# **CURRICULUM VITAE**

# Carlos Galhardo Júnior, M.D.

### **PERSONAL INFORMATION**

**Place of Birth:** Rio de Janeiro, Brazil **Office Address:** Division of Anesthesia

National Institute of Cardiology Rua das Laranjeiras 374 - 10 andar

Rio de Janeiro, RJ – Brazil

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### **MEDICAL EDUCATION**

Year		Degree	Institution
2017 -	present	Ph.D. (student)	University of São Paulo São Paulo, Brazil
1988 -	- 1993	M.D.	State University of Rio de Janeiro Rio de Janeiro, Brazil
1992 -	- 1993	Internship	State University of Rio de Janeiro Pedro Ernesto University Hospital Rio de Janeiro, Brazil

### **FELLOWSHIP and RESIDENCY TRAINING**

Year	Title	Specialty	Place of Training
2011 (July 1st) - 2012 (October 31st)	Clinical Fellowship	Cardiovascular Anesthesia and Critical Care	Toronto General Hospital, University of Toronto Toronto, Canada
1994 – 1996	Residency	Anesthesiology	Pedro Ernesto University Hospital State University of Rio de Janeiro Rio de Janeiro, Brazil

# **CERTIFICATIONS AND LICENSES**

2012	Diplomate in Advanced Perioperative Transesophageal Echocardiography, NBE – USA
2006	Superior Title in Anesthesiology, Brazilian Society of Anesthesiology
1996	Anesthesiologist, Brazilian Society of Anesthesiology
1996	Anesthesiologist, Brazilian Medical Association
1994	Medical License, Brazilian Federal Council of Medicine

# **APPOINTMENTS AND POSITIONS HELD**

2017 - present	Member of Scientific Board, Rio de Janeiro State Society of Anesthesiology
2016 - present	Member of the Editorial Board, Journal of Cardiothoracic and Vascular
	Anesthesia, USA
2016 - present	Instructor for the Basic and Advanced Transesophageal Echocardiography National
	Course, Brazilian Society of Anesthesiology, Brazil
2016 - present	Director, Anesthesia for Heart Transplant, National Institute of Cardiology, RJ, Brazil
2013 - 2016	Chief, Anesthesia Department, Unimed-Rio Hospital, Rio de Janeiro, Brazil
2008 - 2011	Co-Director, Anesthesia Department, National Cardiology Institute, RJ, Brazil
2007 - 2011	Co-Chair of the Anesthesia Residency Program at Federal Hospital of Lagoa, RJ, Brazil
1997 - present	Staff Anesthesiologist, National Institute of Cardiology, RJ, Brazil

# MEMBERSHIP – SCIENTIFIC AND PROFESSIONAL SOCIETIES

2016 - present	American Society of Anesthesiology (ASA)
2015 – 2016	Society for the Advancement of Blood Management (SABM)
2014 – 2016	American Association of Blood Banks (AABB)
2013 - present	European Association of Cardiothoracic Anaesthesiologists (EACTA)
2012 - present	Society for Airway Management (SAM)
2008 - present	American Society of Echocardiography (ASE)
2005 - present	Society of Cardiovascular Anesthesiologists (SCA)
2003 - 2007	Latin American Society of Regional Anesthesia (LASRA)
1998 - 2000	American Society of Anesthesiologists (ASA)
1994 - present	Rio de Janeiro State Society of Anesthesiology (SAERJ)
1994 - present	Brazilian Society of Anesthesiology (SBA)

## **COMMITTEE MEMBERSHIPS**

2015 - present	Cardiothoracic Anesthesia Committee, Brazilian Society of Anesthesiology, Brazil
2014 - present	International Committee, Society of Cardiovascular Anesthesiologists, USA
2013 – 2016	Blood Products and Transfusion Committee, Unimed Rio Hospital, Brazil
2007 - present	Blood Products and Transfusion Committee, National Cardiology Institute, Brazil

### **ADMINISTRATIVE COMMITTEE**

2016 – present	Member of Scientific Committee, 2017 Southeastern Anesthesia Meeting (JASB),
	Rio de Janeiro, Brazil
2014 – present	Co-Chair, Scientific Program Committee, International Congress of Cardiothoracic
	and Vascular Anesthesia (ICCVA 2017), Rio de Janeiro, Brazil
2012 – 2016	Member of Circulation Scientific Sub-Committee, 2016 World Congress of
	Anesthesiologists, Hong-Kong.

