**Date Prepared:** January 24, 2018

**PART I: GENERAL INFORMATION**

**Name:** Bruce Davis Spiess, MD, FAHA

**Home Address:** 2836 SW 117th Street

 Gainesville, Florida 32608

**Business Address:** University of Florida

 College of Medicine

 Department of Anesthesiology

 1600 SW Archer Road

 PO Box 100254

 Gainesville, FL 32610-0254

**Office Phone**: (352) 294-8456

**Cell Phone:** (804) 539-1472

**Email:**  bspiess@anest.ufl.edu

**Place of Birth:** Pittsburgh, Pennsylvania

**Education:**

1976 B.A., Biology, Denison University, Granville, Ohio

 1980 M.D., Rush University, Medical College, Chicago, Illinois

**Postdoctoral Training:**

1982-1983 Chief Resident, Department of Anesthesiology, Mayo Clinic Graduate School of Medicine, Rochester, Minnesota

1980-1983 Residency, Department of Anesthesiology, Mayo Clinic Graduate School of Medicine, Rochester, Minnesota

**Licensure:**

 National Provider ID# 1962596288

 2016 Florida, ME 128073

 1999 Virginia, # 0101840616

 1990 Washington, #252-09-0027782, inactive

 1983 Illinois, #36-066131, inactive

**Certification:**

 United States Drug Enforcement, DEA# - AS1228863

 2002 Fellow of the American Heart Association (elected)

 1985 Diplomat, American Board of Anesthesiology, #32610-0254

 1981 Diplomat, National Board of Medical Examiners, #226088

 Part I – 6/13/1978

 Part II – 4/9/1980

 Part III- 3/4/1981

 Certificate date – 7/1/1981

**Academic Appointments:**

2016-Present Adjunct Professor, Department of Medicine/Hematology, University of Florida, Gainesville, Florida

2016-Present Professor, Department of Anesthesiology, University of Florida, Gainesville, Florida

2016-Present Associate Chair for Research, Department of Anesthesiology, University of Florida, Gainesville, Florida

2011-2016 Adjunct Professor, Biology, Virginia Commonwealth University Health Center, Richmond, YVirginia

2002-2016 Professor, Tenure, Department of Anesthesiology, Virginia Commonwealth University Health Center, Medical College of Virginia, Richmond, Virginia

2002-2016 Adjunct Full Professor, Emergency Medicine, Virginia Commonwealth University Health Center, Medical College of Virginia, Richmond, Virginia

2000-2011 Director and Senior Fellow, Virginia Commonwealth University Reanimation Engineering Shock Center (VCURES), Medical College of Virginia, Richmond, Virginia

1999-2008 Director of Research, Virginia Commonwealth University Health Center, Medical College of Virginia, Richmond, Virginia

1999-2005 Vice Chair, Virginia Commonwealth University Health Center, Medical College of Virginia, Richmond, Virginia

1999-2002 Professor and Director, Virginia Commonwealth University Health Center, Medical College of Virginia, Richmond, Virginia.

1998-1999 Clinical Anesthesiologist, Northwest Anesthesia Associates, Northwest Hospital, Seattle, Washington

1990-1999 Associate Professor, Department of Anesthesiology, University of Washington School of Medicine, Seattle, Washington

1983-1990 Assistant Professor, Department of Anesthesiology, Rush Medical College, Rush University, Chicago, Illinois

1985-1990 Medical Director, School of Nurse Anesthesia, Rush University, Chicago, Illinois

1982-1983 Instructor, Department of Anesthesiology, May Medical School, Rochester, Minnesota

**Hospital or Affiliated Institution Appointments:**

2016 Attending Cardiac Anesthesiologists, UF Health Shands Hospital

2015 Associate Director/Senior Fellow – Johnson Center for Critical Care and Pulmonary Research, Virginia Commonwealth University

2010 Senior Fellow – VCURES Shock Institute, Virginia Commonwealth University

2000-2013 Co-Medical Director, Operating Room Laboratory

1999-2002 Staff Anesthesiologists and Director, Cardiac Anesthesia, Virginia Commonwealth University, Richmond, Virginia

1999-2004 Clinical Coordinator Operating Rooms, Virginia Commonwealth University, Richmond, Virginia

1999-2002 Staff Anesthesiologist and Director, Cardiac Anesthesiology, McGuire Veterans Administration Hospital, Richmond, Virginia

1998-1999 Staff Anesthesiologist, Northwest Anesthesiologist, P.C., Northwest Hospital, Seattle, Washington

1990-1998 Attending Physician, Department of Anesthesiology, Veterans Affairs Medical Center, Seattle, Washington

1990-1997 Chief, Division of Cardiothoracic Anesthesia, Department of Anesthesiology, University of Washington Medical Center, Seattle, Washington

1990-1997 Associate Chief of Anesthesia Services, Department of Anesthesiology, University of Washington Medical Center, Seattle, Washington

1986-1990 Associate Attending, Department of Anesthesiology, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1984-1990 Clinical Coordinator of Operating Rooms, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1984-1991 Director, Anesthesia for Liver Transplantation, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1984-1986 Assistant Attending, Department of Anesthesiology, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1983-1985 Medical Director, Post-Anesthesia Recovery Room, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1983-1984 Adjunct Attending, Department of Anesthesiology, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

1982-1983 Adjunct Attending, Department of Anesthesiology, Mayo Clinic, Rochester, Minnesota

**Major Administrative Responsibilities:**

2016-Present Associate Chair for Research, Department of Anesthesiology, University of Florida, Gainesville, Florida

2000-2012 Founding Director, Virginia Commonwealth University Reanimation Engineering Science (VCURES Institute)

2004-2006 University-wide Research Conflict of Interest Committee, Virginia Commonwealth University, Richmond, Virginia

2003-2013 Director, Hospital Blood Utilization Committee (The BUC), Virginia Commonwealth University Health Systems, Richmond, Virginia

2003-2013 Director, Hospital-wide Transfusion Reduction Program, Practicing Excellence in Transfusion (PET Program)

**Major Committee Assignments:**

 **Affiliated Institutions:**

2016-Present Leadership Team, Department of Anesthesiology, University of Florida, Gainesville, Florida

2016-Present Recruitment Committee, Department of Anesthesiology, University of Florida, Gainesville, Florida

2016 Chair, Research Committee, Department of Anesthesiology, University of Florida, Gainesville, Florida

2015 University Search Committee, Chair Department of Orthopedics, Virginia Commonwealth University, Richmond, Virginia

2015 Department of Anesthesiology Search Committee to develop new research lines, Virginia Commonwealth University, Richmond, Virginia

2009 Chair, Promotion and Tenure Committee, Department of Emergency Medicine, Virginia Commonwealth University, Richmond, Virginia

2006 Surgery Department Promotion Committee, Virginia Commonwealth University, Richmond, Virginia

2005-2013 Co-Chair, Practicing Excellence in Transfusion Therapy Program (PET Committee), Virginia Commonwealth University, Richmond, Virginia

2005-2014 Lead Training Coordinator, VCURES – United States Special Forces Combat Medics (SOCMs) training (34-44 weeks at Ft. Bragg followed by 6 weeks at VCURES), Virginia Commonwealth University, Richmond, Virginia

2005 Chair, University Search Committee for Director of Technology Transfer, Virginia Commonwealth University, Richmond, Virginia

2004-2007 Chair, Hospital Committee for HITT Education, Virginia Commonwealth University, Richmond, Virginia

2003 Promotion and Tenure Committee, College of Nursing, Virginia Commonwealth University, Richmond, Virginia

2003 Member, Search Committee for new CEO of Hospital, Virginia Commonwealth University, Richmond, Virginia

2001-2003 Operating Room Decorum Committee, Virginia Commonwealth University, Richmond, Virginia

2000-2006 Department Representative, Hospital Resuscitation Committee, Virginia Commonwealth University, Richmond, Virginia

2000-2013 Department Representative, Blood Utilization Committee, Virginia Commonwealth University, Richmond, Virginia

1999-2000 Member, Search Committee Surgery Chair, Virginia Commonwealth University, Richmond, Virginia

1999-2002 Member, Incentive Committee, Virginia Commonwealth University, Richmond, Virginia

1999-2016 Member, Blood Utilization/Transfusion Committee (VCU/MCV); Chair, 2003-2016, Virginia Commonwealth University, Richmond, Virginia

1999-2005 Executive Committee, Department of Anesthesiology, Virginia Commonwealth University, Richmond, Virginia

1999-2008 Director, Research Committee, Virginia Commonwealth University, Richmond, Virginia

1995-1997 Senator, Faculty Senate, University of Washington, Seattle, Washington

1995-1997 Cardiology Catheterization Advisory Committee, University of Washington, Seattle, Washington

1993 Director, Quick Start Team to Improve Transfusion and Blood Usage, University of Washington, Seattle, Washington

1993-1999 Cardiac Work Group, University of Washington, Seattle, Washington

1992-1999 Appointments & Promotions Committee, University of Washington, Seattle, Washington

1992-1999 Incentive Committee, University of Washington, Seattle, Washington

1992-1999 Computer Data Base for Cardiac Services Planning Committee, University of Washington, Seattle, Washington

1990-1997 Blood Utilization and Transfusion Committee, Joint Hospital Puget Sound Blood Bank, University of Washington, Seattle, Washington

1990-1999 Substance Abuse Committee, University of Washington, Seattle, Washington

1990-1999 Infusion Device Task Force, University of Washington, Seattle, Washington

1990-1999 Quality Assurance Task Force on Autologous Blood Utilization, University of Washington, Seattle, Washington

1990-1999 Cardiology Service Users Group, University of Washington, Seattle, Washington

1983-1990 Chairman’s Advisory Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Research Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Quality Assurance Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Clinical Competency Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Curriculum Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Residency Admission Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

1983-1990 Equipment Committee, Rush University, Department of Anesthesiology, Chicago, Illinois

 **National:**

2004-2008 Chair, Publications Committee, Evolution Trials

1995-Present Member, Acadesine 1024 Publications Committee Steering Group

**Professional Societies:**

2018-Present Malignant Hyperthermia Association (MHAUS) Lifetime Member

 2017-Present Combat Casualty Care Research Program (CCCRP), Organizing Committee/Convener/Session Chair

2013-Present European Association of Cardiothoracic Anesthesiologists (EACTA), Elected North American Representative

2012-Present Society for the Advancement of Blood Management (SABM)

2012-Present Human Factors and Ergonomics Society, Co-Director of Operating Room Track for HFES Spring Meeting: Baltimore 2013: HFES in Medicine

 2009-2011 South Pacific: Under Sea Medicine Society (SPUMS)

2005-2014 Flawless Operative Cardiovascular Unified System (FOCUS), founding creator, FOCUS Initiative, Society of Cardiovascular Anesthesiologists (Director of Steering Committee).

