AHMAD Y. SHEIKH, M.D.

Department of Cardiothoracic Surgery
Stanford University Hospital
300 Pasteur Drive, Falk CVRB
Stanford, CA 94305

e-mail: asheikh@stanford.edu
Tel: (650) 725-3828 Cell: (617) 515-8614
Fax: (650) 725-3846

EDUCATION

Dates	Institution	Degree Conferred
1996 - 2001	University of California, San Francisco School of Medicine	MD with Thesis
1992 - 1995	University of California, Berkeley Department of Molecular and Cellular Biology	AB, summa cum laude

LICENSURE/CERTIFICATION

2013	American Board of Thoracic Surgery (Certificate #7980)
2009	American Board of Surgery (Certificate #054598)
2005	California Medical License (A92408)
2005	Drug Enforcement Agency (BS9471664)
2003	Massachusetts Board of Registration in Medicine Limited License (210863)

POST GRADUATE TRAINING

Dates	Institution	Position
2013 – Present	Stanford University Medical Center Department of Cardiothoracic Surgery Stanford, CA	Clinical Assistant Professor
2012 – 2013	Stanford University Medical Center Department of Cardiothoracic Surgery Stanford, CA	Thoracic Transplantation & Mechanical Support Fellow
2009 – 2012	Stanford University Medical Center Department of Cardiothoracic Surgery Stanford, CA	Cardiothoracic Fellow
2002 - 2009	Massachusetts General Hospital	Resident

	Department of General Surgery Boston, MA	
2004 - 2007	Stanford University Medical Center Department of Cardiothoracic Surgery Robbins Laboratory Stanford, CA	Postdoctoral Research Fellow
2001 – 2002	Massachusetts General Hospital Department of General Surgery Boston, MA	Intern

CLINICAL POSITIONS/EMPLOYMENT

1997-2001	Research Fellow, Wound Healing Laboratory, University of California, San Francisco. Mentor: Thomas K. Hunt, MD.
1994-1996	Research Fellow, Cancer Center at the University of California, San Francisco and Lawrence Berkeley National Laboratories. Mentor: Maria Pallavicini, PhD.
1993-1994	Research Fellow, Museum of Paleontology, University of California, Berkeley. Mentor: Howard Hutchinson, PhD

HONORS

2013	Awarded Norman Shumway Award at the Western Thoracic Surgical Association Meeting
2013	Finalist, Sampson Resident Essay Award, Western Thoracic Surgical Association Meeting
2009	Chief Resident Teaching Award, Massachusetts General Hospital
2008	Awarded Excellence in Teaching Citation by Tufts University School of Medicine
2006	New Era Cardiac Care Scholar
2000	Alpha Omega Alpha. President of UCSF Chapter, 2000-2001
1996-2001	UC Regents Scholar, University of California at San Francisco
1995	Phi Beta Kappa
1995	Graduated with Highest Distinction in General Scholarship, University of California at Berkeley
1995	Departmental Honors Thesis in Molecular and Cellular Biology, University of California at Berkeley
1992-1995	Dean's List, University of California at Berkeley
1993	Edward Frank Kraft Scholarship, University of California at Berkeley

GRANTS/FELLOWSHIPS

2005-2007	NIH-NHLBI NRSA Award (1 F32 HL084982-01)

"Bone marrow stem cell transplantation for ischemic heart disease"

2004-2007 Massachusetts General Hospital Edward D. Churchill Research Fellowship
"Role of apelin-APJ in ischemic heart disease"

2005-2006 Stanford University Dean's Postdoctoral Fellowship
"Effects of apelin on arterial vasomotor tone"

1999-2000 Novartis Research Fellowship
"Use of bilayered living skin construct (Apligraf) to treat acute, full thickness dermal wounds."

1998-1999 Genetech Foundation Research Fellowship
"Investigation of varying oxygen tension on wound angiogenesis"

1997 UCSF Student Research Committee Fellowship
"Role of hyperoxia in the management of ischemic wounds"

CLINICAL COURSES/CERTIFICATION

2012 ELSO VV ECMO for Adult Respiratory Failure. Emory University and Emory Conference Center, Atlanta, Ga. Director: Mark Ogino, MD

2010 TSRA/TSDA CT Technology Symposium, Julie Penrose Health Education and Research Center, Colorado Springs, Co. Director: John R. Mehall, MD

2009 CT Organ procurement. Certifying body: UNOS

2009 TSDA CT Surgery Boot Camp, University of North Carolina, Chapel Hill, NC. Director: Richard Feins, MD

2009 SAGES Fundamentals of Laparoscopic Surgery (FLS), Massachusetts General Hospital, Boston, MA. Director: Charles M. Ferguson, MD

2007 Advanced Trauma Operative Management (ATOM), Massachusetts General Hospital, Boston, MA. Director: Susan Briggs, MD

MEMBERSHIP

2010 Pre-candidate, Society of Thoracic Surgeons

VOLUNTEER/COMMITTEE POSITIONS

2005-2007 Member, Molecular Imaging Program at Stanford
2004-2007 Member, Cardiovascular Institute at Stanford University
1996-2001 UCSF School of Medicine Committee on Admissions
1996-2001 Clinical volunteer, UCSF Students' Homeless Clinic
1998-1999 School of Medicine Representative-Elect, Associated Students of the University of California at San Francisco

1997-1998 Student-Faculty Liaison-Elect, School of Medicine at UCSF
1995-1996 Tutor, UC Berkeley Disabled Students' Program

LANGUAGES
French, Hindi, Urdu, Punjabi

REFERENCES

Stanford University School of Medicine
Phillip E. Oyer, M.D. Ph.D.
Joseph Shrager, M.D.
Thomas Quertermous, M.D.
Thomas A. Burdon, M.D.
Ramin Beygui, M.D.
Joseph C. Wu, M.D. Ph.D.
Richard V. Ha, MD

Massachusetts General Hospital
Andrew L. Warshaw, M.D.
Michael T. Watkins, M.D.
Carlos Fernandez-del Castillo, M.D.
Thomas E. MacGillivray, M.D.

