, MD. Course Director.
2011	“Critical Care Ultrasound,” Pulmonary/Critical Care and Anesthesia/Critical Care Course, Baltimore, MD. Course Co-Director.
2011	“Management of Pleural Disease,” Pulmonary CME course, Baltimore, MD. Course Director.
2011	“EBUS and EUS,” 9 th Annual Lung Cancer Conference, Peninsula Regional Medical Center
2012	“EBUS and Advanced Diagnostic Bronchoscopy,” Pulmonary CME course, Cambridge, MD. Course Director
2012	Third Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD. Course Director.
2013	International Society for Heart and Lung Transplantation Annual Meeting, Bronchoscopic Battles and Anastomotic Atrocities, Montreal, Canada. Session Chair.
2013	“EBUS and Advanced Diagnostic Bronchoscopy.” Pulmonary CME course, Cambridge, MD. Conference Director.
2013	“Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course.” Cambridge, Maryland. Conference Director.
2014	“EBUS Innovations.” World Congress in Interventional Pulmonology, Kyoto, Japan. Session Chair.
2014	“A Multi-Disciplinary Approach to Lung Cancer,” American Society of Clinical Pathology, Tampa, Florida. Session Chair.
2014	“Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course.” Cambridge, Maryland. Conference Director.
2014	“Updates in Thoracic Navigation”, Chinese Respiratory Society and American Thoracic Society, Shanghai, China
2015	“Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course.” Charleston, South Carolina Conference Director.
2015	“Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course.” Cambridge, Maryland. Conference Director.
2015	Veran Medical Thoracic Navigational Bronchoscopy Course Director, St Louis, MO
2015	EBUS Specimen Acquisition, American Thoracic Society, Session Chair
2015	Tube Thoracostomy Management, American Thoracic Society
2015	Lung Cancer Staging: Improving your yield, American Thoracic Society. Session Chair
2015	Translational Aspects of Interventional Pulmonology, American College of Chest Physicians. Session Chair
2015	Master Pleural Disease Expert Panel, American College of Chest Physicians. Session Chair
2015	Multidisciplinary Aspects of Lung Cancer Diagnostics, American College of Chest Physicians. Session Chair

Mentoring

Advisees

2010-2011	Melhem Imad, MD, Interventional Pulmonology, Johns Hopkins University Director of Interventional Pulmonary, East Virginia University Medical School
2010-present	Interventional Pulmonology Research Mentor, NIH Diversity in Health Related Research
2011-2012	Christopher Gilbert, DO, Interventional Pulmonology, Johns Hopkins University Director of Interventional Pulmonary, Penn State University
2012-2014	Jason Akulian, MD, Interventional Pulmonology, Johns Hopkins University

2013-2014	Director of Interventional Pulmonary, University of North Carolina Christina Argento, MD, Interventional Pulmonology, Duke University
2013-2014	Director of Interventional Pulmonary, Northwestern University Molly Hayes, MD, Assistant Director, MICU, Pulmonary and Critical Care Medicine, Beth Israel Deaconess, Harvard University
2013-present	Eric Scholten, MD, Internal Medicine, Johns Hopkins University University of California San Diego
2013-present	Ricardo Ortiz, BS, Interventional Pulmonology, Johns Hopkins University MD candidate, Harvard University
2013-present	Sixto A. Arias, MD, Interventional Pulmonology, Johns Hopkins University Director of Interventional Pulmonology, University of Miami
2013-present	Roger Samuels, MD, MPH, Internal Medicine, Johns Hopkins University Pulmonary Critical Care Fellow, Johns Hopkins University
2014-present	Bernice Frimpong, BS, Interventional Pulmonology, Johns Hopkins University
2014-present	Sarina Sahetya, MD, Interventional Pulmonology, Johns Hopkins University
2014-present	Roy Semaan, MD, Interventional Pulmonology, Johns Hopkins University Director of Interventional Pulmonology, University of Pittsburgh
2014-present	David Hasemi, MBA Interventional Pulmonology, Johns Hopkins University MD candidate, University of Pennsylvania
2015-present	Julie Ng, MD, Internal Medicine, Johns Hopkins University
2015-present	Andrew Lerner, Interventional Pulmonology, Johns Hopkins University Director of Interventional Pulmonology, Sibley Hospital, Johns Hopkins University
2016-present	Diana Yu, Interventional Pulmonology, Johns Hopkins University Co-Director of Interventional Pulmonology, Stanford University
2016-present	Christopher Mallow, MD, Interventional Pulmonology, Johns Hopkins University
2016-present	Jeffery Thiboutot, MD Interventional Pulmonology, Johns Hopkins University