 1998-Present Virginia Society of Anesthesiologists, Member

 2002-2006 Virginia Society of Anesthesiologists, Board of Directors

 1996-Present Fellow in the American Heart Association, Elected as fellow, 2002

1994-Present Association of Cardiac Anesthesiologists, 2014- Emeritus Status; 2004-2006, President; 2002-2004 President Elect; 2000-2002, Secretary Treasurer

1991-Present American Association of Blood Bankers (AABB)

1991-1999 Washington State Society of Anesthesiologists

1991-1999 Washington State Medical Society

1991-1998 Association of University Anesthesiologists (AUA) (dropped membership because I could not make it to meetings)

1990-1997 American Medical Association (AMA)

1987-2014 Society of Cardiovascular Anesthesiologists (SCA); Founder and Director of Steering Committee for Flawless Operative Cardiovascular Unified Systems (FOCUS); Research Committee, 2006-2008; Philanthropy Committee, 2004-2008; Chair, Steering Committee, 2007-Present; Continuing Medical Education Committee, 2002-2006; Scientific Papers Reviewing Committee, 1999-2007; Board of Directors, 1999-2002; International Affairs Committee, 1999-2007; Chair, 1996-1999.

1987-1990 Anchor Cross Society (Philanthropic, Rush University)

1986-1999 Undersea and Hyperbaric Medicine Society

1983-1990 Society of Neuro Anesthesiologists

1983-1990 Illinois Society of Anesthesiologists; Economics Committee; Director of MAC/PAC (Midwest Anesthesia Conference/Post Anesthesia Conference); Assistant Director of MAC/PAC

1983-1990 Chicago Medical Society

1983-1990 Illinois State Medical Society

1980-Present American Society of Anesthesiologists (ASA); Blood Utilization Committee; Subcommittee on Clinical Circulation, 1993-1994; Scientific Papers Subcommittee, 1994.

1980-Present International Anesthesia Research Society (IARS)

**Community Service Related to Professional Work:**

 1990-1998 Friends of the University of Washington Medical Center

 1985-1990 Benjamin Rush Society

 1987-1990 Anchor Cross Society

**Service Responsibilities for National/International:**

2017 Grant reviewer for Virginia Commonwealth University, Clinical and Translational Research Institute

2016 Grant reviewer for the Dutch/Netherlands Heart Association

 2016 Grant reviewer for the Department of Defense Combat Casualty Initiative- US Army

2015 Haemonetics Inc. Medical Advisory Board for TEB coagulation testing.

 2015 Special White Paper Writing committee and Advisory Board- perative Sealants and Surface Pro Coagulants. Society for the Advancement of Blood Management-SABM.

 2015 ALBUS Grant Reviewer-Grifols Scientific, Albumin Utilzation and Research Grants, Gifols Inc. Barcelona, Spain.

 2014 Elected United States Representative to the Board of Directors, European Association of Cardiovascular Anesthesiologists (EACTA).

 2014 Special Liaison Committee from Society for the Advancement of Blood Management to other academic societies—harmonization of message.

 2014 Special invited consultant to the Chief Medical Officer of Western Australia: Subject Blood transfusion reduction and patient blood management.

 2012-2014 Gifols Inc., Planning committee for Multi-centered study of AT-III v placebo in cardiopulmonary bypass.

2013-present Steering Committee: National Institutes of Health- National Heart Lung and Blood Institute (NHLBI) and United States Army/Department of Defense co-sponsored 5-year research grant: Trans-Agency Consortium to study Trauma Induced Coagulopathy (TATIC).

 2011 US Army Medical Research and Materiel Command (USAMRMC) Scientific Peer Advisory Board Review-Grant # 110097.

 2011-present Haemosonics Inc. Consultant on development of new visco-elastic coagulation testing.

 2010 Consultant to Clinical Excellence Commission: New South Wales Government Sydney, Australia-Transfusion Excellence

 2009 National Institutes of Health: NHLBI Study Section Review of Grants: Immuno-modulatory, inflammatory, and vaso-regulatory properties of transfused red blood cell units as a function of preparation and storage.

 2009-2012 Alternate Delegate-American Society of Anesthesiologists House of Delegates

 2009-2011 Board of Directors, Virginia Society of Anesthesiologists

 2008-2010 Board of Directors, Oxygen Biotherapeutics Corporation, Inc. Durham, NC.

 2008-2010 Joint Commission on Accreditation of Hospital Organizations (JCAHO), Special Committee on Blood Transfusion

 2008-present Co- PI. A Civilian Trial of OxycyteTM, a Novel Perfluorocarbon Emulsion in Traumatic Brain Injury sponsored by Oxygen Biotherapeutics and the United States Army (300 patients, 10 center, double-blind, placebo-controlled trial)

 2008-present Virginia Cardiac Surgery Quality Initiative (VCSQI), Special consultant on blood transfusion

 2006-2007 Public Testimony to the Cardio-Renal Review Committee of the United States Food and Drug Administration RE: Aprotinin and Transfusion

 2005-2014 Trained > 1100 US Special Forces Combat Medics (SOCMs) including Seal Team 6 Medics

 2005-present Flawless Operative Cardiovascular Unified Systems (FOCUS) (Director Steering Committee, Founder)

 2005-2008 Resurgence of the Blood Utilization Committee (AABB) Faculty

 2004-2006 Special Consultant to Northern New England Cardiovascular Group-Research on Transfusion and Outcomes.

 2004-2007 Primary Investigator, Multi-centered National FDA Trials of Bivalirudin for Cardic Surgery: Choose-OFF, Choose-ON, Evolution-OFF, Evolution- ON, The Medicines Company, Parsippany, New Jersey.

 2004-2006 President, Association of Cardiac Anesthesiologists

 2003-2008 Board of Directors, Society for the Advancement of Blood Management

 2003-2004 Vice President, Association of Cardiac Anesthesiologists

 2002-2006 Continuing Medical Education Committee, Society of Cardiovascular Anesthesiologists

 2002-2006 Co-Director Annual Update on Cardiopulmonary Bypass Meeting, Society of Cardiovascular Anesthesiologists

 2002-2003 Treasure, Association of Cardiac Anesthesiologists

 2001-2006 Medical Advisory Board, The Medicines Co. Parsippany, New Jersey

 2000-2004 Planning Committee, VIII International Congress of Cardiovascular & Thoracic Anesthesia meeting, Kobe, Japan

 1999-2002 Board of Directors, Society of Cardiovascular Anesthesiologists

 1999 Moderator/Editor in Chief, Monograph Session, Society of Cardiovascular Anesthesiologists

 1999 Planning Committee, VII International Congress of Cardiovascular & Thoracic Anesthesia, Jerusalem, Israel

 1999 Medical Advisory Board, Hemosol Inc.

 1999 Ad Hoc Oxygen Therapeutics Committee, American Association of Blood Bankers

 1998-2000 Medical Advisory Board, Alliance Pharmaceuticals

 1998 Chair, VI International Congress on Cardiothoracic and Vascular Anesthesia, Santiago, Chile

 1996-2002 Medical Advisory Board, Cardiodynamics Inc. San Diego, Ca.

 1994-1998 Chairman, International Committee, Society of Cardiovascular Anesthesiologists

 1994-1998 Founder and Chairman, International Think Tank on Coagulation and Inflammation in Cardiopulmonary Bypass

 1992-1994 Vice-Chairman, International Committee, Society of Cardiovascular Anesthesiologists

 1992-1993 Planning Committee, World Congress of Cardiothoracic Anesthseis (Istanbul, Turkey)

 1993 Subcommittee on Clinical Circulation, American Society of Anesthesiologists (ASA)

 1994 Dwight D. Eisenhower Commission, People to People International Delegation Leader, U.S. Cardiothoracic Anesthesia Delegation to the People’s Republic of China

 1994 Guest Grant Reviewer, Connecticut Innovations Inc.

 1992-1998 Consultant, DuPont Inc.

 1991-2003 Multi-centered Study Preoperative Ischemia (McSPI) Planning Board

 1991-2003 McSPI- Director Hematology Subcommittee

 1990 Puget Sound and University of Washington Blood Center Transfusion Committee

 1990-1994 American Society of Anesthesiologist Committee on Transfusion

 1990 Midwest Anesthesia Conference, Co-Chairman

 1989-1990 Life Source Inc. - Northern Illinois Medical Advisory Board, Regional Blood Bank

 1989-1990 Post Anesthesia Care Conference of Midwest Anesthesia Conference, Chairman

 1988-1990 Optex Inc. Dallas, TX

 XXXX Medical Advisor, Indwelling Continuous Blood Gas Monitoring Technology

 1984-1990 Midwest Anesthesia Conference- MAC-PAC Conference Planning Committee

**Activities in the Profession:**

2012 Richmond Magazine, Special Operations Combat Medics Training at VCU

 2012 Doctor Radio: Sirius XM Radio #81, Host: Abelardo DeAnda, M.D.

 Blood Transfusion and Blood Substitutes

 2011 Doctor Radio: Sirius XM Radio #81, Host: Abelardo DeAnda M.D. 6-8:00 AM EST.

 Blood less Surgery

 2010 CNN/Justice, Multiple Interviews Re: Propfol and its use in the Michael Jackson Case-taped

 March 2010, aired from March 2010 onward.

 2008 *Style Weekly*: Blood Transfusion Interview.

 2008 British Broadcasting Corporation (BBC) radio interview

 Blood Transfusion and Outcomes

 2007 “Wired Science”-PBS, Blood Transfusion and the Success/Challenges of “Blood Substitutes”

 2007 CBS News Interview regarding perfluorocarbon blood substitutes. (Aired on local stations

 Throughout the United States)

 2007 Discovery Channel Special Program “2057-The Body”, ten-minute segment regarding perfluorocarbon blood substitutes.

 2006 *Popular Science* Magazine Better than Blood.