External
Robert C. Robbins, M.D., Texas Medical Center, Houston, TX
Hari Mallidi, M.D., Baylor College of Medicine, Houston, TX
Harriet H. Hopf, M.D., University of Utah, Salt Lake City, UT
Nancy Boudreau, Ph.D., UCSF, San Francisco, CA
Charles M. Ferguson, M.D., LaGrange, GA
Marc P. Pelletier, M.D., New Brunswick Heart Center, St. John, Canada
Mark D. Rollins, M.D., Ph.D., UCSF, San Francisco, CA
Hasan Alam, M.D., University of Michigan, MI

Bibliography

Publications

1. **Sheikh AY**, Keehner M, Walker A, Chang PA, Burdon TA, Fann JI. Individual differences in field independence influence the ability to determine accurate needle angles. *Submitted.*

2. **Sheikh AY***, Hill CC*, Goodnough LT, Leung LL, Fischbein, MP. Open Aortic Valve Replacement in a Patient with Glanzmann's Thrombasthenia: A Multi-Disciplinary Strategy to Minimize Peri-Operative Bleeding. Transfusion. 2013 May 27.

3. Monge MC, Mainwaring RD, **Sheikh AY**, Punn R, Reddy VM, Hanley FL.Surgical reconstruction of peripheral pulmonary artery stenosis in Williams and Alagille syndromes. J Thorac Cardiovasc Surg. 2012 Dec 7.

4. Mainwaring RD, **Sheikh AY**, Punn R, Reddy VM, Hanley FL. Surgical Outcomes for Patients with Pulmonary Atresia/Major Aortopulmonary Collaterals and Alagille Syndrome. Eur J Cardiothorac Surg. 2012 Mar 7.

5. **Sheikh AY*,** Huber BC*, Narsinh KH, Spin JM, van der Bogt K, de Almeida PE, Ransohoff KJ, Kraft DL, Fajardo G, Ardigo D, Ransohoff J, Bernstein D, Fischbein MP, Robbins RC, Wu JC. In Vivo Functional and Transcriptional Profiling of Bone Marrow Stem Cells following Transplantation into Ischemic Myocardium. Arterioscler Thromb Vasc Biol. 2011 Oct 27. **[Selected as cover article]**

6. Mishra A, Velotta J, Brinton TJ, Wang X, Chang S, Palmer O, **Sheikh A**, Chung J, Yang PC, Robbins R, Fischbein M. RevaTen platelet-rich plasma improves cardiac function after myocardial injury. Cardiovasc Revasc Med. 2010 Oct 13. [Epub ahead of print]

7. **Sheikh AY**, van der Bogt KE, Doyle TC, Sheikh MK, Ransohoff KJ, Ali ZA, Palmer OP, Robbins RC, Fischbein MP, Wu JC. Micro Computed Tomography for Characterization of Murine Cardiovascular Disease Models. JACC Cardiovasc Imaging. 2010 Jul;3(7):783-5.

8. Ali A, Ramoutar D, Ashrafian H, Abu-Omar Y, Freed D, **Sheikh AY**, Ali Z, Athanasiou T, Wallwork J. What are the Predictors that Affect the Excellent Long-term Benefits of Redo Coronary Artery Bypass Grafting? Heart Lung Circ. 2010 Apr 23.

9. Chen IY, Gheysens O, Ray S, Wang Q, Padmanabhan P, Paulmurugan R, Loening AM, Rodriguez-Porcel M, Willmann JK, **Sheikh AY**, Nielsen CH, Hoyt G, Contag CH, Robbins RC, Biswal S, Wu JC, Gambhir SS. Indirect imaging of cardiac-specific transgene expression using a bidirectional two-step transcriptional amplification strategy. Gene Ther. 2010 Mar 18.

10. Ali A, Patel A, Ali ZA, Abu-Omar Y, Freed D, **Sheikh AY**, Athanasiou T, Pepper J. Stentless aortic valve replacement in patients with bicuspid aortic valve disease: clinical

outcome and aortic diameter changes during follow-up. Eur J Cardiothorac Surg. 2010 Mar 11

11. Charo DN, Ho M, Fajardo G, Kawana M, Kundu RK**, Sheikh AY**, Finsterbach TP, Leeper NJ, Ernst KV, Chen MM, Ho YD, Chun HJ, Bernstein D, Ashley EA, Quertermous T. Endogenous Regulation of Cardiovascular Function by Apelin-APJ. Am J Physiol Heart Circ Physiol. 2009 Nov; 297(5):H1904-13.

12. King D, Johri A, Vlahakes GJ, **Sheikh AY**. Post-Pericardiotomy Syndrome From Transdiaphragmatic Pericardial Window Following Trauma: First Description and Review of the Literature. Journal of Cardiovascular Medicine. J Cardiovasc Med (Hagerstown). 2009 Oct;10(10):806-9.

13. van der Bogt KE, Schrepfer S, Yu J, **Sheikh AY**, Hoyt G, Govaert JA, Velotta JB, Contag CH, Robbins RC, Wu JC. Comparison of transplantation of adipose tissue- and bone marrow-derived mesenchymal stem cells in the infarcted heart. Transplantation. 2009 Mar 15;87(5):642-52.

14. Ali A, Abu-Omar Y, Patel A, **Sheikh AY**, Ali Z, Saeed A, Akhtar A, Athanasiou T, Pepper J. Propensity analysis of survival after subcoronary or root replacement techniques for homograft aortic valve replacement. J Thorac Cardiovasc Surg. 2009 Feb;137(2):334-41.

15. Chen IY, Greve JM, Gheysens O, Willmann JK, Rodriguez-Porcel M, Chu P, **Sheikh AY**, Faranesh AZ, Paulmurugan R, Yang PC, Wu JC, Gambhir SS. Comparison of Optical Bioluminescence Reporter Gene and Superparamagnetic Iron Oxide MR Contrast Agent as Cell Markers for Noninvasive Imaging of Cardiac Cell Transplantation. Mol Imaging Biol. 2008 Nov 25. [Epub ahead of print]

16. Hendry SL 2nd, van der Bogt KE, **Sheikh AY**, Arai T, Dylla SJ, Drukker M, McConnell MV, Kutschka I, Hoyt G, Cao F, Weissman IL, Connolly AJ, Pelletier MP, Wu JC, Robbins RC, Yang PC. Multimodal evaluation of in vivo magnetic resonance imaging of myocardial restoration by mouse embryonic stem cells. J Thorac Cardiovasc Surg. 2008 Oct;136(4):1028-1037.e1. Epub 2008 Jun 6.

17. van der Bogt KE, **Sheikh AY**, Schrepfer S, Hoyt G, Cao F, Ransohoff KJ, Swijnenburg RJ, Pearl J, Lee A, Fischbein M, Contag CH, Robbins RC, Wu JC. Comparison of different adult stem cell types for treatment of myocardial ischemia. Circulation. 2008 Sep 30;118(14 Suppl):S121-9.