Education Program Building/Leadership

2011-present	Director of the Interventional Pulmonary Fellowship Training Program, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University School of Medicine. In this capacity, I am responsible for the program as a whole from curriculum development, procedural and clinical competence and research mentorship. The IP fellowship is currently the most academically productive in the country and the first to transition from a one to two year training program to further foster research and academic growth.
2011-present	Co-Director of Interventional Pulmonology at Johns Hopkins Hospital.
2013-present	Founding member for the Interventional Pulmonology Board Certification Examination
2013-present	Director of Interventional Pulmonology at Johns Hopkins Bayview. In this capacity, I am responsible for the startup of a new IP expansion program as well as the Johns Hopkins Lung Cancer program based on the Bayview campus.

CLINICAL ACTIVITIES

Certification

2009-present	Maryland Medical License, H0068282
2006-2016	ABIM Internal Medicine
2008-present	ABIM Pulmonary Medicine

Lonny Yarmus, DO

2010-present ABIM Critical Care Medicine
2014-present AABIP Interventional Pulmonology

Clinical Service Responsibilities

2009-present Interventional Pulmonology Service: Johns Hopkins Hospital and Bayview
2009-present Attending Physician/Preceptor: Interventional Pulmonary Clinic
2013-present Solitary Pulmonary Nodule Clinic: Director

Clinical Program Building / Leadership

2014-present Director, Interventional Pulmonology Program at Johns Hopkins Bayview; direct the expansion of the Interventional Pulmonary program to the Bayview campus.
2014-present Director, Solitary Pulmonary Nodule Clinic, Johns Hopkins Lung Cancer Program; direct the medical centers lung cancer screening and early diagnosis program.

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

2013-present Executive Director, Interventional Pulmonary Outcomes Group (IPOG): the first multicentered research consortium within the IP community
2013-present Thesis Committee Member, The Whitaker Biomedical Engineering Institute, Johns Hopkins University
2014 Johns Hopkins Junior Faculty Leadership Series

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

2010-Present Co-Director, Interventional Pulmonology, Johns Hopkins Hospital
2010-Present Director, Interventional Pulmonology Fellowship Training Program
2010-Present Procedural Complication Committee
2011-Present Curriculum Development for Interventional Pulmonology Workshop
2013-Present Director, Interventional Pulmonology, Johns Hopkins Bayview Medical Center
2013-Present Director, Lung Nodule Clinic
2014-Present Clinical Director, Division of Pulmonary and Critical Care Medicine

Editorial Activities

Editorial Board Appointments

2014-2017 *Immunome Research*, Associate Editor
2015 *Seminars in Respiratory and Critical Care Medicine*: Guest Editor for Interventional Pulmonology dedicated issue
2016-present *Respirology*, Associate Editor
2017-present *BMC Pulmonary Medicine*, Associate Editor

Journal Peer Review Activities

2011-present *Chest: American College of Chest Physicians*
2012-present *Journal of the American Medical Association*,
2012-present *American Journal of Respiratory and Critical Care Medicine*

2012-present	<i>New England Journal of Medicine</i>
2012-present	<i>Respiration</i>
2012-present	<i>Respirology</i>
2012-present	<i>Journal of Bronchology and Interventional Pulmonology</i>
2012-present	<i>Journal of Hospital Medicine</i>
2012-present	<i>Respiratory Care</i>
2012-present	<i>Case Reports in Medicine</i>
2012-present	<i>American Journal of Medicine</i>
2015-present	<i>Thorax</i>

