Curriculum Vitae Gautam Venkat Ramani, MD Assistant Professor of Medicine Director, Inpatient Cardiology Director, Pulmonary Hypertension Program University of Maryland

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Personal Information

Business Address

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Education

The Pennsylvania State University BS in General Science, 1994-1996

Jefferson Medical College of Thomas Jefferson University MD, 1996-2000

Post Graduate Education and Training

University of Pittsburgh Resident in Internal Medicine, 2000-2003

University of Pittsburgh Chief Medical Resident, 2003-2004

University of Pittsburgh Fellow in Cardiovascular Diseases, 2004-2007

University of Pittsburgh

Fellow in Congestive Heart Failure /Transplantation/ Pulmonary Hypertension 2007-2008

Certifications

• ABIM Certified in Cardiovascular Diseases, 2007-2017

- ABIM Certified in Advanced Heart Failure/Transplantation 2010-2020
- CBNC Certified in Nuclear Cardiology 2007-2017
- NBE Certified in Echocardiography, 2008-2018

Medical Licensures

- Unrestricted Maryland Medical license: Valid from 3/19/08
- Unrestricted Pennsylvania medical license: Valid until 4/30/2009 Expired
- Federal DEA License: Valid from 12/31/10

Professional Memberships

- Member of American College of Cardiology (ACC)
- Member of the Pulmonary Hypertension Association (PHA)
- Member of the International Society of Heart Lung Transplantation (ISHLT)

Teaching Service

- 2003-2004: Attending Physician, In-Patient Medical Service
 - o 1 resident, 2 interns, 2 medical students
 - o 8 hours/day, 3 months total
- 2008-2009: Attending Physician, CCS In-Patient Medical Service
 - o 2 residents, 4 interns, 1 fellow
 - o 8 hours/day, 10 weeks total
- 2009-2010: Attending Physician, CCS In-Patient Medical Service
 - o 2 residents, 4 interns, 1 fellow
 - o 8 hours/day, 10 weeks total
- 2010-2011: Attending Physician, CCS In-Patient Medical Service
 - o 2 residents, 4 interns, 1 fellow
 - o 8 hours/day, 10 weeks total
 - 2012-2013 Attending Physician, Advanced Heart Failure Service (AHFS)
 - o 2 fellows, 1 resident, 2 nurse practitioners

Publications

Peer Reviewed Publications

- Ware JS, Li J, Mazaika E, Yasso CM, DeSouza T, Cappola TP, Tsai EJ, Hilfiker-Kleiner D, Kamiya CA, Mazzarotto F, Cook SA, Halder I, Prasad SK, Pisarcik J, Hanley-Yanez K, Alharethi R, Damp J, Hsich E, Elkayam U, Sheppard R, Kealey A, Alexis J, **Ramani G**, Safirstein J, Boehmer J, Pauly DF, Wittstein IS, Thohan V, Zucker MJ, Liu P, Gorcsan J 3rd, McNamara DM, Seidman CE, Seidman JG, Arany Z; IMAC-2 and IPAC Investigators. N Engl J Med 2016 Jan 21;374(3): 233-241
- 2. Sheppard R, Hsich E, Damp J, Elkayam U, Kealey A, **Ramani G**, Zucker M, Alexis JD, Horne BD, Hanley-Yanez K, Pisarcik J, Halder I, Fett JD, Mcnamara DM; IPAC Investigators. GNB3 C825T Polymorphism and

Myocardial Recovery in Peripartum Cardiomyopathy. Results of the Multicenter Investigation of Pregnancy Associated Cardiomyopathy Study. Circ Heart Fail 2016 Mar;9(3);e002683