18. Hung T, Suzuki Y, Urashima T, Caffarelli A, Hoyt G, **Sheikh AY**, Yeung AC, Weissman I, Robbins RC, Bulte JM, Yang PC. Multimodality evaluation of the viability of stem cells delivered into different zones of myocardial infarction. Circulation: Cardiovascular Imaging. 2008; 1:6-13

19. Chun HJ, Ali ZA, Kojima Y, Kundu RK, **Sheikh AY**, Agrawal R, Zheng L, Leeper NJ, Pearl NE, Patterson AJ, Anderson JP, Tsao PS, Lenardo MJ, Ashley EA, Quertermous T. Apelin signaling antagonizes Ang II effects in mouse models of atherosclerosis. J Clin Invest. 2008 Sep 2. [Epub ahead of print]

20. Swijnenburg RJ, Schrepfer S, Govaert JA, Cao F, Ransohoff K, **Sheikh AY**, Haddad M, Connolly AJ, Davis MM, Robbins RC, Wu JC. Immunosuppressive therapy mitigates immunological rejection of human embryonic stem cell xenografts. Proc Natl Acad Sci U S A. 2008 Aug 26. [Epub ahead of print]

21. Kutschka I*, **Sheikh AY***, Ramachandra Sista, Hendry SL, Chun HJ, Hoyt G, Kutschka W, Pelletier MP, Quertermous T, Wu JC, Robbins RC. A Novel Platform Device for Rodent Echocardiography. ILAR J, June 6; 49:E1-7, 2007 *Contributed equally

22. Ali A, Abu-Omar Y, Patel A, Ali Z, **Sheikh AY**, Akhtar A, Pavlovic A, Theodorou P, Athanasiou T, Pepper J. Valve failure following homograft aortic valve replacement: does implantation technique have an effect? Eur Heart J. 2008 May 2. [Epub ahead of print]

23. El-Bizri N, Wang L, Merklinger SL, Guignabert C, Desai T, Urashima T, **Sheikh AY**, Knutsen RH, Mecham RP, Mishina Y, Rabinovitch M. Smooth Muscle Protein 22{alpha} Mediated Patchy Deletion of Bmpr1a Impairs Cardiac Contractility but Protects Against Pulmonary Vascular Remodeling.Circ Res. 2007 Dec 13; [Epub ahead of print]

24. Ali ZA, Cllaghan CJ, Ali AA, Nouraei R, Akhtar A, **Sheikh AY**, Pavlovic A, Dutka DP, Gaunt MA. Perioperative Myocardial Injury After Elective Open Abdominal Aortic Aneurysm Repair Predicts Outcome. Eur J Vasc Endovasc Surg. 2007 Dec 4; [Epub ahead of print].

25. Xie X, Cao F, **Sheikh AY**, Li Z, Connolly AJ, Pei X, Li R, Robbins RC, Wu JC. Genetic Modification of Embryonic Stem Cells with VEGF Enhances Cell Survival and Improves Cardiac Function. Cloning and Stem Cells. 2007 Winter; 9(4):549-63.

26. **Sheikh AY**, Schrepfer S, Stein W, West J, Lombard J, Burdon T, Pinsker B, Pelletier MP. Right atrial mass following primary repair of an atrial septal defect: silent thrombus masquerading as myxoma, Annals of Thoracic Surgery. 2007 Nov;84(5):1742-4.

27. **Sheikh AY,** Chun HJ, Glassford AJ, Kundu RK, Kutschka I, Ardigo D, Hendry SL, Wagner RA, Chen MM, Ali ZA, Connolly AJ, Pelletier MP, Tsao PS, Robbins RC, Quertermous T. In vivo Genetic profiling of Apelin-APJ reveals an endothelial centered pathway activated in heart failure. Am J Physiol Heart Circ Physiol. 2007 Sep 28; [Epub ahead of print].

28. Cao F, van der Bogt KE, Sadrzadeh A, Xie X, **Sheikh AY**, Wang H, Connolly AJ, Robbins RC, Wu JC. Spatial and Temporal Kinetics of Teratoma Formation from Murine Embryonic Stem Cell Transplantation. Stem Cells Dev. 2007 Sep 26; [Epub ahead of print].

29. Glassford AJ*, Yue P*, **Sheikh AY**, Chun HJ, Zarafshar S, Chan DA, Reaven GM, Quertermous T, Tsao PS. HIF-1 regulates hypoxia- and insulin-induced expression of apelin in adipocytes. Am J Physiol Endocrinol Metab. 2007 Sep 18; [Epub ahead of print]. *Contributed equally

30. Li Z, Wu JC, **Sheikh AY**, Kraft D, Cao F, Xie X, Patel M, Gambhir SS, Robbins RC, Cooke JP, and Wu JC. Differentiation, Survival, and Function of Embryonic Stem Cell–

Derived Endothelial Cells for Ischemic Heart Disease. Circulation. 2007 Sep 11;116(11 Suppl):I46-54.

31. **Sheikh AY***, Lin SA*, Cao F, Cao Y, Koen E.A. van der Bogt, Contag C, Robbins RC, Wu JC. Molecular Imaging of Bone Marrow Mononuclear Cell Homing, Survival, and Proliferation in Ischemic Myocardium. Stem Cells. 2007 Oct;25(10):2677-84. Epub 2007 Jul 12.

32. Chang GY, Cao F, Krishnan M, Huang M, Li Z, Xie X, **Sheikh AY**, Hoyt G, Robbins RC, Hsiai T, Schneider MD, Wu JC Positron Emission Tomography Imaging of Conditional Gene Activation in the Heart. J Mol Cell Cardiol. 2007 Jul;43(1):18-26. Epub 2007 Mar 24.

33. Cao F, Drukker M, Lin SA, **Sheikh AY,** Xie X, Li Z, Connolly AJ, Weissman IL, Wu JC. Molecular Imaging of Embryonic Stem Cell Misbehavior and Suicide Gene Ablation. Cloning Stem Cells, 2007 Spring; 9(1):107-17

34. Kutschka I, Chen IY, Kofidis T, von Degenfeld G, **Sheikh AY**, Hendry SL, Hoyt G, Jeremy Pearl, Helen M. Blau, Sanjiv S Gambhir, Robbins RC. In vivo optical bioluminescence imaging of collagen-supporter cardiac cell grafts. J Heart Lung Transplant, 2007 Mar;26(3):273-80.