Advisory Committees, Review Groups/Study Sections

2010-2015	National Chair, National Residency Matching Program (NRMP) for the Interventional Pulmonology Fellowship Program
2011-2015	American College of Chest Physicians (ACCP) Quality Improvement Registry (AQuIRE), Member Executive Committee
2011-2015	Chair, NSCLC AQuIRE Data Element Workgroup, Chairman
2011-2015	Co-Chair, Thoracic Oncology Network E-Community committee
2011-present	Director, Interventional Pulmonology Training and Curriculum Committee
2011-2014	Co-Director, Interventional Pulmonology Board Certification Exploration Committee
2012-present	Interventional Pulmonology Board Certification Exam Writing Committee
2012-present	ACCP Interventional Pulmonary Network Steering Committee
2013-present	Scientific Presentation and Awards Committee, American College of Chest Physicians
2013-present	Clinical Advisory Committee, American Thoracic Society
2014-present	Resident Development Scholarship Planning Committee, American Thoracic Society
2014-present	Executive Director, Research Committee, World Association of Bronchology and Interventional Pulmonology
2015-2017	Vice-Chair, ACCP Interventional Pulmonary Network Steering Committee
2017-2019	Chair, ACCP Interventional Pulmonary Network Steering Committee

Professional Societies

2006-present	American Thoracic Society
2006-present	American College of Chest Physicians
2006-present	American Association of Bronchoscopy and Interventional Pulmonology
2006-2014	Society for Critical Care Medicine
2009-present	Association of Interventional Pulmonary Program Directors (Founding Member)

Conference Organizer/Session Chair

2010	“Management of Pleural Disease: 100 th Anniversary of Thoracoscopy,” Pulmonary CME course, Baltimore, MD. Course Director.
2011	“Critical Care Ultrasound,” Pulmonary/Critical Care and Anesthesia/Critical Care Course, Baltimore, MD. Course Co-Director.
2011	“Management of Pleural Disease,” Pulmonary CME course, Baltimore, MD. Course Director.
2012	“EBUS and Advanced Diagnostic Bronchoscopy,” Pulmonary CME course, Cambridge, MD. Course Director

- 2012 Third Annual Diagnosis and Management of Pleural Disease, Pulmonary CME Course, Johns Hopkins University, Baltimore, MD. Course Director.
- 2013 International Society for Heart and Lung Transplantation Annual Meeting, Bronchoscopic Battles and Anastomotic Atrocities, Montreal, Canada. Session Chair.
- 2013 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.
- 2013 "Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course." Cambridge, Maryland. Conference Director.
- 2014 "EBUS Innovations." World Congress in Interventional Pulmonology, Kyoto, Japan. Session Chair.
- 2014 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.
- 2014 "A Multi-Disciplinary Approach to Lung Cancer," American Society of Clinical Pathology, Tampa, Florida. Session Chair.
- 2014 "Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course." Cambridge, Maryland. Conference Director.
- 2014 "Updates in Thoracic Navigation," Chinese Respiratory Society and American Thoracic Society, Shanghai, China. Session Chair
- 2015 "Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course." Charleston, South Carolina Conference Director.
- 2015 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.
- 2016 "Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course." Santa Fe, New Mexico. Conference Director.
- 2016 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.
- 2017 "Update and Board Review Pearls in Pulmonary and Critical Care Medicine CME Course." Napa, California. Conference Director.
- 2017 "Advancement in Navigational Bronchoscopy." Las Vegas, Nevada. Conference Director.
- 2017 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.
- 2018 "EBUS and Advanced Diagnostic Bronchoscopy." Pulmonary CME course, Cambridge, MD. Conference Director.

RECOGNITION

Awards/Honors

- 2009 American Thoracic Society Critical Care training program travel scholarship
- 2009 American College of Chest Physicians Fellow of the American College of Chest Physicians
- 2010 American Thoracic Society Lung cancer group poster facilitator
- 2010 American Association of Bronchology and Interventional Pulmonology Young Clinical Investigators Award
- 2010 American Association of Bronchology and Interventional Pulmonology Young Clinical Investigators Award
- 2011 American Thoracic Society Pleural Disease Session facilitator
- 2011 American College of Chest Physicians Winner of best clinical case presentation for Pleural Amyloidosis