 2003 *Anesthesiology News*, Blood Transfusion Reduced.

 2003 *Anesthesiology News*, Bloodless Cardiac Surgery System Reduces Infusion Rates and Cost.

 2003 *Richmond Times Dispatch*, newspaper: Medline Health and Science.

 2003 *Richmond Times Dispatch*, newspaper: Medline Health and Science (VCU researchers study shock for US Army).

 2003 *Richmond Times Dispatch,* newspaper: Medline Health and Science (VCUHS heart surgeons strive to conserve scarce blood supply).

 2002 *Richmond Times Dispatch,* newspaper- Interview about reduced transfusion in heart surgery.

 2002 *Richmond Times Dispatch,* newspaper- Who Says Blood has to be Red?

 2002 National Public Radio (nationwide syndicated taped interview for “All Things Considered”)

 Risks of Blood Transfusion and National Shortages of Blood.

 2002 *Discover Magazine,* The Chemistry of Blood: Let it Bleed. Pgs. 20-21

 2002 *Newsweek Magazine,* Blood: A New Generation of Substitutes. Pgs. 68-71

 2001 *Richmond Times Dispatch*, Newspaper-Health and Science. VCURES Shock Research Center, Shock VCU Researchers Study It Complexities.

 2001 WRVA Radio, Richmond, VA. Interview: “Blood Substitutes”

 2001 NBC Evening News (local affiliate) Richmond, VA. Blood Risks and Artificial Blood.

 2000 WGBH Boston-National Public Radio, Interview about Blood Transfusion

**Editorial Boards:**

2016 Reviewing Staff, Journal of Surgery

2013 Reviewing Staff, Circulation, American Heart Association

2010-Present Reviewing Staff, American Journal of Physiology

2006-Present Reviewing Staff, Transfusion

2011-Present Reviewing Staff, Journal of the American College of Surgeons

2011 Reviewing Staff, Journal of Physical Chemistry

2004-2013 Reviewing Staff, Circulation

2000-Present Reviewing Staff, Blood

2000-Present Reviewing Staff, Journal of Thrombosis and Hemostasis

2000-Present Reviewing Staff, Resuscitation

1994-Present Reviewing Staff, Journal of Thoracic Cardiovascular Surgery

1994-Present Reviewing Staff, Anesthesia & Analgesia

1994-Present Reviewing Staff, Annals of Thoracic Surgery

1992-Present Reviewing Staff, Anesthesiology

1992-Present Editorial Board, Journal of Cardiothoracic and Vascular Anesthesia

1990-Present Reviewing Staff, Journal of Clinical Anesthesia

1990-Present Reviewing Staff, Journal of Cardiothoracic and Vascular Anesthesia

1984-1990 Editor, Journal of the Chicago Medical Society - Anesthesia

**Awards and Honors:**

 2016 Denison University Alumni Citation Award

2010 Teaching Excellence Award Virginia Commonwealth University, Department of Anesthesiology, Richmond, Virginia

1996-Annually Best Doctors in America

2002-Present America’s Registry of Outstanding Professionals

**PART II: RESEARCH CONTRIBUTIONS**

**Contracts and Grants Funded Externally:**

09/2011-09/2013 Office of Naval Research-Entegrion/Sub-Contract Revision to VCU-VCURES: Multi-Functional Resuscitation Fluid. Total award ($2,011,029), Direct Costs ($1,413,079), Indirect Costs ($597,950). N00014-10-C-0333-VCU-MRF.

03/2011-07/2012 Office of Naval Research: Aseptic Production of a Dried Plasma for Prompt Reversal of Coagulopathy. Total award ($999,868), Direct Costs ($722,510), Indirect Costs ($277,358). N00014-10-033 Sub Contract W911QY-10-c-0141-Entegrion Inc. Durham, NC.

04/2010-03/2013 Office of Naval Research: A Dual Large and Small Animal Study of the Treatment of Traumatic Brain Injury from Repetitive Blast Exposure with Oxycyte, a Perfluorocarbon Based Oxygen Therapeutic Emulsion. Total direct costs ($1,775,117), Total F&A ($837,598), Total Award ($2,612,715). ONR-BAA #10-001.

09/2008-09/2009 Synthetic Blood International, Inc. /Oxygen Bio therapeutics Inc. / Costa Mesa, CA. Studies in the Basic Science of Oxygen Delivery with Oxycyte. ($1,029,000)

02/2008-03/2011 Office of Naval Research, Department of Defense: Arterial Gas Embolism: Diagnosis and Novel Therapeutic of Perfluorocarbon Emulsions. Total award ($1,671,856), Indirect Cost - ($541,495). Grant # N000140810474

02/2008-03/2011 Office of Naval Research, Department of Defense: Mechanistic and Monitoring Studies in Experimental Decompression Sickness (DCS) Utilizing Novel Treatments with Perfluorocarbon (PFC) Emulsions. Total award ($1,218,728), Indirect Costs- ($381,058). Grant # N000140810459

02/2008-03/2011 Department of Defense, Department of the Army, Co PI with M. Ross Bullock, MD, Professor of Neurosurgery, University of Miami, $1,900,000, Sub –Award $600,000 to BD Spiess for Trial at VCUHS. Clinical Phase II-B Trial of Oxycyte Perfluorocarbon in Severe Human Traumatic Head Injury. PT 074521, Office of Naval research, DOD Grant # N000140810462.

02/2008-03/2009 Office of Naval Research, Luna Innervations (LLC) for Embolism Detection and Classification Device, Programmatic Multidisciplinary Studies into the Mechanisms and Efficacy of Treatment of Traumatic Brain Injury with Perfluorocarbon Oxygen Therapeutic Emulsions, Total award ($299,735) Indirect costs ($90,349). ONR: N000140810366

08/2007-02/2008 Office of Naval Research, Ultrasonic Measure of the Formation of Bubbles in Tissue for Decompression Sickness. Total award ($21,000) Indirect costs ($6,906).

2007-2009 Vitex, Inc. ($13,000/pt), FDA Phase III Trial of compound to sterilize banked blood. Co-Investigator.

06/2006-05/2008 Office of Naval Research, United States Department of Defense ($224,531), Post-Doctoral Award to Study Methods of Detection and Assessment of Decompression Sickness, Prevention and Treatment with Perfluorocarbon Emulsions.

08/2007 Luna Innovations, Hampton roads, Virginia ($1,000,000), Phase II SBIR ONR: Further development of an ultrasound/sonar tissue bubble detection system for DCS, Subcontract Award to VCURES.

2006-2007 The Medicines Company, Parsippany New Jersey (Approximately $10,000/pt.) – Choose-Off, Choose-On, Evolution-Off, Evolution-On. 4 independent clinical Phase III FDA trials of Bivalirudin for cardiac surgery. Primary Investigator and National Primary Investigator.

03/2005-03/2008 Office of Naval Research, United States Department of Defense, ($1,311,505), Follow-on studies in Perfluorocarbon Emulsions Prevention/Treatment of Decompression Sickness.

2005-2006 The Medicines Company, Parsippany, New Jersery ($10,000/pt.), FDA Phase III trials of Clivedapine in Cardiac surgery for patients with Hypertension. Co-Investigator.

2005-2006 Draeger Inc., Braintree, Massachusetts ($10,000), A prospective trial of a non-invasive continuous blood pressure monitor compared to invasive arterial pressure monitoring.

05/2004 Office of Naval Research, United States Department of Defense-DURIP Award ($120,000), Retinal Fluorosceine Angiography Studies of Decompression Sickness.

10/2003-9/2005 HRSA, Federal Grant, VCU Bioterrorism Preparedness Training Center ($3,000,000), Assistant Coordinator

2003-2006 Luna Innovations, Inc. Hampton Roads, Virginia ($75,000), Phase I SBIR Luna Innovations/ONR, Development of high fidelity tissue bubble detection system for DCS.

2003-2004 Baxter Pharmaceuticals ($95,000), Trial of Desflurane versus Isoflurane for peripheral vascular surgery patients who have known coronary artery disease.

2002-2004 Hemosol, Inc. ($250,000), Human trial of Hemolink in Re-op CABG surgery.

2002-2004 Hemosol, Inc ($250,000), Human trial of Hemolink in Primary CABG surgery.

2002-2004 Hemosol, Inc. ($714,856), Research into oxygen delivery in the microcirculation, 2-year project.

3/2002-2005 Office of Naval Research, United States Department of Defense ($950,754 over 3 years), Coordinated studies in the mechanisms of organ protection from decompression sickness with a perfluorocarbon emulsion.

2000-2001 Hemosol, Inc. ($400,000), Hemolink trial in CABG patients)

1999-2001 Biopure, Inc. ($300,000), HBOC testing in Orthopedics.

1992-1996 HemaGen,Inc. ($325,000), Perfluorocarbon phase IA and Phase IIB human testing.

1992-1996 HemaGen, Inc. ($275,000), Perfluorocarbon protection from cerebral ischemia.

1992-1994 Miles, Inc. ($525,000), The Influence of Coagulation Upon Post Cardiopulmonary Bypass Ischemia Blood Utilization and Hemorrhage.

1990-1994 HemaGen, Inc ($280,000), Perfluorocarbon Emulsions and Cerebral Protection for Cardiopulmonary Bypass.

1989-1990 Medtronics ($26,000) – Fibrinolysis and Heparin Coated Bypass Circuits.

1988-1990 The Myocardial Protective Effects of Acadesine (GP-1-110) in Patients Undergoing CABG Surgery. Gensia Pharmaceuticals, San Diego, California

1986 – 1988 Right Ventricular Function in Patients with Normal and Diseased Right Coronary Arteries. Sponsored by American Edwards, Irvine, California.

1986-1988 American Society of Extracorporeal Technology – Perfluorocarbon Emulsions and Protection from Massive Air Embolism.

08/1986-09/1987 The comparative anesthetic effects of desflurane 1653 vs. isoflurane in coronary artery bypass patients. Burce D. Spiess, MD, Principal Investigator, Multicenter study sponsored by Anaquest Inc., Millburn, New Jersey.