- 3. McNamara DM, Elkayam U, Alharethi R, Damp J, Hsich E, Ewald G, Modi K, Alexis JD, **Ramani GV**, Semingram MJ, Fett JD. Clinical outcomes for peripartum cardiomyopathy in North America: Results of the IPAC Study. J Am Coll Cardiol 2015;66(8): 905-914
- 4. **Ramani GV**, Kligerman SJ, Reed RM. A bad shortcut: Partial anomalous pulmonary venous return. BMJ Case Rep 2014;
- 5. Timofte I, Potosky D, **Ramani GV**, Reed RM. Diaphragmatic herniation due to massive hepatomegaly in a patient with pulmonary arterial hypertension. BMJ Case Rep 2015 Jun 10;2015
- 6. **Ramani GV**, Gill SS. Pharmacologic Treatment of Pulmonary arterial Hypertension. *Curr Pharm Des* 2012; PMID 23228314
- 7. Klein T, **Ramani GV**. Assessment and management of cardiogenic shock in the emergency department. Cardiol Clin 2012;30(4): 651-664
- 8. **Ramani GV**, Park MH. Pharmacotherapy for pulmonary arterial hypertension. Heart Fail Clin 2012;8(3): 385-402
- 9. **Ramani GV**. Inhaled prostacyclin therapy for pulmonary arterial hypertension a promise unfulfilled? *Expert Opin Pharmacother* 2012;13(7):923-925
- 10. Reed RM, **Ramani GV**, Hashmi S. Unraveling the paradox of cardiac tamponade: case presentation and discussion of physiology. *BMJ Case Reports* 2012;10.1136/bcr.09.2011.4792
- 11. **Ramani GV**, Kligerman S, Lehr E. Multimodality imaging of a thrombus in transit crossing a patent forman ovale. *J Am Coll Cardiol* 2012;59(6):e19
- 12. Baker S, Ramani GV. Heart failure in the elderly. Clinical Geriatrics. December 2011. 21-27.
- 13. **Ramani GV**, Mehra MR. Risk assessment in critically ill patients awaiting transplantation: a step forward. *Rev Esp Cardiol* 2001;64(3):175-176
- 14. **Ramani GV**, Park MH. Update on the clinical utility of sildenafil in the treatment of pulmonary arterial hypertension. *Drug Des Devel Ther* 2010;25;4:61-70
- 15. Wu Y, **Ramani GV**, Gai Q, Lemon LC, Baer MR. Rare hemoglobinopathy presenting as progressive dyspnea. *Am J Hematol* 2010;85(5):355-357
- 16. **Ramani GV**, Gurm G, Dilsizian V, Park MH. Noninvasive assessment of right ventricular function: will there be a resurgence in radionuclide imaging techniques? *Curr Cardiol Rep* 2010;12(2):162-169

- 17. Srivastava MC, **Ramani GV**, Garcia JP, Griffith BP, Uber PA, Park MH. Veno-venous extracorporeal membrane oxygenation bridging to pharmacotherapy in pulmonary arterial hypertensive crisis. *J Heart Lung Transplant* 2010; Apil 21
- 18. **Ramani GV**, Uber PA, Mehra MR. Chronic heart failure: contemporary diagnosis and management. *Mayo Clin Proc* 2010; 85(2):180-195
- 19. Park MH, **Ramani GV**, Kop WJ, Uber PA, Mehra MR. Exercise-uncovered pulmonary arterial hypertension and pharmacologic therapy: Clinical benefits. *J Heart Lung Transplant* 2010;29(2):228-229
- 20. **Ramani GV**, Shields J. A 42 year old man with shortness of breath and abdominal pain. *Am J Med Sci* 2010;339(1):60-64
- 21. **Ramani GV**, Edelman K, Lopez-Candales A. Standard measures of right ventricular function assessment in adults with acute sickle cell crises. *Int J Cardiol* 2009;132(3):448-450
- 22. **Ramani GV**, Bazaz R, Edelman K, Lopez-Candales A. Pulmonary Hypertension Affects Left Ventricular Twist: A Novel Use for Speckle-Tracking Imaging. *Echocardiography*. 2008 Nov 19
- 23. **Ramani GV**, McCloskey C, Ramanathan RC, Mathier MA. Safety and efficacy of bariatric surgery in morbidly obese patient with severe systolic heart failure. *Clin Cardiol* 2008 (11):516-520.
- 24. Kochar M, Lopez-Candales A, **Ramani GV**, Rajagopalan N, Edelman K. Unusual echocardiographic features seen in a case of giant cell myocarditis. *Can J Cardiol*. 2008 (11): 855-856
- 25. McCloskey CA, **Ramani GV**, Mathier MA, Schauer PR, Eid GM, Mattar SG, Courcoulas AP, Ramanathan R. Bariatric surgery improves cardiac function in morbidly obese patients with severe cardiomyopathy. *Surg Obes Relat Dis*. 2007 Sep-Oct;3(5):503-507.
- 26. **Ramani GV**, Zahid M, Good CB, Macioce A, Sonel AF. Comparison of frequency of new-onset atrial fibrillation or flutter in patients on statins versus not on statins presenting with suspected acute coronary syndrome. *Am J Cardiol* 2007 August 100(3):404-405.