- 2012 American College of Chest Physicians Johns Hopkins Interventional Pulmonology Program elected as *First IP Center of Excellence*, Atlanta, Georgia
- 2012 American College of Chest Physicians Co-Chair, Pleural Masters Session
- 2012 American College of Chest Physicians Chair, Back to Basics: Bronchoscopy Pearls from the Field Session
- 2012 American Thoracic Society IP and Pleural Disease Session moderator
- 2013 American Thoracic Society Member, Clinicians Advisory Committee
- 2013 American College of Chest Physicians Member, Scientific Presentation and Awards Committee
- 2013 American College of Chest Physicians Chair, Interventional Pulmonary Procedures Commission
- 2013 American Association of Bronchology and Interventional Pulmonology Awarded the first AABIP Research award
- 2013 American Association of Bronchology and Interventional Pulmonology Chair, Interventional Pulmonary Fellowship Application Service (IPFAS)
- 2014 World Association of Bronchology and Interventional Pulmonology Research Committee Chair
- 2014 Chest: American College of Chest Physicians: Top 1% Reviewer
- 2016 American College of Chest Physicians Vice Chair, Interventional Procedures Network
- 2017 American College of Chest Physicians Chair, Interventional Procedures Network
- 2017 American Thoracic Society Co-Chair, Interventional Pulmonary Working Group
- 2017 American Thoracic Society, Executive Board Member, Thoracic Oncology Assembly
- 2017 American College of Chest Physicians, Distinguished CHEST Educator Award

Invited Talks, Panels

- 2006 Invited Speaker, "Instituting the FACTT Algorithm in your ICU," Pulmonary Grand Rounds, Maine Medical Center
- 2007 Invited Speaker, "Cardiac Sarcoidosis," Northern New England Fellows Conference, University of Vermont
- 2007 Invited Speaker, "Cryptococcal Pneumonia in the Immunocompetent Host," Northern New England Fellows Conference, University of Vermont College of Medicine
- 2007 Invited Speaker, "Endobronchial Ultrasound," Pulmonary Grand Rounds, Maine Medical Center
- 2008 Invited Speaker, "Pleural Manometry: Technique and Applications," Pulmonary Grand Rounds, Maine Medical Center
- 2009 "Percutaneous Tracheostomy," Introduction to Tracheostomy, Department of Otolaryngology, Johns Hopkins University
- 2009 Invited Speaker, "Introduction to Interventional Pulmonology," Weinberg Oncology Unit, Johns Hopkins Hospital
- 2009 Invited Speaker, "Introduction to Thoracentesis and Thoracic Ultrasound," The Johns Hopkins Procedure Workshop
- 2009 Invited Speaker, "TBNA: Improving the Yield," Introduction to Bronchoscopy Course, Johns Hopkins
- 2009 Invited Speaker, "Mitomycin and other adjuncts for airway stenosis," Multidisciplinary Airway Conference, Johns Hopkins
- 2010 "Invited Speaker, Central Airway Obstruction," Pulmonary Grand Rounds, Johns Hopkins University
- 2010 Invited Speaker, "Bronchoscopy: Myths, Legends and Artifacts," Pulmonary Grand Rounds, Johns Hopkins
- 2010 Invited Speaker, "Interventional Pulmonology in 2010," Medical Grand Rounds, Suburban Hospital, Bethesda, Maryland
- 2011 Invited Speaker, "Interventional Pulmonology for the Cardiothoracic Surgeon," Cardiothoracic Surgery Grand Rounds, Johns Hopkins Hospital