35. Hansmann G, Wagner RA, Schellong S, de Jesus Perez VA, Urashima T, Wang L, **Sheikh AY**, Suen RS, Stewart DJ, and Rabinovitch M. Pulmonary Arterial Hypertension Is Linked to Insulin Resistance and Reversed by PPAR&[gamma] Activation. Circulation. 2007 Mar 13;115(10):1275-84. Epub 2007 Mar 5.

36. Schrepfer S, Tobias Deuse, Hoyt G, **Sheikh AY**, Hoffmann J, Reichenspurner H, Robbins RC, Pelletier MP. Experimental orthotopic tracheal transplantation: the Stanford technique. Microsurgery. 2007;27(3):187-9.

37. Swijnenburg RJ, van der Bogt KE, **Sheikh AY**, Cao F, Wu JC. Clinical hurdles for the transplantation of cardiomyocytes derived from human embryonic stem cells: role of molecular imaging. Curr Opin Biotechnol. 2007 Feb;18(1):38-45. Epub 2006 Dec 29. Review.

38. Yue P, Arai T, Terashima M, **Sheikh AY**, Cao F, Charo DN, Hoyt G, Robbins RC, Ashley EA, Wu J, Yang PC, Tsao PS. Magnetic resonance imaging of progressive cardiomyopathic changes in the db/db mouse. Am J Physiol Heart Circ Physiol. 2007 May;292(5):H2106-18. Epub 2006 Nov 22.

39. Kutschka I, Kofidis T, Chen IY, M Zwierzchoniewska, Takayasu A, von Degenfeld G, **Sheikh AY**, Hendry SL, Lebl D, Cooke DT, Gambhir SS, Robbins RC. Adenoviral Human BCL-2 Attenuates Early Cell Death Following Cardiomyoblast Transplantation into Ischemic Rat Hearts. Circulation. 2006 Jul 4;114(1 Suppl):I174-80.

40. Kutschka I, Chen IY, Kofidis T, Takayasu A, von Degenfeld G, **Sheikh AY**, Hendry SL, Pearl J, Hoyt G, Connolly A, Yang P, Gambhir SS, Robbins RC. Collagen Matrices

Enhances Survival of Embryonic Cardiomyoblasts Following Transplantation in Ischemic Rat Hearts. Circulation. 2006 Jul 4;114(1 Suppl):I167-73.

41. **Sheikh AY**, Wu JC. Molecular Imaging of Stem Cell Therapy for the Heart. Curr Cardiol Rep. 2006 Mar;8(2):147-54. Review.

42. Wu JC, Spin JM, Cao F, Lin SA, Xie X, Gheysens O, Chen IY, **Sheikh AY**, Robbins RC, Tsalenko A, Gambhir SS, Quertermous T. Transcriptional Profiling of Reporter Genes Used for Molecular Imaging of Embryonic Stem Cell Transplantation. Physiol Genomics. 2006 Mar 13;25(1):29-38. Epub 2006 Jan 3.

43. **Sheikh AY**, Rollins MD, Hopf HW, Hunt TK. Hyperoxia Improves Microvascular Perfusion in a Murine Wound Model. Wound Repair Regen. 2005 May-Jun;13(3):303-8.

44. **Sheikh AY**, Baehner FL, Kirkwood KS. Extraperitoneal Endometriosis Involving the Round Ligament Presenting as Hernia. Surgical Rounds, October 2001: 532-534

45. **Sheikh AY**, Gibson JJ, Rollins MD, Hopf HW, Hussain ZM, Hunt TK. Effect of Hyperoxia on VEGF Levels in a Wound Model. Arch Surg. 2000 Nov;135(11):1293-7.

46. Gibson JJ, **Sheikh AY**, Rollins MD, Hopf HW, Hunt, TK. Increased Oxygen Tension and Wound Fluid VEGF Levels. The 84th Clinical Congress of the American College of Surgeons Surgical, Owen H. Wangensteen Surgical Forum, October 1998, Volume XLIX: 607-10.

*Contributed equally

Book Chapters

1. **Sheikh AY**, Mitchell RS. The Cabrol Procedure for Aortic Root Replacement. In: Cardiac Surgical Techniques (working title). Edited by K. Franco, E. Roselli, M. Slaughter and V. Thourani. McGraw-Hill Medical Publishing, New York, NY. *In Press.*

2. **Sheikh AY**, Malidi H, Robbins RC. Heart-Lung Transplantation. In: Mastery of Cardiothoracic Surgery. Edited by L. Kaiser, I. Kron, and T. Spray. Lippincott Williams and Wilkins, Philadelphia, PA, *In Press.*

3. **Sheikh AY,** Joyce D, Malidi H, Robbins RC. Heart-Lung and Lung Transplantation. In: Cardiac Surgery in the Adult (p1579-1608). Edited by L. Cohn and Edmund. McGraw-Hill Medical Publishing, New York, NY, 2010

4. **Sheikh AY**, Myers JL. Congenital Arterial and Venous Anomalies: Surgical perspective. In: eMedicine (On-line clinical reference). Edited by JL Myers, ML Windle, J Odim, et al. 2008.

5. **Sheikh AY**. Vasoactive Medications. In: Practical Guide to the Care of the Surgical Patient. Edited by T Nguyen and O Albilez. Elsevier, Burlington, Ma, 2008.

6. **Sheikh AY**, Yang PC, Wu JC, Robbins RC. Embryonic stem cells and myocardial regeneration. In: Cardiovascular Regeneration and Stem Cell Therapy (p105-116). Edited by A Leri, P Anversa, and W. Frishman. Blackwell Publishing, Oxford, UK, 2007.

7. **Sheikh AY,** Pelletier MP, Robbins RC. Heart-Lung and Lung Transplantation. In: Cardiac Surgery in the Adult (p1579-1608). Edited by L. Cohn and Edmund. McGraw-Hill Medical Publishing, New York, NY, 2007

8. **Sheikh AY,** Wu JC. Evaluating Gene and Cell Therapy. In: Cardiac PET and PET/CT Imaging (p 373-393). Edited by Marcelo Di Carli and Martin Lipton, Springer Publishing, New York, NY, 2007

9. Gibson JJ, Hunt TK, Feng JJ, Rollins MD, **Sheikh AY**, Hussain ZM. The Several Roles for Oxygen in Wound Angiogenesis. In: Molecular, Cellular, and Clinical Aspects of Angiogenesis (p 93-98). Edited by Michael E. Maragoudakis, Plenum Press, New York, NY, 1997.