#### INVITED ABSTRACT REVIEWER FOR SCIENTIFIC ANNUAL MEETINGS

2017 16<sup>th</sup> International Congress of Cardiothoracic and Vascular Anesthesia (ICCVA), Rio, Brazil.

2016 16<sup>th</sup> World Congress of Anaesthesiologists, Hong Kong.

2016 63<sup>rd</sup> Brazilian Congress of Anesthesiology, Brasilia, Brazil.

2015 SCA/ICCVA 37<sup>th</sup> Annual Meeting & Workshops, Washington DC, USA.

2015 62<sup>th</sup> Brazilian Congress of Anesthesiology, Florianópolis, Brazil.

2010 57<sup>th</sup> Brazilian Congress of Anesthesiology, Porto Alegre, Brazil.

### **RESEARCH ACTIVITIES**

2017 – present Principal investigator and Coordinating Center in Brazil

Project: A Multicenter, Randomized, Controlled Clinical Trial of Cerebral Oxygen

Saturation Monitoring In Cardiac Surgery (COSMICS Study)

2016 – present Principal investigator and Coordinating Center in Brazil

Project: Transfusion Requirements in Cardiac Surgery (TRICS III Study)

Applied Health Research Center (AHRC), Toronto, Canada

Collaborator with Dr. David Mazer and Dr. Nadine Shehata(Lead Investigators)

2014 Principles and Practice of Clinical Research Course

Department of Continuing Education, Harvard Medical School, USA

Clinical and Research Training Program

Partially completed

### **PUBLICATIONS IN JOURNAL ARTICLES**

- 1. Miles LF, Coulson T, **Galhardo Jr., C.**, Falter F. (ahead of printing) Pump Priming and Anticoagulation in Cardiac Surgery: Results from the Global Cardiopulmonary Bypass Survey. Anesth Analg 2017;XXX:00-00.
- Salgado M, Galhardo Jr., C., Skin A, Papa F, Botelho E.S, Baeta C, Lineburger E, Ramalho M, Gomes M.D.A, Tessmer C, Doria H. (in press) Perioperative Transesophageal Echocardiography Consensus from the TEE Working Group of the Brazilian Society of Anesthesiology and the Cardiovascular Imaging Department of the Brazilian Society of Cardiology. Brazilian Journal of Anesthesiology.
- 3. **Galhardo Jr., C.** and Bersot, C.D.A. Comment to article Improved Hemodynamics with the Use of Prophylactic Infusion of Epinephrine and or Norepinephrine during Transcatheter Aortic Valve Replacement (TAVR). Open Journal of Anesthesiology 2015; 5, 217-218.
- 4. **Galhardo Jr., C.** Hybrid Operating Room: a new reality in Brazil and worldwide. Rev Bras de Cardiol 2013; 26:7-10.
- 5. **Galhardo Jr., C.**, Botelho E.S.L., Diego L.A.S. Intraoperative Monitoring with Transesophageal Echocardiography in Cardiac Surgery. Rev Bras Anestesiol 2011; 61(4):495-512.
- 6. **Galhardo Jr., C.** Letter to the Editor reply. Changes in Surgical Conduct Due to the Results of Intraoperative Transesophageal Echocardiography. Rev Bras Anestesiol 2010; 60(2):192-197.
- 7. **Galhardo Jr., C**. Safety in the operating room. Brazilian Journal of Angiology and Vascular Surgery; VI: 18-21, Nov/Dec 2008.

### **BOOK CHAPTERS**

- 1. **Galhardo Jr., C.,** Salgado M, Daher M.A.D. Anesthesia in a Patient with Cardiac Disease. (In press) Edited by Grupo A. Book: Anestesiologia 2<sup>nd</sup> Ed.
- Galhardo Jr., C, Falcão L.F.R., Santos J.H.P. Anesthesia for cardiovascular surgery: Anesthetic management for ON and OFF coronary artery bypass surgery. Edited by SBA, Chapter 7, p 75-87, 2015.
- 3. **Galhardo Jr., C**, Vegas A. Off-pump coronary artery bypass surgery: Anesthetic Considerations. Edited by Panamericana. Book: Situaciones Clínicas en Anestesia y en Anestesia y en Cuidados Críticos. Chapter 87, p 315-317, 2013.
- 4. Diego LAS, **Galhardo Jr., C.** Cardiovascular Monitoring. In: Anesthesia for Vascular Surgery. Edited by SAERJ, Chapter 2, p 36-49, 2008.
- Galhardo Jr., C, Diego LAS. Anesthesia for Transesophageal Echocardiography.
  In: Anesthesia Outside the Operating Room. Edited by SAERJ, Chapter 9, p 177-183, 2007.
- 5. **Galhardo Jr., C**, Diego LAS. Anesthesia for Electrical Cardioversion. In: Anesthesia Outside the Operating Room. Edited by SAERJ, Chapter 11, p 195-205, 2007.