06/1985-07/1987 Reversal of the central effects of versed (midazolam) by intravenous flumazenil (RO-15-1788) or placebo after general anesthesia. Bruce D. Spiess, MD, Principal Investigator, Multicenter study sponsored by Hoffman-LaRoche, Nutley, New Jersey.

**Contracts and Grants Funded Internally:**

2015 **A randomized, pilot, study of high dose vitamin C as an anti-oxidant for cardiac surgery.** PI: BD Spiess, Funded by “pool funds” Department of Anesthesiology (VCUHS). $72,385.00 IRB approved**,** start date May 1, 2015.

 2015-2016 **A small rodent model of brain radiation necrosis treated with perfluorocarbons v. placebo (a pilot study). Multi-centered collaboration between VCU and Washington University- St. Louis**

VCUHS: Lisa Feldman, MD-Neurosurgery Fellow, William Broadus, MD-Professor Neurosurgery, Bruce D. Spiess, MD, FAHA-Professor Anesthesiology. Washington University: Joel Garbow, PhD-Department of Radiation Therapy, Joint funding between VCHUS (Anesthesia and Neurosurgery) and Washington University.

**Contracts and Grants Submitted – Pending Decision:**

2015 Virginia Innovation/Technology Science Grant

 **The Development of Microelectrodes for Redox Potentials in Blood.**

PI: Maryanne Collinson, PhD (Chemistry)

 Collaborating Investigator and Laboratory Host for Research: BD Spiess

 **Grant Decision expected June 1, 2015. Amount: $125,000 for 1 year.**

2015 Netherlands Medical Research Grant

 University of Amsterdam-Sub-Contract, pending award to U.o.A.

 **Bench top EX Vivo Studies of Chest Tube Blood Processing by a Novel Blood filtration system**

 **PI: BD Spiess, Grant Decision expected June 15, 2015, Amount: $78,000**

2015 P-50 Center Grant-NIH-Re-Submission

 **Wound Healing in Trauma**

 **PI: Charles Chalfant, PhD, Department of Biochemistry**

 **Project 1: Clinical coagulation in Trauma and lipidomics as predictors of multi- system organ failure. PI for Project: BD Spiess**

Total Grant $10,545,000.00, Project 1: $2,275,000.00, Period of study- 5 years

 May 10, 2015 Deadline for re-submission

 2015 R-01 NIH

 **Reduced Vitamin B-12 as a novel strategy to detoxify carbon monoxide poisoning: Animal studies in preparation for a human trial**

 **PI: BD Spiess,** Submission September 1, 2015.

**Ongoing Research Grants**

2012-2013 Sponsor: Department of the Army-Combat Casualty Care and Material Command, Ft. Detrick. W81XWH-12-2-0022. **Pre-Hospital Use of Plasma in Traumatic Hemorrhage (PUPTH Study).** PI: **BD Spiess,** Total award: $5,572,494.00, a 3 year award: June 2012- June 30, 2015.

 2013-2016 Sponsor: Department of the Army-Combat Casualty Care and Material Command, Ft. Detrick, Maryland: W81XWH-13-1-0017, VCU #PT107803. **Investigations into the Extent and Mechanisms of Thrombocytopenia with Perfluorocarbon Emulsions.**  PI:  **BD Spiess,** Total award: $2,994,479.00, 3-year award: May 2013- April 30, 2016.

 2015 Haemosonics Inc.: Charlottesville, Virginia, Industry sponsored grant. **Comparison of Haemosonics Viscoelastic Coagulation testing versus Thromboelastography in Open Heart Surgery.** PI: **BD Spiess,** Award: $68,700.00, 5-month award beginning April 1, 2015.

 2015 Sponsor: Department of the Army-Combat Casualty and Material Command, Ft. Detrick, Maryland. **High Dose Vitamin C in a Large Animal Model of Hemorrhagic Shock with/Without Tissue Injury.** PI: Ramesh Natajan, MD (Internal Medicine), Collaborating Investigator and Laboratory in Charge:  **BD Spiess**, Total award: $998,795.00, 2-year award to begin June 2015.

 2015 **Trans-Agency Collaboration in Trauma Induced Coagulation (TACTIC) Study**, NIH- NHLBI and US Army Combat Casualty Care and Material Command, Ft. Detrick, Maryland-collaborative program. 5-year multi-centered study of human plasma for biomarkers of TIC (Trauma Induced Coagulopathy), VCUHS- Sub-Award from TACTIC- $120,000/for 3 years. PI:  **BD Spiess**, award made April 1, 2015.

 2014 Grifols Inc. Barcelona, Spain/Durham, N.C., **A Randomized, Multi-Centered, Placebo controlled Trial of Anti-thrombin versus Placebo for Cardiopulmonary Bypass Patients.** PI: VCUHS- **BD Spiess,** Planning Committee/Study Development- **BD Spiess,** Award: $10,000/patent plus start up and overhead costs. 2-year award beginning August 2014, **Awarded grants awaiting start up.**

**Contracts and Grants Submitted but Not Funded:**

**Patents Issued:**

03/2017 US Patent# 20170058319A1, Nanosensors for Assessing Thrombin Inhibitors

03/2015 US Patent# 8,993,620, Cinnamic acid-based oligomers and uses thereof.

12/2013 US Patent# 8,613,909, Cinnamic acid-based oligomers and use thereof.

07/2013 US Patent# 8,491,872, Cinnamic acid-based oligomers and use thereof.

03/2013 US Patent# 8,404,752, Method of Treating Traumatic Brain Injury

09/2005 US Patent# 8,042,542, Prevention of ventilator associated pneumonia.

09/ 2001US Patent# 7,118,534, Methods for monitoring and optimizing central venous measure and intravascular volume

**Patent Applications/I.P. Disclosures (P/D):**

06/2016 Raman Spectroscopy Techniques for Assessment of Carbon Monoxide CO Poisoning and Treatment using Species of Vitamin B-12; Provisional Patent Application for SPI-15-099, SN: 62/366,245 (Patent)

Patent Patent Application for SPI-15-099; Ref. 02941106pr

09/1987 Jet ventilation endo-tracheal tub, US Serial Number 098,792, September 21, 1987(Patent)

06/2003 Hemoglobin Oxygen Content measured using Raman Spectroscopy (Patent)

09/2002 Tissue and Blood Streaming Monitoring for Perfluorocarbon Oxygen Therapeutics (“Blood Substitutes”) (Disclosure)

06/2003 Multi-parameter determination of critical oxygen delivery (Disclosure)

Disclosure A Thrombin Based Bivalirudin Electrode

Disclosure Device for organizing lines with quick and safe patient transport: Intravenous Line Organizer (60/847, 1004)

Disclosure Ergonomic Organization Medial Equipment Frame (Disclosure to VCU)

02/2002 Reanimation Cold Fluid (Perfluorocarbon based?) Delivery System (Disclosure)

04/2004 Device and methods to prevent ventilator associated pneumonia and to provide laryngeal anesthesia during mechanical ventilation (Patent)

Disclosure Pharmacologic methods to module oxygen consumption, temperature and the immune and inflammatory response to altered states of oxygen delivery and tissue injury

04/2004 Rapid Assessment of Hemostatic Balance (RAB) Chip (Disclosure)

10/2015 Novel Nanoparticle system for bed-side rapid Anti-thrombin III blood levels. (Patent Pending)

10/2015 Novel nanoparticle system for drug levels of any thrombin binding drug. (Patent applied for)

08/2016 Novel Reduced Vitamin B-12 system for the treatment of carbon monoxide poisoning. (Patent Pending)

**PART III: TEACHING CONTRIBUTIONS**

**Advisor:**

University of Florida College of Medicine, Department of Anesthesiology

 Advisor for Residents:

 2016-Yanabe Keffelemariam, M.D.

 2016- Lateef Opabola, M.D.

 Advisor for Fellows:

 Rush University : Kenneth Tuman, MD

 University of Washington:

1994-1995 Jane Fitch, MD

 1994-1995 Michael Wall, MD

 1994-1995 Zbigneiw Wojechoski, MD

Virginia Commonwealth University Medical Center:

1999-2000 Mark Nelson, MD

 2001-2002 Rebecca Cain, MD

 2003-2004 Lindsay Fox, MD

2003-2004 Ricardo Weis, MD

 2004-2005 John Rotruck, MD

 2008-2009 Dwayne McKerklin, MD

 2008-2009 Naheem Pousharif, MD

 2006-2007 Nabil Salamee, MD

 2006-2007 Charles Poppell, MD

 2012-2013 Bimal Gandhi, MD

 2012-2013 Sarah Armour, MD

 2013-2014 Joshua Belcher, MD

 2013-2014 David Farr, MD

 2014-2015 Spencer Liebman, MD

 2014-2015 Eva Smith, MD

 2014-2015 Matthew Barker, MD

 Advisor to Graduate Students (Research):

 2016 Matthew Ellenberg, Master’s Degree Candidate

 Virginia Commonwealth University, Department of Chemistry

 Graduate Committee, Laboratory Host for work performed

 2014-2015 Bassem Mohammed, PhD Candidate

 Virginia Commonwealth University

 School of Pharmacy- Outcomes and Therapeutics Department, Graduate Committee

 2012-2014 Ens. Joseph Roderique, US Navy, Master’s Degree

 Virginia Commonwealth University, Department of Physiology, Major Advisor

 2012-2014 Major Leon Somera, US Air Force, Master’s Degree

 Virginia Commonwealth University, Department of Physiology and Chemistry

 Major Advisor

 2014-2015 Alden Newcomb, Master’s Degree

 Virginia Commonwealth University, Department of Physiology, Major Advisor

 2011-2012 Frank Corwin, PhD

 Virginia Commonwealth University, Department of Radiology/Imaging

 Dissertation Committee

 2010-2011 Wilson Daughtery, PhD, MD

 Virginia Commonwealth University Medical Center

 Dissertation Committee, Richmond, VA.

2008-2010 Luciana Torres, PhD

 Virginia Commonwealth University

 Richmond, VA

 2006-2008 Cameron Smith, PhD

 Virginia Commonwealth University Medical Center

 Richmond, VA.

 2003-2005 John Travis Parsons, PhD and followed by Post-Doctoral

 Virginia Commonwealth University Medical Center

 Richmond, VA.