Invited Presentations

1. An Individual's Frame of Reference Influences Ability to Determine Accurate Needle Angles. Western Thoracic Surgical Association, Coeur d'Alene, Idaho 6/26/13. *Sampson Resident Essay Prize Finalist. Awarded Norman Shumway award for best paper presented at meeting.*

2. Stem Cell Therapy for the Heart: Lessons from the Bench and Challenges Ahead. California Perfusion Society, Lake Tahoe, CA, 9/22/2012.

3. Operative Intervention for Acute Massive Pulmonary Embolism: Recent Experience Using Beating Heart Normothermia for Myocardial Protection (poster). Kaiser Permanente Annual Cardiovascular Medicine and Surgery (COAST) Conference, San Francisco, CA 9/10.

4. Acute Massive Pulmonary Embolism: A Surgical Perspective. Grand Rounds, Kaiser Permanente, Santa Clara, CA 9/23/2010

5. Hurdles of Cardiac Cell Therapy: Insights Gained from Molecular Imaging and Transcriptional Profiling. MGH Surgical Research Council, Boston, MA 10/22/08.

6. Molecular Imaging and Transcription Profiling of Bone Marrow Cell Therapy for the Heart. MGH Cardiothoracic Surgery Research Day, Boston, MA 6/20/2008.

7. Genomic Profiling of Bone Marrow Cells Transplanted Into the Heart. American Heart Association, Orlando, FL 11/07

8. Gated micro CT scanning: An emerging tool for longitudinal assessment of murine cardiac remodeling (poster). American Heart Association, Orlando, FL 11/07

9. Cell Therapy for Myocardial Regeneration. Stanford School of Medicine Cardiomyopathy Seminar, Stanford, CA 2/07

10. Hypoxia is a primary stimulus for up-regulation of the apelin-APJ cardio-regulatory pathway. American Heart Association, Chicago, IL 11/06.

11. Utilizing Molecular Imaging in the Cardiac Surgical Laboratory. Cardiovascular Molecular Imaging Group, Stanford University, Stanford, CA 8/06

12. Murine Model of Ischemia Reperfusion for Myocardial Restoration with Cellular Transplantation (poster). Annual Symposium of the AHA Council on BCVS, Keystone, CO 8/06.

13. Molecular Imaging in Cardiovascular Disease. International Society for Heart Research, Toronto, Canada 6/06.

14. Development of a Novel Platform Device for Reliable and Reproducible Rodent Echocardiography (poster). Society of University Surgeons, San Diego, CA 2/06.

15. Tissue Engineered, Bilayered Living Skin Substitute (Apligraf®) Prevents Contraction in Acute Excisional Wounds. Society of University Surgeons, San Diego, CA 2/06.

16. Myocardial Ischemia-Reperfusion Injury Limits Early Survival of Transplanted Bone Marrow Stem Cells. Society of Thoracic Surgeons, Chicago, IL 1/06.

17. Peripheral Upregulation of the Apelin-APJ Signaling Pathway as an Early Response to Ischemic Heart Failure (poster). Society of Thoracic Surgeons, Chicago, IL 1/06.

18. Molecular Imaging of Bone Marrow Stem Cell Survival Following Transplantation into the Murine Heart (poster). AHA Young Investigator Forum, Irvine, CA 9/30/05.

19. The Effect of Increased Oxygen Tension on Wound Fluid VEGF Levels. Wound Healing Society, Salt Lake City, UT 6/98.

20. The Effect of Hyperbaric Oxygen Treatment on VEGF levels in Wound Fluid Collected from a Rat Dead Space Wound Model (poster). UCSF Medical Student Research Forum, San Francisco, CA 1/98.

21. Does the Increased angiogenesis induced by hyperbaric oxygen treatment result from an increase in Vascular Endothelial Growth Factor (VEGF)? Department of Anesthesia Research Seminars at UCSF, San Francisco, CA 10/97.

22. Molecular Cytogenetic Analysis of Leukemia at Diagnosis and Relapse (poster). UCSF Medical Student Research Forum, San Francisco, CA 1/97.

Abstracts

1. **Sheikh AY**, Keenher, M, Chang PA, Burdon TA, Fann JI. An Individual's Frame of Reference Influences Ability to Determine Accurate Needle Angles. Western Thoracic Surgical Association, 6/13. *Sampson Resident Essay Prize Finalist. Awarded Norman Shumway award for best paper presented at meeting.*

2. Maxwell BG, Wong JK, **Sheikh AY**, Lee PH, and Lobato RL. Heart transplantation with or without prior mechanical circulatory support in adults with congenital heart disease. Society of Cardiovascular Anesthesiologists, April 6-10, 2013, Miami, FL.

3. Lee PH, **Sheikh AY**, Ha RV, Beygui R, Oyer PE. Trends in Hospital Charges for Heart Transplants in the United States. International Society of Heart Lung Transplantation, 4/13

4. Monge M, Mainwaring RD, **Sheikh AY**, Pun R, Reddy VM, Hanley FL. Surgical Reconstruction of Peripheral Pulmonary Artery Stenosis In Williams And Alagille Syndrome. Western Thoracic Surgical Association, 6/12

5. Mainwaring RD, **Sheikh AY**, Punn R, Reddy VM, Hanley FL. Surgical Outcomes for Patients with Pulmonary Atresia/Major Aortopulmonary Collaterals and Alagille Syndrome. EACTS, 2011.

6. Davies RR, Russo MJ, Monge M, **Sheikh AY**, Cafarelli A, Robbins RC, and Mallidi HR. Are enough patients being bridged-to-transplant with ventricular assist devices. Society of Thoracic Surgeons, 1/11.

7. **Sheikh AY**, Pompili M, Alyono D, Gordon R, Lee H. Operative Intervention for Acute Massive Pulmonary Embolism: Recent Experience Using Beating Heart Normothermia for Myocardial Protection . Kaiser Permanente COAST Conference, 9/10.

8. Ali A, Patel A, Abu-Omar Y, Mehta A, Ali ZA, Bleiziffer S, Freed D, **Sheikh AY**, Athanasiou T, Pepper J. Enhanced Left Ventricular Mass Regression Following Aortic Valve Replacement is Associated with Improved Long-Term Survival: A 15-year Study. Moderated Poster. Circulation 2008;118:S_788.