### **ABSTRACTS**

- 1. Nascimento CA, Carvalho LAF, **Galhardo Jr., C**. Echocardiography role in transcatheter aortic valve implantation (TAVI). 32<sup>nd</sup> Congress of the Cardiology Society of Rio de Janeiro, Rio de Janeiro, 2015.
- Galhardo Jr., C, Macedo JLC, Siciliano AO, Diego LAS. Recombinant factor VIIa for massive bleeding after Redo CABG. Case report. Annals of 55<sup>th</sup> Brazilian Congress of Anesthesiology, São Paulo, 2008.
- 3. **Galhardo Jr., C**, Silva AF, Botelho ESL, Siciliano AO. Improving potential heart donor management by TEE. Annals of 55<sup>th</sup> Brazilian Congress of Anesthesiology, São Paulo, 2008.
- Galhardo Jr., C, Galhardo SLR, Siciliano AO, Freitas RM, Diego LAS. Intraoperative transesophageal echocardiography monitoring for aortic valve repair. Annals of 53<sup>rd</sup> Brazilian Congress of Anesthesiology, Rio de Janeiro, 2006.
- 5. Freitas RMC, Varella RQ, **Galhardo Jr., C**, Siciliano AO, Diego LAS. Porcine heart dissection workshop: Anatomical correlations with TEE views. Annals of 53<sup>rd</sup> Brazilian Congress of Anesthesiology, Rio de Janeiro, 2006.
- 6. Diego LAS, **Galhardo Jr., C**, Botelho ESL, Freitas RM, Siciliano Jr AO. Intraoperative transesophageal echocardiography: Implementation experience in cardiac anesthesia service. Annals of 53<sup>rd</sup> Brazilian Congress of Anesthesiology, Rio de Janeiro, 2006.
- AS Crespo, C Galhardo, CG Silveira, HJ Dhomann. Assessment of the agreement between cardiac output measured by thermal filament continuous thermodilution (CCO) and noninvasive partial CO<sub>2</sub> rebreathing (NICO) with particular reference to ETCO<sub>2</sub> levels. Critical Care 2002, 6 (suppl 1), p.90.
- 8. AS Crespo, C Menezes, **C Galhardo**, ON Barbosa, LA Diego. Comparison of cardiac output (CO) measurement before and after cardiopulmonary bypass: bolus thermodilution (TD<sub>CO</sub>) and noninvasive partial CO<sub>2</sub> rebreathing (NICO). Critical Care 2002, 6 (suppl 1), p.90-91.
- 9. AS Crespo, W Zin, **C Galhardo**, CG Silveira, HJ Dohmann. Patterns in oxygenation, dead space ventilation, lung mechanics and CO<sub>2</sub> kinetics after prolonged cardiopulmonary bypass: an analysis by the CO<sub>2</sub> SMO-PLUS. http://ccforum.com/supplements/5/S3, 2002.
- 10. Galhardo SLR, Diego LAS, **Galhardo Jr., C**, Crespo AS. Anesthesia in a 16 weeks pregnant woman for CABG. Case report. Annals of 48<sup>th</sup> Brazilian Congress of Anesthesiology, Recife, 2001.

- 11. Crespo AS, Menezes C, **Galhardo Jr., C**, Diego LAS. Cardiac output monitoring during cardiac surgery: Non-invasive/continuously x thermodilution/intermittent. Annals of 48<sup>th</sup> Brazilian Congress of Anesthesiology, Recife, 2001.
- 12. Crespo AS, Leme K, **Galhardo Jr., C**, Zin WA. Ventilatory pattern during cardiac surgery: Which is the best adjustment? Annals of 47<sup>th</sup> Brazilian Congress of Anesthesiology, São Paulo, 2000.
- 13. Crespo AS, **Galhardo Jr., C**, Garcia C, Zin WA. Changes in ventilatory pattern and oxygenation after extracorporeal circulation: An argument for fast track technique? Annals of 47<sup>th</sup> Brazilian Congress of Anesthesiology, São Paulo, 2000.
- 14. **Galhardo Jr., C**, Cassini LB, Diego LAS. Anesthesia in a patient with definitive pacemaker. Case report. Annals of 45<sup>th</sup> Brazilian Congress of Anesthesiology, Fortaleza, 1998.