 1994-1996 Janelle Herren, MS

 University of Washington

 Dissertation Committee

**Conferences:**

University of Florida College of Medicine, Department of Anesthesiology

01/12/2018 University of Florida, CME Case Conference Department of Anesthesiology “What do poker chips and transfusions have in common?

10/31/2016 University of Florida, COM Department of Anesthesiology lecture for Intern Education month, Human Creativity and Research.

10/21/2016 University of Florida RCC Tool Kit for conducting Ethical Research: Human Creativity: The Innate Value of Research

10/18/2016 Lecture for interns: Basic coagulation and Point of Care T testing to the CA-2s

09/23/2016 University of Florida COM Lecture: Postoperative Visual Loss: Is it our Fault and Can We Do Anything about It?

 09/06/2016 Research in Cardiac Anesthesia/Surgery

 09/01/2016 Coagulation Problems and Cardiopumonary Bypass

 08/23/2016 Red Cell Transfusion in Heart Surgery: Oxygen Transport and Outcomes

 07/19/2016 Antithrombin (III) in Cardiac: and a few facts about Heparin

 06/21/2016 A rational approach to non-RBC Transfusion: Issues about FFP, Platelets and Cryo

**Other Grand Rounds:**

01/2017 Oxygen: The Vital Toxin, College of Medicine, Department of Physiology, University of Florida, Gainesville, Florida

05/1989 Problems with Sedation; Holy Cross Hospital, Chicago, Illinois

03/1989 Isoflurane in Cardiovascular Anesthesia; Loyola Medical Center

11/1987 Preventing Morbidity and Mortality in the Recovery Room, Beaumont Hospital, Southfield, Michigan

**Visiting Professorships:**

11/2015 Strong Memorial Hospital, University of Rochester, Rochester, New York

04/2014 The University of Western Australia, Perth, Australia

04/2014 The Fremantle General Hospital, Fremantle, Australia

01/2014 Ohio State University, Columbus, Ohio

11/2013 Oregon Health Sciences University, Portland, Oregon

02/2011 University of Oklahoma Medical Center, Oklahoma City, Oklahoma

05/2008 Roosevelt St. Luke’s University Medical Center, New York, New York

12/2007 Ottawa Heart Institute, Ottawa, Ontario, Canada

05/2007 University of Texas at San Antonio School of Medicine, San Antonio, Texas

04/2007 Ottawa Heart Institute, Ottawa, Ontario, Canada

04/2007 Sacred Heart Hospital, Milwaukee, Minnesota

10/2006 Northwestern University Medical Center, Chicago, Illinois

02/2005 University of Louisville, Louisville, Kentucky

06/2004 Dartmouth University Medical Center, Hanover, New Hampshire

02/2004 Memorial Sloan Kettering Medical Center, New York, New York

03/2004 University of Michigan School of Medicine, Ann Arbor, Michigan

01/2004 George Washington University Medical Center, Washington, District of Columbia

12/2003 The Cleveland Clinic Foundation, Cleveland, Ohio

12/2003 University of Pennsylvania, Philadelphia, Pennsylvania

11/2003 Swedish Medical Center, Seattle, Washington

11/2003 Loyola University Medical Center, Chicago, Illinois

10/2003 Ohio State University Medical Center, Columbus, Ohio

09/2003 Central Maine Medical Center, Lewiston, Maine

06/2003 University of Vermont, Burlington, Vermont

11/2002 Robert Wood Johnson Medical School, New Brunswick, New Jersey

11/2001 University of Pennsylvania, Philadelphia, Pennsylvania

10/2001 George Washington University, Washington, District of Columbia

11/2000 Fairfax Hospital, Falls Church, Virginia

11/2000 Vanderbilt University, Nashville, Tennessee

04/2000 Washington Hospital Center, Washington, District of Columbia

01/1998 University of Rochester, Rochester, New York

11/1993 Cleveland Clinic, Cleveland, Ohio

09/1993 Emory University Medical Center, Atlanta, Georgia

05/1993 University of California, San Diego, California

03/1993 Loma Linda University Medical Center, Loma Linda, California

02/1993 Washington Hospital Center, Washington, District of Columbia

01/1990 Carle Clinic, Champaign, Illinois

11/1989 University of Alabama, Tuscaloosa, Alabama

**Lectures, Speeches, Posters Presented at Professional Conferences:**

 **International:**

11/2018 Perfluorocarbon Emulsions as Respiratory Gas Enhancers- A Path towards Breakthroughs.XVII
International Society for Blood Substitutes Meeting, Invited Speaker, Montreal, Canada, November 13-17th

04/2017 Pumping Iron-How hemoglobin can kill you. 10th Annual Blood & Beyond, Halifax, Nova Scotia Canada. 2017 (Invited Speaker)

08/2015 Controlling the Red Stuff, Perfusion Down Under 2015: Winter Meeting, Barossa Valley, Australia

08/2015 Heparin: Effects upon the glycocalyx and endothelial cells, Perfusion Down Under 2015: Winter Meeting, Barossa Valley, Australia

08/2015 Oxygen: The vital toxin, Perfusion Down Under 2015: Winter Meeting, Barossa Valley, Australia

03/2015 Team Management of Transfusion: Patient Blood Management, Keynote Speaker, Australian and New Zealand College of Perfusionists, Intra-Operative Management of Blood (IMOB) Conference 2015, Sydney, New South Wales, Australia

03/2015 Post-Operative Collection/Salvage of Red Cells – Where are we Today; Australian and New Zealand College of Perfusionists, Intra-Operative Management of Blood (IMOB) Conference 2015, Sydney, New South Wales, Australia

03/2015 Bleeding in the Presence of Sepsis/Liver Failure; Australian and New Zealand College of Perfusionists, Intra-Operative Management of Blood (IMOB) Conference 2015, Sydney, New South Wales, Australia

03/2015 Massive Transfusion, Trauma Induced Coagulopathy; Australian and New Zealand College of Perfusionists, Intra-Operative Management of Blood (IMOB) Conference 2015, Sydney, New South Wales, Australia

03/2015 Coagulation Changes during and after Cardiopulmonary Bypass: Views from the United States; Australian and New Zealand College of Perfusionists, Intra-Operative Management of Blood (IMOB) Conference 2015, Sydney, New South Wales, Australia

03/2014 Emergency events and teamwork: an immediate audit of teamwork (Invited Speaker); The Tongariro Cardiac Surgery Meeting, New Zealand

03/2014 Anesthetic Discussion: What we know about human error in heart surgery (Invited Speaker); The Tongariro Cardiac Surgery Meeting, New Zealand

03/2014 Anesthetic Discussion: Case studies in human factors and outcome in heart surgery (Invited Speaker); The Tongariro Cardiac Surgery Meeting, New Zealand

03/2014 Blood Management teamwork and how the cardiac team can resonate about a theme (Invited Speaker); The Tongariro Cardiac Surgery Meeting, New Zealand

04/2014 Setting the Scene: Current facts, future and potential; Intraoperative Management of Blood Conference 2014, Sydney, Australia

04/2014 Transfusion Immune Modulation; Intraoperative Management of Blood Conference 2014, Sydney, Australia

05/2012 The Crux of Bypass-Microcirculation and Critical Oxygen Delivery; European Association of Cardiovascular Anesthesiologists Annual Meeting, Amsterdam, Netherlands

05/2012 Human Error Reduction during Cardiac Surgery through the FOCUS Program; European Association of Cardiovascular Anesthesiologists Annual Meeting, Amsterdam, Netherlands

05/2012 Patient Safety and Human Error: The Great Debate; European Association of Cardiovascular Anesthesiologists Annual Meeting, Amsterdam, Netherlands

03/2012 Transfusions Risks Associated with Platelet Transfusions; World Congress of Anesthesiology, Buenos Ares, Argentina

03/2011 Human Factors and Teamwork Building through Effective communication in Cardiac Surgery (Moderator); 16th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of Cardiac Surgery Patient, Whistler, Canada

03/2011 Vasoplegia: How to deal with it and does Methelene Blue really work? (Speaker); 16th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of Cardiac Surgery Patient, Whistler, Canada

03/2011 Shock (Moderator); 16th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of Cardiac Surgery Patient, Whistler, Canada

03/2011 The FOCUS data on communication errors and the VA study on surgical team communications (Speaker); 16th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of Cardiac Surgery Patient, Whistler, Canada

08/2010 Critical Oxygen Delivery: The Crux of Bypass with a Special Look at the Microcirculation (Keynote Speaker); Perfusion Down Under, 2010 Winter Meeting, Queenstown, New Zealand

08/2010 Flawless CPB: Human Error in Medicine: Change in the Cardiac Operating Rooms through the FOCUS Initiative; Perfusion Down Under, 2010 Winter Meeting, Queenstown, New Zealand

08/2010 The Panic of Coagulopathic Bleeding: Is there a Rational Approach? Perfusion Down Under, 2010 Winter Meeting, Queenstown, New Zealand

08/2010 Blood Substitutes/Oxygen Therapeutics; Perfusion Down Under, 2010 Winter Meeting, Queenstown, New Zealand

08/2010 Blood Management and the Risks of Transfusion; Clinical Excellence Commission, New South Wales, Government, Sydney Australia

03/2010 Workshop Moderator: Human Factors, Human Error Reduction and the Cardiac Operating Room Experience: A One Day Symposium; 15th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler Canada

03/2010 Workshop Moderator: Team Building to Reduce Human Error in the Cardiac Rooms: FOCUS-ed Teaching Towards Collaboration and Outcomes; 15th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler Canada

03/2010 Old Blood: Is It Toxic and Why? 15th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler Canada

03/2010 Two Case Presentations: Hemostasis and Transfusion Management; 15th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler Canada

05/2009 DCI Treatments of the Future: Progress in the Utilization of Perfluorocarbon Emulsions in the Treatment/Prevention of Decompression Sickness (DCS) (Keynote Speaker) 38th South Pacific Underwater Medicine Society, Annual Scientific Meeting, Diving, Flying, and space exploration: Future synergies in diving accident management; Vanuatu

05/2009 Perfluorocarbon Technology: History and Basic Physiology; 38th South Pacific Underwater Medicine Society, Annual Scientific Meeting, Diving, Flying, and space exploration: Future synergies in diving accident management; Vanuatu