- 2011 Invited Speaker, "Basic Bronchoscopy," Introduction to Bronchoscopy Course, Johns Hopkins Hospital
- 2011 Invited Speaker, "Thoracic ultrasound," Critical Care Ultrasonography, Johns Hopkins Hospital
- 2011 Invited Speaker, "Interventional Pulmonology Update", Medical Grand Rounds, Prince Georges Hospital, Annapolis, Maryland
- 2011 *Visiting Professor*, Soochow University, Suzhou, China
- 2011 Invited Speaker, "Airway Complication after Lung Transplant," European Respiratory Society, Amsterdam, The Netherlands
- 2012 Invited Speaker, "Cryobiopsy for Lung Transplant Surveillance," International Society of Heart and Lung Transplantation, Prague, Czech Republic
- 2012 Invited Speaker, "Pediatric Interventional Pulmonology," 5th Conference of the Pediatric Bronchoscope Medicine Alliance and Pediatric Bronchoscopy Forum, Jinan, China
- 2012 Invited Speaker, "EBUS-TBNA" 4th International Bronchoscopy Summit, Guangdong, China
- 2012 *Visiting Professor*, Second Military Medical University, Changzheng Hospital, Shanghai, China
- 2012 *Visiting Professor*, Shunde University, First People's Hospital of Shunde, Guangdong, China
- 2012 *Visiting Professor*, The Second Hospital of Shandong University, Jinan, China
- 2012 Invited Speaker, "The Death of Pleural Nihilism," Medical Grand Rounds, Johns Hopkins Hospital
- 2012 Invited Speaker, "Bronchoscopy in the ICU," American Association of Bronchology and Interventional Pulmonology annual meeting.
- 2012 *Visiting Professor*, "Medical University of South Carolina, Charleston, SC.
- 2013 Invited Speaker, "Bronchoscopic Lung Volume Reduction." American Thoracic Society International Meeting, Philadelphia, PA
- 2013 *Visiting Professor*, Xiamen China Second Military Medical University, Shanghai, China
- 2013 Invited Speaker, "Palliative Interventional Therapies," 4th International Symposium on Brain Death, Havana, Cuba
- 2013 *Visiting Professor*, Wenzhou Medical University, Wenzhou, China
- 2014 Invited Speaker, "Radial EBUS," Society of Thoracic Surgeons annual meeting, Orlando, FL
- 2014 Invited Speaker, "A Novel Hybrid EBUS System." World Congress of Interventional Pulmonology, Kyoto, Japan.
- 2014 *Visiting Professor*, Jinan Pediatric Hospital, Jinan, China
- 2014 *Visiting Professor*, Panhellenic Congress on Respiratory and Occupational Chest Diseases: Consensus and Controversy. Thessaloniki University Hospital, Thessaloniki, Greece
- 2014 Invited Speaker, EBUS specimen acquisition, Duke University
- 2014 *Visiting Professor*, Interventional Pulmonology, Mt Sinai Hospital, NY
- 2015 Invited Speaker, "*Electromagnetic Guided Transthoracic Needle Aspiration*", European Interventional Pulmonology Society, Barcelona, Spain
- 2015 Invited Speaker, "Getting to the Periphery of the Lung". Washington University of Saint Louis
- 2015 Invited Speaker, "Improving your EBUS Yield". Duke University
- 2015 Invited Speaker, "*Electromagnetic Guided Transthoracic Needle Aspiration*", Taiwan Society of Pulmonary and Critical Care, Taipei, Taiwan
- 2015 Invited Speaker, "*Advances in Navigational Bronchoscopy*", Congress of the Asian Pacific Society of Respirology, Kuala Lumpur, Malaysia
- 2016 Invited Speaker, "*Electromagnetic Guidance TTNA*", Asian Society for Cardiovascular and Thoracic Surgery, Taipei, Taiwan
- 2016 Invited Speaker, "Novel Innovations in Bronchoscopy", World Congress for the Association for Bronchology and Interventional Pulmonology, Florence, Italy
- 2016 *Visiting Professor*, Interventional Pulmonology, Shanghai Tenth Peoples Hospital of Tonghii University, Shanghai, China
- 2017 Invited Speaker, Interventional Pulmonology, Shanghai Respiratory Society, Shanghai, China

- 2017 *Visiting Professor*, Interventional Pulmonology, National Taiwan University Hospital, Taipei, Taiwan
- 2017 Invited Speaker, Navigational Bronchoscopy in Lung Cancer, Azienda Ospedaliera University, Ancona, Italy
- 2017 *Visiting Professor*, Interventional Pulmonology, Mahidol University, Siriraj Hospital, Bangkok, Thailand
- 2017 Invited Speaker, Cryobiopsy, Association of Italian Pulmonologists, Ravenna, Italy
- 2018 Invited Speaker, Transthoracic Navigation Guidance, Korean Society of Thoracic Surgery Annual Meeting, Jeju, Korea.