Book Chapters

- 1. Ramani GV, Park MH. Pulmonary Hypertension. Chapter in Heart Failure: Springer; 2015
- 2. **Ramani GV**, Uber PA, Mehra MR. Nutraceuticals in heart failure: the good (fish oils), the bad (licorice) and the ugly (ginseng)? Mehra MR, editors. *Heart Failure: Clinical Challenges*. Oxford. Clinical Publishing 2010: 211-219
- 3. **Ramani GV**, Soman P. Radionuclide Imaging in Heart failure *Nuclear Cardiology: Practical Applications*. . Heller GV, and Hendel RC, editors. Mc-Graw Hill Publishing. 2010: 245-262.
- 4. Benitez MR, **Ramani GV**, Uber PA. The heart in rheumatic disease. Hochberg MC, Silman AJ, Smolen JS, editors. *Rheumatology*, 5th *Edition*. Philadelphia: Mosby-Elsevier, 2011.

Non-Peer Reviewed Publications

- 1. **Ramani GV**. What is the experience with ECMO and RVAD's in the management of patients with Advanced PAH? *Advances in Pulmonary Hypertension* 2010;9(1):61
- 2. **Ramani GV**. Ask a PH Specialist: What are the risks involved with pregnancy and IPAH? PAH *Pathlight*; 2010; 19(2):11
- 3. **Ramani GV** and Park MH. PHA Patient Information: Chronic Thromboembolic Pulmonary Hypertension. <u>http://www.phassociation.org/page.aspx?pid=3833</u>. January 2013

Abstracts at National Meetings

- 1. **Ramani GV**, Lam D, Park MH. The impact of survival in pulmonary arterial hypertension. J Heart Lung Transplant. 2014;33:4:S229-S230
- 2. **Ramani GV**, Feller E, Hivala N, Rajagopal K, Sorensen E. Utility of PET/CT Imaging for Identifying LVAD infections. J Heart Lung Transplant 2014;33:4:S197-S198
- 3. McNamara DM, Damp J, Hsich E, Ewald G, Cooper L, Modi K, **Ramani GV**, Alexis J, Fett J, et al. Myocardial Recovery at six months in peripartum cardiomyopathy. Results of the NHLBI multicenter IPAC study. AHA 2013; #12898
- 4. **Ramani GV**, Lam D, Park MH. Clinical Significance of Gastroesophageal Reflux Disease and Proton Pump Inhibitor Use in Pulmonary Arterial Hypertension. J Heart Lung Transplant 2014;33:4:S309
- Ramani GV, Bhasin V, Kukuruga D, Burke A. Evaluation of Donor Specific C1q HLA Antibody as a marker for severity of disease and response to treatment of antibody mediated rejection in five cardiac transplant recipients. Poster Presentation at 2012 American Society of Histocompatibility and Immunogenetics Meeting. November 2012
- 6. Patel M, Benitez M, **Ramani GV**. Iatrogenic pulmonary vein stenosis following pulmonary vein isolation for atril fibrillation: Development of severe pulmonary hypertension despite incomplete involvement and percutaneous stenting Proceeding of American Thoracic Society, Denver, Colorado # 18936. May 15, 2011
- Park MH, Chesney MA, Aje TO, Ramani GV, Synkowski SJ, Frederick J, Kop WJ. Clinical predictors of poor quality of life in pulmonary arterial hypertension. Proceedings of the American Thoracic Society New Orleans, Louisiana #6122, May 18, 2010
- 8. Khanna A, **Ramani GV**, Xu J, Janowick F, Frederick J, Park MH. Genotypic characterization of the inflammatory and proliferative markers in PAH: response to prostacyclin therapy. Proceedings of the American Thoracic Society New Orleans, Louisiana. May 18,2010