9. Ali A, Patel A, Abu-Omar Y, Mehta A, Ali ZA, Bleiziffer S, Freed D, **Sheikh AY**, Athanasiou T, Pepper J. Comparison Of Long-term Clinical Outcomes Following Aortic Valve Replacement With Homografts And Porcine Stentless Valves. Circulation 2008;118:S_943.

10. Ali AA**,** Abu-Omar Y, Ali Z, **Sheikh AY,** Drain A, Rostron A, Wells FC. Repair of Posterior Leaflet Prolapse: Triangular Resection Without Annular Plication Results in Similar Early Clinical Outcome to Quadrangular Resection (poster). Society of Thoracic Surgeons, 1/08

11. **Sheikh AY,** Cao F, Spin JM, Fajardo G, Gambhir SS, Weissman IL, Robbins RC, Wu JC. Genomic Profiling of Bone Marrow Cells Transplanted Into the Heart. American Heart Association, 2007. Circulation 2007; 116(16): SII-167.

12. **Sheikh AY**, Doyle TC, Sheikh MK, Cao F, Ransohoff KJ, Yang PC, Robbins RC, Fischbein M, and Wu JC. Gated micro CT scanning: An emerging tool for longitudinal assessment of murine cardiac remodeling. American Heart Association, 2007. Circulation 2007; 116(16): SII-198.

13. Kundu RK, **Sheikh AY**, Ho M, Chun HJ, Huynh DT, Ali ZA, Ransohoff KJ, Connolly AJ, Ashley EA, Robbins RC, Quertermous T. The cardioregulatory peptide apelin is preferentially expressed by endothelial cells and upregulated in myocardial disease states. American Heart Association, 2007. Circulation 2007; 116(16): SII-295.

14. Ziad A Ali, Yoko Kojima, **Sheikh AY**, Euan A Ashley, Quertermous T Apelin Potently Inhibits Angiotensin and Disease Induced Superoxide Generation and Associated Vascular Remodeling in Vein Grafts. American Heart Association, 2007. Circulation 2007; 116(16): SII-446.

15. van der Bogt KE, **Sheikh AY**, Schrepfer S, Hoyt G, Cao F, Ransohoff KJ, Contag CH, Robbins RC, Wu JC. Transplantation of bone-marrow mononuclear cells into the infarcted heart has favorable engraftment compared to mesenchymal stem cells, skeletal myoblasts and fibroblasts. American Heart Association, 2007. Circulation 2007; 116(16): SII-397.

16. Ali A**,** Patel A, Freed D, Abu-Omar Y, **Sheikh AY**, Ali Z, Rostron A, Athanasiou T, Pepper J. Aortic valve replacement in patients with bicuspid aortic valve disease is not followed by progressive aortic root dilatation: A 15-year study. American Heart Association, 2007. Circulation 2007; 116(16): SII-448.

17. Ali AA**,** Abu-Omar Y, **Sheikh AY**, Ali Z, Theodoro P, Athanasiou T, Pepper J. Durability and performance of root replacement and subcoronary techniques for homograft aortic valve replacement: A 10-year comparative study. Society for Heart Valve disease, 6/07

18. Doyle TC, **Sheikh AY**, Sheikh MK, Cao F, Yang PC, Robbins RC, Wu JC. Longitudinal Assessment of Murine Cardiac Function Using in vivo Contrast-Enhanced Gated Micro CT (poster). Society for Molecular Imaging, 9/07.

19. Suzuki Y, Hung T, Urashima T, Hoyt G, **Sheikh AY**, Lee DP, Yeung AC, Robbins RC, and Yang PC: Evaluation of the Viability of stem Cells Delivered Into Different Zones of Myocardial Infarction and the Resultant Myocardial Restoration. American College of Cardiology, 2007. Journal of the American College of Cardiology, 2007; 49(9)SA:83A.

20. Schrepfer S, **Sheikh AY**, Hoffmann J, Stein W, Swijnenburg RS, Itoh S, Fischbein M, Robbins RC, Pelletier MP. Stem cell transplantation: organ distribution after intravenous injection (poster). BATS, 1/07

21. **Sheikh AY,** Chun HJ, Kundu RK, Connolly AJ, Diego Ardigo, Hendry SL, Schrepfer S, von Degenfeld G, Glassford AJ, Wagner RA, Tsao PS, Pelletier MP, Robbins RC, Quertermous T. Hypoxia is a primary stimulus for up-regulation of the apelin-APJ cardio-regulatory pathway. American Heart Association, 2006. Circulation 2006;114(18):SII-68.

22. Sista RR, **Sheikh AY**, Robbins RC, Quertermous T, Ashley EA. Long-term Apelin Infusion Rescues Chronic Cardiomyopathy and Potentiates the Effects of ACE-Inhibition. American Heart Association, 2006. Circulation 2006;114(18):SII-486.

23. Kielstein JT, **Sheikh AY**, Fajardo G, Peter C, Bernstein D, Robbins RC, Bode-Boger SM, Cooke JP. Effect of chronic ADMA administration on cardiac function in mice and on function of isolated, perfused cardiomyocytes in vitro. Third International ADMA Symposium, 12/06.

24. Lin SA*, **Sheikh AY***, Cao F, Gambhir SS, Robbins RC, Wu JC. Noninvasive Imaging of Bone Marrow Stem Cell Homing, Survival, and Migration. American Heart Association, 2006. Circulation 2006;114(18):SII-660. *Contributed equally

25. Xie X, Cao F, **Sheikh AY**, Li Z, Pie X, Gambhir SS, Robbins RC, Wu JC. Molecular Imaging of Cardiac Stem Cell Mediated Angiogenic Gene Therapy. American Heart Association, 2006. Circulation 2006;114(18):SII-566.

26. Chun HJ, Kundu RK, **Sheikh AY**, Anderson J, Quertermous T. The apelin receptor APJ directly inhibits angiotensin II signaling by binding to angiotensin II receptor type I and is essential for cardiac development and function. American Heart Association, 2006. Circulation 2006;114(18):SII-120.

27. Chang GY*, Krishnan M*, Cao F, **Sheikh AY**, Hoyt G, Robbins RC, Schneider MD, Wu JC. In Vivo Molecular Imaging of Conditional Gene Activation in The Myocardium By Positron Emission Tomography. American Heart Association, Western Affiliates Young Investigators Forum, 9/2006.
*Contributed equally

28. Schrepfer S, Deuse T, Katzenberg R, **Sheikh AY**, Hendry SL, Hoffmann J, Reichenspurner H, Robbins RC, Pelletier MP. Mechanisms to improve MSC delivery and retainment in ischemic myocardium (poster). American Heart Association, Western Affiliates Young Investigators Forum, 9/2006.