05/2009 Recompression Therapy for Decompression Illness will be Obsolete by the Year 2025-The Great Debate! 38th South Pacific Underwater Medicine Society, Annual Scientific Meeting, Diving, Flying, and space exploration: Future synergies in diving accident management; Vanuatu

05/2009 The Link Between Diving and Space Exploration: High Altitude Decompression and Unique Space Applications of Perfluorocarbons; 38th South Pacific Underwater Medicine Society, Annual Scientific Meeting, Diving, Flying, and space exploration: Future synergies in diving accident management; Vanuatu

05/2009 Medical uses of Perfluorocarbons: Utilized for Non-DCI Indications; 38th South Pacific Underwater Medicine Society, Annual Scientific Meeting, Diving, Flying, and space exploration: Future synergies in diving accident management; Vanuatu

04/2008 Transfusion and Outcome (Keynote Speaker); The Tongarero Meeting on Cardiac Anesthesia, Rotarua, New Zealand

04/2008 Human Error Reduction in the Cardiac Operating Rooms in the FOCUS Initiative; The Tongarero Meeting on Cardiac Anesthesia, Rotarua, New Zealand

04/2008 The Future of Perfluorocarbon Emulsions as an Oxygen Therapeutic; The Tongarero Meeting on Cardiac Anesthesia, Rotarua, New Zealand

05/2007 Ellis Gillespie Lecturer: Emerging Data Regarding Outcome and Transfusion; Australian and New Zealand College of Anesthetists Annual Scientific Meeting 2007, Melbourne, Australia

05/2007 Lesser Known Evil of Heparin; Australian and New Zealand College of Anesthetists Annual Scientific Meeting 2007, Melbourne, Australia

05/2007 Perfluorocarbons and DCI-Finally and Advance on Recompression; Australian and New Zealand College of Anesthetists Annual Scientific Meeting 2007, Melbourne, Australia

03/2007 The Case for Blood Conservation: Transfusion Risk and Outcomes; 12th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler British, Columbia, Canada

03/2007 New Guidelines for Blood Transfusion and Conservation. The Process and Review; 12th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler British, Columbia, Canada

03/2007 HITT, Industry Symposium sponsored by Telacris, Inc.; 12th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler British, Columbia, Canada

03/2007 Risk for Thrombosis, Industry Symposium sponsored by Bayer Pharmaceuticals; 12th Annual Update on Cardiopulmonary Bypass: An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler British, Columbia, Canada

03/2006 Blood Transfusion: What is in a Unit? (Invited Speaker); Society of Cardiovascular Anesthesiologists 11th Annual Update on Cardiopulmonary Bypass. An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler, British Columbia, Canada

03/2006 Heparin-Induced Thrombocytopenia; Society of Cardiovascular Anesthesiologists 11th Annual Update on Cardiopulmonary Bypass. An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Whistler, British Columbia, Canada

05/2001 The Limits of Hemodilution; Society of Cardiovascular Anesthesiology, Annual Meeting, Vancouver, Canada

05/2001 The Risks of Blood Transfusion after the AIDS Crisis (Review Course); Society of Cardiovascular Anesthesiology, Annual Meeting, Vancouver, Canada

05/2001 Problems in Transfusion, Problem Based Learning Discussion; Society of Cardiovascular Anesthesiology, Annual Meeting, Vancouver, Canada

06/2000 Risks of Blood Transfusion: A Contemporary View of Coagulation (Invited Speaker); Mexican Society of Anesthesiology, Annual Meeting

11/1999 Inflammation, Endothelium and Coagulation (Invited Speaker); Cardiac Anesthesia Society of Great Britain Annual Meeting, Glasgow, Scotland

01/1999 Perioperative Volume and Hemoglobin Replacement, Volume Loss, Replacement and Coagulation; Winter Symposium, Leuven Belgium

09/1998 Blood Substitutes (Invited Speaker); Blood and Cardiopulmonary Bypass Symposium, Valle Nevado, Chili

09/1998 Non-invasive Cardiac Output (Program Director and Speaker); VI International Congress on Cardiothoracic and Vascular Anesthesia, Santiago, Chili

04/1996 Effect of Hct on Outcome after Cardiopulmonary Bypass (Invited Speaker); World Federation of Societies of Anaesthesiologists World Congress, Sydney, Australia

04/1996 Perfluorocarbons; World Federation of Societies of Anaesthesiologists World Congress, Sydney, Australia

04/1996 Aprotinin and Antifibrinolytics; World Federation of Societies of Anaesthesiologists World Congress, Sydney, Australia

09/1995 Hematocrit and Ischemia (Invited Speaker); V International Congress of Cardiothoracic and Vascular Anesthesia, Istanbul, Turkey

11/1994 Future of Blood Substitutes (Invited Speaker); 2nd International Workshop on Cardiovascular Anesthesia, New York, New York

06/1994 Blood Saving Procedures (Invited Speaker); European Association of Cardiothoracic Anaesthesiologists, Annual Meeting, Turku, Finland

06/1994 Blood Products and Blood Savings; European Association of Cardiothoracic Anaesthesiologists, Annual Meeting, Turku, Finland

04/1994 Cerebral Protection from Massive Air Embolism with Perfluorocarbon Emulsion Prime Addition for Cardiopulmonary Bypass (Invited Speaker); Society of Cardiovascular Anesthesiologists, Annual Meeting, Montreal, Quebec, Canada

04/1994 What’s New/Controversial in Liver Transplantation? Society of Cardiovascular Anesthesiologists, Annual Meeting, Montreal, Quebec, Canada

04/1994 Coffee, Tea, and Clot: Coagulation and CPB; Society of Cardiovascular Anesthesiologists, Annual Meeting, Montreal, Quebec, Canada

06/1994 Blood Clotting and Surgical Hemostasis (Invited Speaker); Canadian Anesthetists’ Society, Symposium Transfusion Horizons ’94, Edmonton, Alberta, Canada

03/1992 The Coagulation System-Intraoperative Measurement and Management (Invited Speaker); International Anesthesia Research Society, San Francisco, California

09/1990 Bioimpedance Monitoring During Liver Transplantation; 8th Asian-Australasian Congress of Anesthesiologists, Seoul, Korea

03/1990 Autologous Blood Harvest from High Risk Patients: A New Anesthesia Service (Invited Speaker); International Anesthesia Research Society, Annual Meeting, Honolulu, Hawaii

03/1990 Bioimpedance Hemodynamics Compared to Pulmonary Artery Catheter Monitoring During Liver Transplantation; International Anesthesia Research Society, Annual Meeting, Honolulu, Hawaii

12/1989 Autologous Blood Harvest and High Risk Patients; International Symposium on Blood Utilization, London, UK

03/1989 A New High Frequency Jet Ventilation Endotracheal Tube (Scientific Exhibit); International Anesthesia Research Society, Annual Meeting, Orlando, Florida

03/1989 Viscoelastic Tests of Coagulation; International Anesthesia Research Society, Annual Meeting, Orlando, Florida

03/1989 Autologous Blood Harvest from High Risk Patients, the Development of a New Service (Invited Speaker); International Anesthesia Research Society, Annual Meeting, Orlando, Florida

03/1989 Coagulopathies in Open Heart Surgery as Diagnosed by TEG; International Anesthesia Research Society, Annual Meeting, Orlando, Florida

01/1989 Coagulopathies in Open Heart Surgery as Diagnosed by TEG, Update on Anesthesia, Puerto Vallarta, Mexico

09/1986 TEG and Cardiac Surgery; World Congress of Cardiac Anesthesia, Munich, West Germany

09/1986 Air Embolism and PFC; World Congress of Cardiac Anesthesia, Munich, West Germany

 **National:**

04/2018 Vasoplegia: Biology and New Treatment Options. Sanibel Perfusion Meeting, Sanibel, Marriott Hotel

 02/2017 History and development of PFCs, Oxygen Carrier State of the Science Meeting, CCCRP, Fort Dietrich, Maryland. February 2017.

 02/2017 PFCs potential for enhanced 02 diffusion, Oxygen Carrier State of the Science Meeting, CCCRP, Fort Dietrich, Maryland. February 2017.

 02/2017 Platelet and inflammatory effects of PFCs, Oxygen Carrier State of the Science Meeting, CCCRP, Fort Dietrich, Maryland. February 2017.

 02/2017 Traumatic brain injury and traumatic spinal cord injury treatment with PFC, Oxygen Carrier State of the Science Meeting, CCCRP, Fort Dietrich, Maryland. February 2017.

09/2016 Pumping Iron: How Hemoglobin Can Kill You! (Invited Speaker) Society for the Advancement of Blood Management, 2016 Annual Meeting, Grand Rapids, MI.

 08/2016 Temporal Analysis of Biomarkers of Brain Damage in Ovine Survival Models of Hemorrhage and Blast/Hemorrhage Polytrauma with Perfluorocarbon Treatment (Abstract), Military Science Medicine Meetings – Combat Casualty Meetings, Orlando, Florida

08/2016 The Effect of Adjunctive Perfluorocarbon Infusion on Platelet Number and Function in a Blast/Hemorrhage Polytrauma Sheep Model (Abstract), Military Science Medicine Meetings – Combat Casualty Meetings, Orlando, Florida

09/2015 Tropical Hemostatic gents in the Management of Cardiac and Thoracic Surgical Patients, Society for the Advancement of Blood Management 2015 Annual Meeting, Orlando, Florida

09/2015 The Real Story, Society for Advancement of Blood Management 2015 Annual Meeting, Orlando, Florida

01/2015 Beyond Packed Red Blood Cells Transfusion-Plasma, Cryo, Platelets; Society of Thoracic Surgeons National Meeting, San Diego, California

01/2015 Triggers and Endpoints in the Perioperative Period; Society of Thoracic Surgeons National Meeting, San Diego, California

02/2014 Can TEG algorithms improve outcome? 34th Annual Cardiothoracic Surgery symposium/CREF; San Diego, California

02/2014 Fireside Chat-Blood Management Cases and Techniques; 34th Annual Cardiothoracic Surgery symposium/CREF; San Diego, California

02/2014 Recommendations and Actions from the American Heart Association Scientific Statement on Human Factors in Cardiac Surgery; 34th Annual Cardiothoracic Surgery symposium/CREF; San Diego, California