- 9. Park M, Chesney MA, Aje TO, **Ramani G**, Synowski SJ, Frederick J, Kop WJ. Clinical Predictors of Poor Quality of Life in Pulmonary Arterial Hypertension. *Poster Presentation at 2010 ISHLT Scientific Sessions*
- 10. Park MH, **Ramani GV**, Kop WJ, Uber PA, Mehra MR. Clinical Benefits of Pharmacological Therapy in Exercise induced Pulmonary Arterial Hypertension. *Oral Presentation at 2009 ISHLT Scientific Sessions, Toronto, Canada*
- 11. **Ramani G**, Edelman K, Lopez-Candales A. Right ventricular function following cardiac transplantation. *Oral Presentation at 2008 ASE Scientific Sessions, Toronto, Canada*.
- 12. **Ramani G**, Mathier M, Cadaret L, Zhang J, Ramanathan R. Bariatric surgery results in marked improvement in functional capacity in pulmonary hypertension. *Oral Case Presentation at 2007 CHEST scientific sessions*, *10/24*, *Chicago IL*
- 13. **Ramani G**, Mathier M. Safety and Efficacy of bariatric surgery in advanced heart failure. *Oral presentation at 2007 ACC Scientific Sessions, New Orleans LA*.
- 14. **Ramani G**, Suffoletto M, Tanabi M, Lopez-Candales A. Left Ventricular Torsion in Pulmonary Hypertension. *Poster presentation at 2006 ASE Scientific Sessions, Baltimore, MD*.
- 15. **Ramani G**, Zahid M, Good C, Macioce A, Sonel A. The effect of statins in reducing the incidence of new onset atrial fibrillation in patients with suspected acute coronary syndromes. *Poster presentation at 2006 AHA Scientific Sessions, Chicago IL*.

Scientific Session Responsibilities

- 2009 ACC Scientific Sessions: CHF Prevention Symposium: Co-Chair
- 2013 ISHLT Scientific Sessions: LV/RV Interactions Symposium Co-Chair
- 2011 ISHLT Scientific Sessions: AMR symposium Co-Chair
- 2013 ISHLT Scientific Session RV/LV Coupling Moderator
- 2014 ISHLT Scientific Sessions MCS thrombotic complication case presenter
- 2013-2014 Cardiology Subcommittee section chair, PHA online University
- 2014 ISHLT Case Presenter, LVAD Bleeding symposium

Educational Responsibilities

- 2008 2009
 - o Medical Student Physical Exam Instructor
 - Medical Student Sophomore course lecturer
 - $\circ \quad \mbox{Medical Student Cardiovascular Physiology course lecturer}$
- 2009-2010
 - Medical Student Physical Exam Instructor
- 2010-2011
 - o Medical student Physical Exam Instructor

- Medical student sophomore cardiovascular lecture: "Right ventricular failure"
- Medical student Cardiovascular Physiology course lecturer
- 2010-2012
 - o Medical student sophomore cardiovascular lecture: "Right ventricular failure"
 - o Medical student Cardiovascular Physiology course lecturer
- Director: Advanced Heart Failure Lecture Series (2011-2015)
 - <u>Monthly lectures on AHFS Topics</u>
- February 2013, 2014, 2015: 2 Lectures to pulmonary fellows: Diagnosis and Treatment of Pulmonary Hypertension
- April 2013: University of Maryland Critical Care Grand Rounds: RV Failure