#### **INVITED PRESENTATIONS**

1. Instructor and speaker: XV Perioperative TEE Course

**Brazilian Society of Anesthesiology** 

Rio de Janeiro, Brazil, May 2017.

2. Lecture: Innovations in Hemodynamic Monitoring.

39<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists.

Orlando, USA, April 2017.

3. <u>Lecture: Hemotherapy: A rational approach to transfusion protocols.</u>

Paulista Congress of Anesthesiology,

São Paulo, Brazil, April 2017.

4. Lecture: Cerebral Oximetry Monitoring: Does the Evidence is Robust?

Paulista Congress of Anesthesiology,

São Paulo, Brazil, April 2017.

5. <u>Lecture: Anticipating and Managing Postoperative Delirium and POCD.</u>

ASA Annual Meeting (Anesthesiology 2016)

Chicago, USA, October 2016.

6. <u>Lecture: Pulmonary hypertension and right ventricular heart failure management</u> strategies in heart transplantation.

16<sup>th</sup> World Congress of Anaesthesiologists

Hong Kong, August 2016.

7. Instructor and speaker: XII Perioperative TEE Course

Brazilian Society of Anesthesiology

Rio de Janeiro, Brazil, June 2016.

8. Lecture: Thromboelastography: Practical approach to bedside

XIX Congress of Intensive Care Society of Rio de Janeiro

Rio de Janeiro, Brazil, June 2016.

9. Instructor and speaker: XI Perioperative TEE Course

Brazilian Society of Anesthesiology

Rio de Janeiro, Brazil, May 2016.

10. Lecture: How to Assess Tricuspid Regurgitation.

38<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists.

San Diego, USA, April 2016.

11. Cardiovascular Session Coordinator

Paulista Congress of Anesthesiology

São Paulo, Brazil, April 2016.

12. Instructor: TEE and TTE Workshop.

Paulista Congress of Anesthesiology

São Paulo, Brazil, April 2016.

13. Lecture: The Future of Cardiovascular and Thoracic Anesthesia.

Paulista Congress of Anesthesiology,

São Paulo, Brazil, April 2016.

14. Lecture: Blood Component Therapy: A rational approach to transfusion protocols.

SCA/ICCVA 37<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists. Washington DC, USA, April 2015.

15. Lecture: Ventricular Assist Devices: What Do We Need To Know?

62<sup>nd</sup> Brazilian Congress of Anesthesiology,

Florianópolis, Brazil, November 2015.

16. Lecture: Bleeding Management in Cardiac Surgery.

62<sup>nd</sup> Brazilian Congress of Anesthesiology

Florianópolis, Brazil, November 2015.

17. Lecture: TEE in non-cardiac surgery: Which surgeries and applications?

5<sup>th</sup> Congress on Cardiovascular Imaging of the Brazilian Society of Cardiology Rio de Janeiro, Brazil, April 2015.

18. Lecture: Echocardiography in the OR and ER.

5<sup>th</sup> Congress on Cardiovascular Imaging of the Brazilian Society of Cardiology Rio de Janeiro, Brazil, April 2015.

19. Lecture: Pseudoaneurysm of the Mitral-Aortic Fibrosa – TEE Assessment.

EACTA 2014 Annual Meeting and 14<sup>th</sup> ICCVA Meeting

Florence, Italy, September 2014.

20. <u>Lecture: Adequacy of Vasoactive Drugs and Volu</u>me Replacement Based on TEE.

61<sup>st</sup> Brazilian Congress of Anesthesiology

Recife, Brazil, November 2014.

21. Lecture: Strategies for blood conservation in Cardiac Surgery.

61<sup>st</sup> Brazilian Congress of Anesthesiology

Recife, Brazil, November 2014.