29. Sista RR, **Sheikh AY,** Robbins RC, Quertermous T, Ashley EA. Long-term apelin infusion rescues chronic cardiomyopathy and potentiates the effects of ACE-inhibition. Heart Failure Society, 9/2006.

30. Hendry SL, **Sheikh AY**, Schrepfer S, Pelletier MP, Wu JC, Yang PC, Robbins RC. Murine Model of Ischemia Reperfusion for Myocardial Restoration with Cellular Transplantation (poster). American Heart Association, Council on Basic Cardiovascular Science, 7/2006.

31. Schrepfer S, Deuse T, Koch-Nolte F, Schäfer H, **Sheikh AY**, Hendry SL, Pelletier MP, Robbins RC, Reichenspurner H. Immunosuppressants for prevention of restenosis development after mechanical injury - a new field of application for malononitrilamides? (poster) World Transplant Congress, 7/06. Am J Transplant 2006, 6(Suppl2):902, Aug; and Transplantation 2006, 82 (issue1) (Suppl 3):902, July.

32. Deuse T, Schrepfer S, Nolte F, Schäfer H, Schwedhelm E, Böger R, **Sheikh AY**, Hendry SL, Pelletier MP, Robbins RC, Reichenspurner H. Efficacy study of fk778, tacrolimus and sirolimus to prevent posttransplant obliterative airway disease (poster). World Transplant Congress, 7/06. Am J Transplant 2006, 6(Suppl2):1037 Aug, and Transplantation 2006, 82 (issue1) (Suppl 3):1037, July.

33. Deuse T, Schrepfer S, Nolte F, Schäfer H, Schwedhelm E, Böger R, **Sheikh AY**, Hendry SL, Marc Pelletier, Robbins RC, Reichenspurner H. Is the malononitrilamide fk778 better for prevention of acute or chronic rejection? (poster) World Transplant Congress 7/06. Am J Transplant 2006, 6(Suppl2):902 Aug, and Transplantation 2006, 82 (issue1) (Suppl 3):902, July.

34. Hendry SL, **Sheikh AY**, van der Bogt KE, Schrepfer S, Pearl J, Pelletier MP, Herlaar E, Chang B, Zhao F, Li H, Argade A, Jumaa M, Zhou Y, Park G, Taylor V, Robbins RC. Prevention of Acute Rejection with a Novel Janus kinase 3 (JAK-3) Inhibitor in a Rodent Heterotopic Cardiac Allograft Model (poster). World Transplant Congress, 7/06. Am J Transplant 2006, 6(Suppl2):901 Aug and Transplantation 2006, 82 (issue1) (Suppl 3):901, July.

35. Feng C, **Sheikh AY**, Xie X, Lin SA, Drukker M, Weissman IL, Robbins RC, Wu JC. In Vivo Molecular Imaging of Human Embryonic Stem Cell Derived Cardiomyocytes After Transplantation Into the Ischemic Myocardium. Society of Nuclear Medicine, 06/06.

36. Feng C, Lin SA, Patel M, **Sheikh AY**, Drukker M, Weissman IL, Gambhir SS, Robbins RC, Wu JC. Imaging of Embryonic Stem Cell and Immunogenic Response After Transplantation into the Myocardium. Academy of Molecular Imaging, 3/06.

37. **Sheikh AY**, Rollins MD, Hendry SL, Pearl J, Pelletier MP, Robbins RC, Hopf HW, Hunt TK. Tissue Engineered, Bilayered Living Skin Substitute (Apligraf®) Prevents Contraction in Acute Excisional Wounds. Annual Academic Surgical Congress, 2006. Journal of Surgical Research, Feb 2006, 130(2):214A

38. **Sheikh AY**, Kutschka I, Sista RR, Hendry SL, Chun HJ, Hoyt G, Pelletier MP, Quertermous T, Joseph Wu, Robbins RC. Development of a Novel Platform Device for Reliable and Reproducible Rodent Echocardiography. Poster Presentation Academic Surgical Congress. Association for the Academic Surgery/Society of University Surgeons, 2006 . Journal of Surgical Research, Feb 2006, 130(2):288A

39. **Sheikh AY**, Cao F, Ardigo D, Hendry SL, Kraft DL, Pearl J, Wang Q, Contag CH, Pelletier MP, Weissman IL, Wu JC, Robbins RC. Myocardial Ischemia-Reperfusion Injury Limits Early Survival of Transplanted Bone Marrow Stem Cells. Society of Thoracic Surgeons, 1/06.

40. **Sheikh AY**, Chun HJ, Kutschka I, Hendry SL, Hoyt G, Caffarelli AD, Pelletier MP, Quertermous T, Robbins RC. Peripheral Upregulation of the Apelin-APJ Signaling Pathway as an Early Response to Ischemic Heart Failure (poster) Society of Thoracic Surgeons, 1/06.

41. **Sheikh AY**, Cao F, Kraft DL, Hendry SL, Wang Q, Yang PC, Contag CH, Pelletier MP, Weissman IL, Robbins RC, Wu JC. Molecular Imaging of Bone Marrow Stem Cell Survival Following Transplantation into the Murine Heart (poster). American Heart Association, Western Affiliates Young Investigators Forum, 2005.

42. Chun HJ, **Sheikh AY**, Yue P, Merklinger S, Wagner RA, Quertermous T. Downregulation of the Apelin-APJ Signaling Pathway in Animal Models of Pulmonary Arterial Hypertension: Implications for Novel Mechanism and Therapy (poster). American Heart Association, Western Affiliates Young Investigators Forum, 2005.

43. Charo DN, Ashley EA, **Sheikh AY**, Chen MM, Finsterbach T, Robbins RC, Bernstein D, Quertermous T. Apelin Deficient Mice Exhibit Decreased Cardiac Contractility, Peak Oxygen Consumption, and Exercise Capacity: Evidence that Endogenous Apelin is an Important Inotrope. American Heart Association 2005. Circulation 2005;112(17):II-267.