Awards

- 2011 Cardiovascular Medicine Teacher of the Year (Chosen by both faculty and fellows)
- 2013 Cardiovascular Medicine Teacher of the Year (Chosen by the faculty)
- 2014 Cardiovascular Medicine Teacher of the Year (Chosen by both fellows and faculty)
- 2015 Cardiovascular Medicine Teacher of the Year (Chosen by both Fellows and faculty)

Ad-Hoc Journal Reviewer

- Journal of Heart Lung Transplantation
- Clinical Cardiology
- Congestive Heart Failure
- Clinical and Translational Research
- International Journal of Cardiology
- Journal of Cardiac Failure
- American Journal of Transplantation
- American Journal of Cardiology

Invited Talks

- **2009 University of Maryland**: Cardiology Grand Rounds: Evolving concepts in heart transplantation
- 2009 University of Maryland: Department of Medicine Grand Rounds: Clinical Conference
- **2009 St. Joseph's Hospital:** Department of Medicine Grand Rounds: Pulmonary arterial Hypertension
- **2009 Greater Baltimore Medical Center:** Department of Medicine Grand Rounds: Pulmonary arterial Hypertension
- March 30 2010 Carroll County Hospital: Department of Medicine Grand Rounds: Pulmonary arterial hypertension
- April 30 2010 Frederick Memorial Hospital:_Department of Medicine Grand Rounds: Pulmonary arterial Hypertension
- May 26 2010 Peninsula Regional Medical Center: Cardiology Grand Rounds: Pulmonary arterial hypertension

- June 9, 2010 Laurel Regional Medical center: Department of Medicine Grand Rounds: Pulmonary arterial hypertension
- September 26, 2010 University of Maryland Medical Center: Department of Medicine Medical Grand Rounds: Pulmonary arterial hypertension
- November 13, 2010 St. Joseph's Hospital. Department of Medicine Medical Grand Rounds: Acute Decompensated Heart Failure
- January 6, 2011 University of Maryland Medical Center: Division of Cardiology Grand Rounds: Acute Decompensated Heart Failure
- April 15, 2011 Mercy Medical Center: Grand Rounds Pulmonary Arterial Hypertension
- February 24, 2012 University of Maryland Cardiology Grand Rounds: Clinical LVAD studies at UMMS
- July 11 2012 Chester River Medical Center Grand Rounds: Pulmonary arterial Hypertension
- September 12 2012 Prince Georges Community Hospital Grand Rounds:_Pulmonary arterial Hypertension
- October 25 2012: Union Memorial Hospital Grand Rounds: Pulmonary arterial Hypertension
- February 26, 2013: Grand Rounds, Kernan Hopsital: Pulmonary arterial Hypertension
- April 4, 2013: University of Maryland Cardiology Grand Rounds: Medical Management of RV Failure
- May 3, 2013: *University of Maryland Medical Center:* Department of Medicine Grand Rounds: CPC: A 24 year old patient with chest pain and dyspnea
- May 18 2014: <u>University of Maryland Medical Center</u>: Cardiovascular Medicine Grand Rounds: Heart Transplantation: Past perspectives and future challenges
- September 29, 2015: <u>University of Maryland Medical Center</u>: Infections Disease Grand Rounds: HIV: Concepts on Dyspnea and Pulmonary Hypertension

Research Studies

EXHALTED: A Study investigating exercise tolerance and dyspnea in patients with HIV and Pulmonary Hypertension

Grant proposal funded by NIH – IRB Submission and Research plan in progress

A Phase 2, Dose-Ranging, Randomized Double-Blind, Placebo-Controlled Study of GS-4997 in Subjects with Pulmonary Arterial Hypertension: Ongoing