22. <u>Lecture: Mitral Stenosis – TEE Assessment.</u>

2014 Updating Symposium on Anesthesia by the University of São Paulo São Paulo, Brazil, March 2014.

23. Lecture: Anesthesia Management for Transcatheter Aortic Valve Implantation.

2014 Updating Symposium on Anesthesia by the University of São Paulo São Paulo, Brazil, March 2014.

24. Lecture: Coagulation Monitoring: Alternatives and Evidences.

2014 Updating Symposium on Anesthesia by the University of São Paulo São Paulo, Brazil, March 2014.

25. Lecture: New technologies with TEE in the operating room.

34<sup>th</sup> Meeting of the National Cardiology Institute

Rio de Janeiro, Brazil, 2013.

26. Lecture: Advanced Monitoring in high-risk surgical procedure.

47<sup>th</sup> Southeast Meeting in Anesthesiology

Rio de Janeiro, Brazil, 2013.

27. Lecture: Thromboelastometry in Cardiac Surgery.

1<sup>st</sup> Latin America Meeting on Perioperative Bleeding Management Workshop São Paulo, Brazil, 2013.

28. Lecture: Coagulation Management in Cardiovascular Surgery: Latin America Perspectives.

LATAM Severe Bleeding Management Workshop

Rio de Janeiro, Brazil, 2013.

29. Lecture: Thromboelastography and Cardiac Surgery: Is It Worth The Investment?

8<sup>th</sup> Paulista Congress of Anesthesiology

São Paulo, Brazil, 2011.

30. <u>Lecture: Anesthesia in Patients with Advanced Valvular Heart Disease for Non-Cardiac Procedures.</u>

8<sup>th</sup> Paulista Congress of Anesthesiology

São Paulo, Brazil, 2011.

31. Lecture: New Methods for Coagulation: Pros and Cons

International Congress of Thrombosis and Hemostasis

Rio de Janeiro, Brazil, 2010.

32. Lecture: Hemodynamic Monitoring by Transesophageal Echocardiography

57<sup>th</sup> Brazilian Congress of Anesthesiology

Porto Alegre, Brazil, 2010.

33. Lecture: Anesthesia in Patients with Diastolic Dysfunction

57<sup>th</sup> Brazilian Congress of Anesthesiology

Porto Alegre, Brazil, 2010.

34. Lecture: Perioperative Techniques to Avoid the Use of Blood Products

VI Brazilian Workshop on Cardiac Transplantation and Mechanical Circulatory Support Fortaleza, Brazil, 2010.

35. Lecture: Cardiovascular Monitoring

XV CET/SAERJ Integrated Anesthesia Course

Rio de Janeiro, Brazil, 2010.

36. Lecture: Medular Protection for Thoracic Aortic Aneurysm Repair

XXIV Angiology and Vascular Surgical Meeting

Rio de Janeiro, Brazil, 2010.

37. Lecture: Cardiovascular Monitoring

XIV CET/SAERJ Integrated Anesthesia Course

Rio de Janeiro, Brazil, 2009.

38. Lecture: Cardiovascular Monitoring

XII CET/SAERJ Integrated Anesthesia Course

Rio de Janeiro, Brazil, 2008.

39. Lecture: Perioperative TEE Monitoring

Rio Anesthesia Meeting

Rio de Janeiro, Brazil, 2007.

40. Lecture: TEE – Anatomical Basis

Workshop during the IV International Meeting on Cardiac Anesthesia

Rio de Janeiro, Brazil, 2007.

41. Lecture: Ideal Ht/Hb Levels during Cardiopulmonary Bypass

IV International Meeting on Cardiac Anesthesia

Rio de Janeiro, Brazil, 2007.

42. Lecture: Cardiovascular Monitoring

XII CET/SAERJ Integrated Anesthesia Course

Rio de Janeiro, Brazil, 2007.

43. Lecture: TEE – Anesthesiologist Perspective

XXX North-Northeast Meeting of Anesthesiology

Manaus, Brazil, 2006.

44. Lecture: Management of Perioperative Acute Myocardial Infarction

XXX North-Northeast Meeting of Anesthesiology

Manaus, Brazil, 2006.

45. Lecture: Importance of TEE During Mitral Valve Repair

International Congress of Cardiovascular Sciences /  $25^{\text{th}}$  ACCERJ Congress

Rio de Janeiro, Brazil, 2005.