10/2013 Human Error Reduction in Heart Surgery through the FOCUS Initiative (Invited Speaker/Moderator); American Society of Anesthesiologists (ASA) Annual Meeting, San Francisco, California

05/2013 FOCUS: The Past and Future (Speaker); Society of Cardiovascular Anesthesiologists Annual Meeting, Miami Beach, Florida

05/2013 Poster Presentations (Moderator); Society of Cardiovascular Anesthesiologists Annual Meeting, Miami Beach, Florida

04/2012 Are Routine Coagulation Tests or are Viscoelastic Tests Better? Society of Cardiovascular Anesthesiologists Annual Meeting, Boston, Massachusetts

04/2012 Moderator: FOCUS Session; Society of Cardiovascular Anesthesiologists Annual Meeting, Boston, Massachusetts

03/2012 Improving Quality and Patient Safety (Session Moderator); 17th Annual Update on Cardiopulmonary Bypass, Snowmass, Colorado

03/2012 Guidelines for Improving Quality and Safety (Invited Speaker); 17th Annual Update on Cardiopulmonary Bypass, Snowmass, Colorado

03/2012 Perioperative Renal Protection; 17th Annual Update on Cardiopulmonary Bypass, Snowmass, Colorado

10/2011 “Ask the Experts” – Panel on Blood Transfusion; American Society of Anesthesiologists Annual Meeting, Chicago, Illinois

09/2011 Oxygen delivery and the microcirculation in cardiopulmonary Bypass; where the rubber meets the road; 30th Anniversary Immunohematology & Blood Transfusion Meetings, National Institutes of Health, Bethesda, Maryland

07/2011 Invited member of panel and speaker on Perfluorocarbon emulsions what we need to do next; Special Study Section of the National Institutes of Health, Department of Defense and Food and Drug Administration; Subject – Future of “Blood Substitutes/Oxygen Therapeutics”, Boston, Massachusetts

06/2011 Oxygen delivery enhancement in the microcirculation using perfluorocarbons during experimental arterial gas embolism: Torres, L, Filho IT, Spiess B. (Oral Presentation); Undersea and Hyperbaric Medical Society 44th Annual Scientific Meeting, Fort Worth, Texas.

06/2011 Mechanistic and monitoring studies in experimental decompression sickness (DCS) utilizing novel treatments with perfluorocarbon (PFC) emulsions (Oral Presentation); Parsons JT, Zhu J, Smith CR, Spiess BD; Undersea and Hyperbaric Medical Society 44th Annual Scientific Meeting, Fort Worth, Texas

06/2011 Poster Presentation: Retinal arterial gaseous embolisms are a non-invasive, real-time biomarker of survivability associated with a rapid decompression emergency scenario. Parsions JT, Smith CR, Zhu J, Spiess BD

04/2011 Blood Management: A case for its urgency and What Works (Speaker); American Academy of Anesthesiologist Assistants 35th Annual Conference, Destin, Florida

04/2011 The Risk of Coagulation Component Therapy (Fresh Frozen Plasma and Platelet Risks) (Speaker), American Academy of Anesthesiologist Assistants 35th Annual Conference, Destin, Florida

01/2011 Human Error Reduction though the FOCUS Initiative (Speaker); American Academy of Clinical Perfusion Annual Meeting; Reno, Nevada

01/2011 Blood Transfusion Risks (Speaker); American Academy of Clinical Perfusion Annual Meeting, Reno, Nevada

10/2010 Transfusion Risks in Non-Cardiac Surgery-Panel on Blood Management (Speaker); American Society of Anesthesiologists, Annual Meeting, San Diego, California

10/2010 The FOCUS Program and Human Error Reduction in Heart Surgery-Panel on Patient Safety in Heart Surgery (Speaker); American Society of Anesthesiologists, Annual Meeting, San Diego, California

10/2010 Latest Protocols to Reduce Blood Product Utilization; FACTS-CARE Cardiovascular Thoracic (CVT) Critical Care 2010 Meeting, Washington, District of Columbia

10/2010 Moderator: Panel discussion – Blood Usage and Platelet Problems; FACTS-CARE Cardiovascular Thoracic (CVT) Critical Care 2010 Meeting, Washington, District of Columbia

04/2010 Moderator: Update on the FOCUS Project; 32nd Society of Cardiovascular Anesthesiologists Annual Meeting, New Orleans, Louisiana

04/2010 Where are we going next with FOCUS; 32nd Society of Cardiovascular Anesthesiologists Annual Meeting, New Orleans, Louisiana

04/2010 Has Cardiac Anesthesia Practice Changed After the Withdrawal of Aprotinin; 32nd Society of Cardiovascular Anesthesiologists Annual Meeting, New Orleans, Louisiana

04/2010 Blood Transfusion: What is in a Unit of Blood? American Association of Anesthesia Assistants Annual Meeting, Savannah, Georgia

04/2010 Blood Transfusion and Outcome; American Association of Anesthesia Assistants Annual Meeting, Savannah, Georgia

10/2009 Is Fresh Blood Better than Banked Blood; American Society of Anesthesiologists Annual Meeting, New Orleans, Louisiana

10/2009 Update on HiTT; American Society of Anesthesiologists Annual Meeting, New Orleans, Louisiana

04/2009 Moderator: FOCUS Update; 31st Annual Meeting and Workshops, Society of Cardiovascular Anesthesiologists, San Antonio, Texas

04/2009 The Next Steps to Continue our FOCUS on Human Error; 31st Annual Meeting and Workshops, Society of Cardiovascular Anesthesiologists, San Antonio, Texas

04/2009 PBLD: Current Status of Hemoglobin Free Blood Substitutes; 31st Annual Meeting and Workshops, Society of Cardiovascular Anesthesiologists, San Antonio, Texas

06/2008 Defeat the Red Queen: The FOCUS Initiative (Speaker & Moderator); Society of Cardiovascular Anesthesiologists 30th Annual Meeting, Vancouver, Canada

06/2008 Update on “Blood Substitutes”: Any Closer for Just Another Day Older? Society of Cardiovascular Anesthesiologists 30th Annual Meeting, Vancouver, Canada

03/2008 Update on the FOCUS Initiative (Invited Speaker and Moderator); Human Error Reduction; 10th Annual Update on Cardiopulmonary Bypass Meeting, Snowmass, CO.

03/2008 Heparin Induced Thrombocytopenia: What to do with Patients Antibody Positive after Cardiac Surgery; Human Error Reduction; 10th Annual Update on Cardiopulmonary Bypass Meeting, Snowmass, CO.

03/2008 Perfluorocarbons as Oxygen Therapeutics; Human Error Reduction; 10th Annual Update on Cardiopulmonary Bypass Meeting, Snowmass, CO.

10/2008 Update on Aprotinin; American Society of Anesthesiology Annual Meeting, San Francisco, California

10/2008 Transfusion and Outcome: The Guidelines and how to reduce transfusion; American Society of Anesthesiology Annual Meeting, San Francisco, California

05/2005 Pharmaceutical Trials Research: How to Conduct Studies (Invited Speaker); Society of Cardiovascular Anesthesiologists Annual Meeting, Baltimore, Maryland

05/2005 Accepted Abstract: Heparin Platelet Factor – 4 Antibodies are Present in OPCAB patients even though they did not receive Heparin as their primary anticoagulant; Society of Cardiovascular Anesthesiologists Annual Meeting, Baltimore, Maryland

05/2005 Accepted Abstract: Bivalirudin is as safe as Heparin/Protamine for OPCAB Surgery; Society of Cardiovascular Anesthesiologists Annual Meeting, Baltimore, Maryland

05/2005 Problem Based Learning Discussion: Transfusion for Cardiac Surgery; Society of Cardiovascular Anesthesiologists Annual Meeting, Baltimore, Maryland

05/2005 Heparin Induced Thrombocytopenia: What is known and what is yet to be learned. Industry Symposium Moderator; Society of Cardiovascular Anesthesiologists Annual Meeting, Baltimore, Maryland

03/2005 Unfractioned Heparin: Little Known Facts (Invited Speaker); Society of Cardiovascular Anesthesiology 10th Annual Update on Cardiopulmonary Bypass, Snowmass, Colorado

10/2004 Scientific Exhibit: HIT Happens: Heparin Induced Thrombocytopenia Identification, Education and Prevention, American Society of Anesthesiology, Annual Meeting, Las Vegas, Nevada

04/2004 Update on the Current Status of Heparin-induced Thrombocytopenia (Invited Speaker); 26th Annual Meeting of the Society of Cardiovascular Anesthesiologists, Honolulu, Hawaii

04/2004 Refresher Course Lecture Transfusion: To Give or not to Give: Options and Outcomes; 26th Annual Meeting of the Society of Cardiovascular Anesthesiologists, Honolulu, Hawaii

04/2004 Problem Based Learning Discussion: Blood Transfusions in Cardiothoracic Surgery; 26th Annual Meeting of the Society of Cardiovascular Anesthesiologists, Honolulu, Hawaii

04/2004 A Closer Look at Efficient Blood Management Techniques, Risk of Transfusion (Invited Speaker); American Association of Blood Bankers Meeting, Tampa, Florida

03/2004 Pro/Con Limits of Hematocrit: How low is too low (Invited Speaker); 9th Annual Update on Cardiopulmonary Bypass, An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Snowmass, Colorado

03/2004 Future Advances in Blood Banking; 9th Annual Update on Cardiopulmonary Bypass, An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Snowmass, Colorado

03/2004 Problems with Platelet Transfusions; 9th Annual Update on Cardiopulmonary Bypass, An Interdisciplinary Approach to the Care of the Cardiac Surgery Patient, Snowmass, Colorado

10/2003 Scientific Exhibit: HIT Happens; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/2003 Outcomes Research and Future Directions in Transfusions (Invited Speaker); American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/2003 Anesthesiology: Leading the Way in Blood Conservation; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/2003 Pro/Con Debate: Con: ACA Should Not Exist (Invited Speaker); Association of Cardiac Anesthesiology, Annual Meeting, San Francisco, California

09/2003 Blood Conservation versus Bloodless Surgery is there Reasons: MEF Think Tank (Invited Speaker); Society for Advancement of Blood Management Annual Meeting, San Diego, California

11/2001 C. Paul Boyan Invited Lecturer: Methods to Avoid Transfusion, NAFA 25th Annual Meeting, Vienna, Austria.