44. Kutschka I, Chen IY, Kofidis T, Zwierzchoniewska M, Lebl DL, Cooke DT, **Sheikh AY**, Hendry SL, Arai T, von Degenfeld G, Gambhir SS, Robbins RC. Adenoviral Human BCL-2 Attenuates Early Cell Death Following Cardiomyoblast Transplantation into Ischemic Rat Hearts. American Heart Association 2005. Circulation 2005;112(17):II-44.

45. Kutschka I, Kofidis T, Chen IY, Arai T, **Sheikh AY**, Hendry SL, Pearl J, Hoyt G, Sanjiv S Gambhir, Robbins RC. Collagen Matrices Enhance Survival of Embryonic Cardiomyoblasts Following Transplantation into Ischemic Rat Hearts. American Heart Association 2005. Circulation 2005;112(17):II-741.

46. Hendry SL, Ikeno F, Ako J, **Sheikh AY**, Kutschka I, Hoyt G, Fearon WF, Robbins RC. Inhibition of Vein Graft Intimal Hyperplasia with L-Arginine Polymers. American Heart Association 2005. Circulation 2005;112(17):II-441.

47. Hendry SL, Arai T, Dylla SJ, Drukker M, **Sheikh AY**, Kutschka I, Hoyt G, Connolly AJ, Pelletier MP, Wu JC, Yang PC, Robbins RC. Myocardial Restoration with Embryonic Stem Cell Transplantation in a Murine Myocardial Infarction Model. American Heart Association 2005. Circulation 2005;112(17):II-376.Vivian Thomas Surgical Award.

48. **Sheikh AY**, Chun HJ, Kutschka I, Hendry SL, Hoyt G, Robbins RC, Quertermous T. Profiling the Apelin-APJ Pathway in a Murine Model of Ischemic Heart Failure. Poster, Donald W. Reynolds Cardiovascular Centers Symposium, 5/05, Boston, MA.

49. Arai T, Kutschka I, Hendry SL, **Sheikh AY**, Chen IY, McGann CJ, Terashima M, Greve JM, McConnell MV, Robbins RC, Yang PC. In Vivo MR evaluation of embryonic cardiomyoblast tissue graft in rodent acute myocardial infarction model of heterotopic heart transplant. Poster, 13th Scientific Meeting of the Society for Magnetic Resonance Imaging in Medicine, 5/05, Miami, FL.

50. Kutschka I, Kofidis T, Chen IY, **Sheikh AY**, Pearl J, Hendry SL, Hoyt G, Lebl DR, Robbins RC. Bioartificial Tissue Grafts Improve Left Ventricular Function in Ischemic Rat Hearts. International Society of Heart and Lung Transplant, 2005. J. Heart Lung Transplant Feb. 2005;24(2S):126-27.

51. Charo DN, Ashley EA, **Sheikh AY**, Chen MM, Finsterbach T, Robbins RC, Bernstein D, Quertermous T. Decreased Cardiac Contractility, Peak Oxygen Consumption, and Exercise Capacity: Evidence that Endogenous Apelin is an Important Inotrope. Poster, Stanley J. Sarnoff Endowment for Cardiovascular Science. 4/05, Washington DC.

52. Kutschka I, Kofidis T, Chen I, **Sheikh AY**, Pearl J, Hendry SL, Hoyt G, Lebl DR, Robbins RC. In Vivo Survival Studies of Transplanted Cardiomyoblasts Using Optical Bioluminescence. Oral presentation at European Association of Cardiothoracic Surgery (EACTS) in 2005. EACTS/ESTS 2005;111.

53. Kutschka, I, Kofidis T, Chen, IY, **Sheikh AY,** Hendry SL, Pearl J, Hoyt G, Harringer, W, Robbins RC. Collagen matrices enhance survival of transplanted embryonic cardiomyoblasts. Oral presentation at the German Soceity of Cardiology, 4/2005.

54. Kutschka I, Frauendorfer P, **Sheikh AY**, Harringer W. Vacuum assisted closure therapy improves wound healing and lung function in patients with severe poststernotomy infections. Presented at The German Society of Thoracic and Cardiovascular Surgery, 2005.

55. Puzziferri N, **Sheikh AY**, Scheuenstuhl H, Hussain MZ, Maguire JJ, Hunt TK. Are Wound Fluid Oxidant Levels Sufficient to Drive Reparative Pathways? Wound Repair and Regeneration. July-Aug 2000, 8(4):341

56. **Sheikh AY**, Gibson JJ, Hopf HW, Hunt TK. The effect of increased oxygen tension on wound fluid VEGF levels. Wound Repair and Regeneration. May 1998, 6(3):A264

57. **Sheikh AY**, Gibson JJ, Rollins MD, Hunt TK, Hopf HW. The Effect of Hyperbaric Oxygen Treatment on VEGF levels in Wound Fluid Collected from a Rat Dead Space Wound Model. The Second Australian Wound Management Association Conference. Poster. Brisbane Queensland, Australia. March 18-21, 1998.

58. Gibson JJ, Gimbel ML, **Sheikh AY**, Hopf HW, Hunt TK. The Effects of Hyperbaric Oxygenation in Wound Management. The Second Australian Wound Management Association Conference. Brisbane Queensland, Australia. March 18-21, 1998.

59. Gibson JJ, Gimbel ML, **Sheikh AY**, Hunt TK. Tissue Oxygen Tension Enhances Wound Repair. Keystone Symposia Wound Repair Conference. Poster. Copper Mountain, CO. January 1998.

Letters and Commentaries

1. **Sheikh AY,** Pelletier MP. Reply to comment entitled, “Right Atrial Mass: the dilemma of diagnosis and when NOT to operate” Annals of Thoracic Surgery.

2. **Sheikh AY,** Pelletier MP. Reply to comment on “Right atrial mass following primary repair of an atrial septal defect: silent thrombus masquerading as myxoma,” Annals of Thoracic Surgery. 2008; 85(6):2162

3. Swijnenburg RJ, **Sheikh AY**, Robbins RC. Comment on "Transplantation of undifferentiated murine embryonic stem cells in the heart: teratoma formation and immune response". FASEB J. 2007 May;21(7):1290; author reply 1291.

Education

Lectures

1. Cardiac Transplantation. I-6 Cardiac Core Course, Stanford University Medical Center, CA, 10/8/2012

2. Cardiothoracic Trauma. Core Surgical Course, Stanford University Medical Center, CA 2/19/2013.

3. Cardiovascular Physiology: Treadmill Stress Testing. MSI Course, Stanford University Medical Center, CA, 5/28/2013.