### International Educational Activities – Participation of Attendance

- 1. 39<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April 22-26, 2017, Orlando, USA
- ASA Annual Meeting (Anesthesiology 2016) Chicago, USA, October 2016.
- 3. 16<sup>th</sup> World Congress of Anaesthesiologists Hong Kong, August 28-September 2, 2016.
- 4. 38<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April 2-6, 2016, San Diego, USA.
- 5. Advanced Concepts in Patient Blood Management Course provided by the Society for the Advancement of Blood Management at the Annual Meeting. September 24-26, 2015. Orlando, USA.
- 6. Fundamentals of Patient Blood Management Course provided by the Society for the Advancement of Blood Management at the Annual Meeting. September 24-26, 2015. Orlando, USA.
- 7. Society for the Advancement of Blood Management's Annual Meeting. September 24-26, 2015. Orlando, USA.
- 8. Seminar in Perioperative Bleeding Management/Patient Blood Management. May 25-26, 2015. Danube University Krems, Austria.
- 9. ICCVA/SCA 37<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April 11-15, 2015, Washington DC, USA.
- 10. EACTA 2014 Annual Meeting and 14<sup>th</sup> ICCVA September 17<sup>th</sup>-19<sup>th</sup>, 2014, Florence, Italy.
- 11. The European Anaesthesiology Congress Euroanaesthesia. May 31-June 3, 2014, Stockholm, Sweden.
- 12. 35<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April 6-10, 2013, Miami, USA.
- 13. 2012 Echo Fundamentals, Society of Cardiovascular Anesthesiologists February 6-11, 2012, San Diego, USA.
- 14. 2012 Echo Application, Society of Cardiovascular Anesthesiologists February 9-11, 2012, San Diego, USA.
- 15. 34<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April, 28-May 2, 2012, Boston, USA.
- Mechanical Circulatory Support Workshop at the 34<sup>th</sup> Annual Meeting & Workshops, Society of Cardiovascular Anesthesiologists April, 28-May 2, 2012, Boston, USA.
- 17. International Symposium on Ultrasound and Regional Anesthesia 2012 Focused Cardiac Ultrasound Study Program.
  - June 2012, Toronto, Canada.
- 18. 31<sup>st</sup> Annual Meeting and Workshops, Society of Cardiovascular Anesthesiologists April 18-22, 2009. San Antonio, TX, USA.
- 19. Workshop: Point of Care Hemostasis April 22, 2009. San Antonio, TX, USA.
- 20. Workshop: Advanced TEE April 18, 2009. San Antonio, TX, USA.
- 21. Workshop: Essencials of CPB April 18, 2009. San Antonio, TX, USA.
- 22. PBLD: A Patient w/Type A Dissection & Marfans Syndrome April 21, 2009. San Antonio, TX, USA.

- 23. PBLD: Perioperative Strategies to Minimize TRALI April 20, 2009. San Antonio, TX, USA.
- 24. PBLD: Endovascular Challenges April 22, 2009. San Antonio, TX, USA.
- 25. 11<sup>th</sup> International Congress of Cardiothoracic and Vascular Anesthesia September 14-18, 2008. Berlim, Germany.
- 26. Workshop: Airway Management: Today and Tomorrow September 14, 2008. Berlim, Germany.
- 27. Workshop: TEE for Cardiovascular Anesthesiologist September 15, 2008. Berlim, Germany.
- 28. Workshop: Hands on TEE Intraoperative Transesophageal September 16, 2008. Berlim, Germany.
- 29. Workshop: Advanced TEE Role of ECHO in Perioperative Decision Making September 17, 2008. Berlim, Germany.
- 30. Comprehensive Rev & Update of Echo Basic February 13-15, 2006. San Diego, CA, USA.
- 31. Comprehensive Rev & Update of Echo Advanced February 16-18, 2006. San Diego, CA, USA.
- 32. 27<sup>th</sup> Annual Meeting and Workshops, Society of Cardiovascular Anesthesiologists May 14-18, 2005. Baltimore, Maryland, USA.
- 33. Workshop: Perioperative Echo: A Comprehensive, Interactive Review May 18, 2005. Baltimore, Maryland, USA.
- 34. Workshop: Practical Echocardiography I May 14, 2005. Baltimore, Maryland, USA.
- 35. Workshop: Practical Echocardiography II May 14, 2005. Baltimore, Maryland, USA.
- 36. Dannemiller Memorial Education Foundation Educational Activities: Controlling Inflammation and Exploring Anti-Inflammatory Strategies in CABG Surgery May 15, 2005. Baltimore, Maryland, USA.
- 37. The ASA Annual Meeting October 14-18, 2000. San Francisco, California, USA.
- 38. The ASA Annual Meeting October 17-21, 1998. Orlando, Florida, USA.