Sponsor: Gilead

Role: Site Primary Investigator

SYMPHONY: A study of Macitentan in Pulmonary Arterial Hypertension to Validate the PAH-SYMPACT: Completed

NCT01841762: Site PI Sponsor: Acteilion

BEAT: A multicenter, double-blind, randomized, placebo-controlled, Phase 3 study to assess the efficacy and safety of oral BPS 314d MR added-on to treprostinil, inhaled (Tyvaso®) in subjects with pulmonary arterial hypertension: Ongoing Sponsor: United Therapeutics

Role: Site PI

Inhaled nitric oxide/INOpulse DS combination product IK-7001-PAH-201. A phase 2, placebo controlled, doubleblind, randomized, clinical study to determine safety, tolerability, and efficacy of pulsed, inhaled nitric oxide (iNO) versus placebo.

Sponsor: Ikaria Role: Site PI

OPsumit Users Registory (OPUS):Ongoing Sponsor: Actelion NCT 02126943: Site PI

GUIDE IT – Guiding Evidenced Based Therapy Using Biomarker Intensified Treatment:Ongoing NCT 01685840: Site PI Sponsor: NIH

RC1 HL102429

Site PI

09/01/10-08/31/12

Immune Activation and Myocardial Recovery in Peripartum Cardiomyopathy

The goal of this study is to phenotype peripartum cardiomyopathy, and to identify echocardiographic, MRI, and biomarker predictors of myocardial recovery. . .

Role: Primary Site Investigator

Dowling (PI) - Ramani Co-PI

09/30/11-06/30/12

Single Dose Fasting Bioequivalence Study of Bosentan Tab

The goal of this study is to assess the pharmacokinetics of a generic formulation of Tracleer (bosentan).... Sponsor: Mylan Role: Co-Investigator

Fish Oil effect on Heart Muscle cells in heart transplant patients (FOHMC) 1/1/11-9/2-12

Sponsor: NIH Role: Co-Investigator

Effect of food on bioequivalence of bosentan tablets in healthy volunteers

5/1/12-9/30/12 Sponsor: Mylan Role: Co-Investigator LVAD Therapy: Exploring the effect of intramyocardial injection of mesenchymal precursor cells on myocardial function:

5/12 – 9/12 Sponsor: NIH Role: Co-Investigator

VAD Recovery 30180 8/08 – current Sponsor: NIH Role: Co Investigaror

AMBITION: A randomized multicenter study of first line ambrisentan and tadalafil combination therapy in subjects with pulmonary arterial hypertension Sponsor: Gilead Role: Co-Investigator

SERAPHIN: Study with endothelin receptor antagonist in pulmonary arterial hypertension to improve clinical outcome. A multicenter, double-blind randomized, placebo-controlled, parallel groip, event-drive, Phase IiII study to assess the effects of ACT-064992 on morbidity and mortality in patients with symptomatic pulmonary arterial hypertension

8/08 – 9/12 Sponsor: Actelion Role: Co-Investigator

ATHENA 1: An open-label, Multicenter study of ambrisentan and a phosphodiesterase Type-5 inhibitor combination therapy in subjects with pulmonary arterial hypertension who have demonstrated a sub-optimal response to phosphoeiestease Type-5 inhibitor.

8/08 – 1/11 Sponsor: Gilead Role: Co-Investigator

RESPIRE: Registry to prospectively evaluate use of ventavis in patients with pulmonary arterial hypertension:

10/10 – 6/12 Sponsor: Actelion Role: Co-Investigator

PARTNER II TRIAL: Placement of Aortic transcatheter valves trial the safety of effectiveness of the SAPIEN XT transcatheter heart valve with NovaFlex and AScendra 2 delivery symptoms (Transfermoral and Transpaical) in intermediate risk surgical and non-operable patients A: Cohort A and B combined. 3/12 - currentSponsor: Edwards LifeSciences Role: Co Investigator