10/2000 When to Transfuse in CABG Surgery, Thoughts on Thromboelastography (Invited Speaker); American Society of Extracorporeal Technology Meeting, Jackson Hole, Wyoming

10/2000 The Best Hematocrit for Bypass (Invited Speaker); Association of Cardiac Anesthesiology, Annual Meeting, San Francisco, CA.

05/2000 Science of Transfusion Trigger in Cardiopulmonary Bypass (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Orlando, Florida

10/1999 Transfusion reduction Strategies – What Works (Invited Speaker); American Society of Anesthesiology, Annual Meeting, Dallas, Texas

05/1998 Hematologic Aspects of Cardiac Surgery Workshop, Blood Substitutes Have a Future: Pro (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Seattle, Washington

10/1997 Unique Applications of Perfluorocarbons (Invited Speaker); American Association of Blood Bankers, Annual Meeting, Denver, Colorado

05/1997 Evaluation and Coagulation in Cardiac Surgery (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Baltimore, Maryland

05/1996 The Effect of Hct Outcomes from Cardiac Surgery (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Salt Lake City, Utah

05/1995 Coagulation Monitoring and Treatment (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Philadelphia, Pennsylvania

05/1995 Are Autologous Donations Worth the Cost? (Invited Speaker); Canadian Society for Transfusion Medicine, Edmonton, Canada

10/1994 Coagulation and Inflammation; Cardiopulmonary Bypass Consensus Panel, Napa Valley, California.

10/1994 Cerebral Protection from Massive Air Embolism with Perfluorocarbon Emulsion Prime Addition for Cardiopulmonary Bypass (Invited Speaker); American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1994 The Effects of Cardiopulmonary Bypass on Shear Modulus in a Clinical Series of Cardiopulmonary Bypass Patients as Measured by Thromboelastography; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1994 Thromboelastography Preoperatively Can Predict Postoperative Risk of Severe Hemorrhage in Valve Surgery: A Report of a Clinical Series; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1994 Thromboelastography is Best Preserved in High Dose Aprotinin Treated Repeat CABG Patients; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1993 Pharmacologic Management of Blood Conservation (Invited Speaker); American Society of Anesthesiology, Annual Meeting, Washington, District of Columbia

10/1993 Coagulation: Is TEG Useful? American Society of Anesthesiology, Annual Meeting, Washington, District of Columbia

10/1993 TEG with added Heparinase or Protamine Sulfate During Cardiopulmonary Bypass; American Society of Anesthesiology, Annual Meeting, Washington, District of Columbia

04/1993 Alternatives to Heparin & Protamine (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, San Diego, California

04/1993 Hemorrhage, Coagulation & Transfusion: A Risk Benefit Analysis; Society of Cardiovascular Anesthesiology, Annual Meeting, San Diego, California

10/1992 Coagulation Function & Cardiopulmonary Bypass (Invited Speaker); American Society of Extracorporeal Technology Annual Fall Seminar, Seattle, Washington

10/1992 Should PABD be Routine for Elective Cardiac Surgery? (Invited Speaker); National Institutes of Health Symposium on Autologous Transfusion: Current Trends & Research Issues, Arlington, Virginia

05/1992 Non-invasive Cardiac Output Devices (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Boston, Massachusetts

11/1991 Intraoperative Coagulation Monitoring Use of ACT, TEG and Sonoclot in Surgery (Invited Speaker); American Society of Anesthesiology, Workshop in Transfusion Medicine, Atlanta, Georgia

11/1991 Special Problems in Cardiovascular Surgery; American Society of Anesthesiology, Workshop in Transfusion Medicine, Atlanta, Georgia

05/1991 Fibrinolysis in Cardiopulmonary Bypass; Society of Cardiovascular Anesthesiology, San Antonio, Texas

05/1991 Coagulopathies after Emergency Bypass; Society of Cardiovascular Anesthesiology, San Antonio, Texas

05/1991 Workshop on TEG; Society of Cardiovascular Anesthesiology, San Antonio, Texas

01/1991 Noninvasive Cardiac Output Monitoring (Invited Speaker); Institute for Post Graduate Education Symposium on Cardiac Anesthesia

01/1991 Blood Utilization; Institute for Post Graduate Education Symposium on Cardiac Anesthesia

01/1991 Coagulation; Institute for Post Graduate Education Symposium on Cardiac Anesthesia

01/1991 Neurologic Dysfunction after Cardiopulmonary Bypass; Institute for Post Graduate Education Symposium on Cardiac Anesthesia

11/1990 Coagulation Affects of Colloids, Symposium on Intravenous Volume Replacement, Louisville, Kentucky

10/1990 High Risk Autologous Blood Harvesting in a High Risk Population – Scientific Exhibit; American Society of Anesthesiology, Annual Meeting, Las Vegas, Nevada

10/1990 Consultants Corner – Blood Utilization (Invited Speaker); American Society of Anesthesiology, Annual Meeting, Las Vegas, Nevada

05/1990 Coagulation Monitoring in Open Heart Surgery (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Orlando, Florida

05/1990 Workshop: TEG; Society of Cardiovascular Anesthesiology, Annual Meeting, Orlando, Florida

10/1989 Treatment of Near Fatal Venous Air Embolism with a Perfluorocarbon Emulsion (Invited Speaker); American Society of Anesthesiology, Annual Meeting, New Orleans, Louisiana

10/1989 Consultants Corner- Blood Utilization; American Society of Anesthesiology, Annual Meeting, New Orleans, Louisiana

10/1989 The Magic 10 gms: How Low Can We Go? Special Symposium on Blood Utilization (Invited Speaker); American Society of Anesthesiology, Annual Meeting, New Orleans, Louisiana

05/1989 Propofol and Flumazenil, New Agents for the 1990’s (Invited Speaker); Post Anesthesia Care Symposium, Chicago, Illinois

04/1989 Coagulation Monitoring Workshop: Viscoelastic Coagulation Monitors, TEG (Invited Speaker); Society of Cardiovascular Anesthesiology, Annual Meeting, Seattle, Washington

10/1988 Hemodynamic Monitoring During Autologous Blood Donation for High Risk Patients; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1988 Coagulation Monitoring Utilizing Two Viscoelastic Tests (TEG and Sonoclot) – Scientific Exhibit; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1988 Diffuse Intravascular Coagulation and Primary Fibrinolysis Differentiated by Thromboelastography; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1988 Anesthesia Safety, An Array for Monitoring – Scientific Exhibit; American Society of Anesthesiology, Annual Meeting, San Francisco, California

10/1988 A New Jet Ventilation Endotracheal Tube – Scientific Exhibit; American Society of Anesthesiology, Annual Meeting, San Francisco, California

09/1988 SvO2 Monitoring and Oxygen Consumption During Orthotopic Liver Transplantation Meeting, Pittsburgh, Pennsylvania

06/1988 Rush Experience with TEG and Autologous Blood Harvest, NIH Conference on Red Cell Transfusion, Bethesda, Maryland

04/1988 Diffuse Intravascular Coagulation and Fibrinolysis Differentiated by Thromboelastography; Society of Cardiovascular Anesthesiology, New Orleans, Louisiana

04/1988 Coagulation Monitoring; Society of Cardiovascular Anesthesiology, New Orleans, Louisiana

10/1987 The Impact of Liver Transplantation on Anesthesia Personnel and Services; American Society of Anesthesiology, Annual Meeting, Atlanta, Georgia

10/1987 Treatment of Venous Air Embolism with a Perfluorocarbon Emulsion, Poster Presentation, Society of Neurosurgical Anesthesia and Critical Care, Atlanta, Georgia

10/1986 Protection from Coronary Air Embolism with a Perfluorocarbon Emulsion; American Society of Anesthesiology, Annual Meeting, New Orleans, LA.

10/1986 Protection from Cerebral Air Embolism with Perfluorocarbon Emulsion; American Society of Anesthesiology, Annual Meeting, New Orleans, LA.

04/1986 Thromboelastography as an Indicator of Post Open Heart Coagulopathies; Society of Cardiovascular Anesthesiology, Annual Meeting, Montreal, Quebec, Canada

04/1986 Protection from Coronary Air Embolism with a Perfluorocarbon Emulsion (FC-43); Society of Cardiovascular Anesthesiology, Annual Meeting, Montreal, Canada

10/1985 Protection from Venous Air Embolism with a Fluorocarbon Emulsion FC-43; American Society of Anesthesiology, Annual Meeting, San Francisco, California

 **Regional:**

05/2015 Oxygen from outside in: What is it and how it gets to where it has to go! Yavapai Regional Medical Center Presentation: Patient Blood Management – The Quest for Better Outcomes, Keynote Speaker, Prescott, Arizona

05/2015 The contemporary transfusion conundrum: Physicians and public views; Yavapai Regional Medical Center Presentation: Patient Blood Management – The Quest for Better Outcomes, Keynote Speaker, Prescott, Arizona

04/2014 The Biochemistry of Oxygen Transport and Transfusion; General Medicine Grand Rounds and Patient Blood Management Meetings; Joondalup Regional Medical Center, Australia

05/2003 Blood Transfusions: Risks and outcomes (Invited Speaker); Fayetteville, North Carolina Hospitals

05/1991 Anesthesia and the Heart (Invited Speaker); Midwest Anesthesia Conference, Chicago, Illinois

05/1991 Cell Savers vs. Blood Products; Midwest Anesthesia Conference, Chicago, Illinois

05/1989 Sedation vs. General Anesthesia (Invited Speaker); Midwest Anesthesia Conference, Chicago, Illinois

06/1986 Prevention of Morbidity and Mortality in the PACU; Midwest Anesthesia Conference, Chicago, IL.

05/1985 Evoked Potentials in Anesthesia; Midwest Clinical Conference, Sponsored by the Chicago Medical Society, Chicago, Illinois

 **State:**

11/2017 Oxygen: The Vital Toxin. 36th Annual NAFA Conference Disney Yacht and Beach Club Hotel,
Orlando, Florida.

11/2017 Vasoplegia: Ultimate in Biologic complexity. 36th Annual NAFA Conference Disney Yacht and Beach Club Hotel. Orlando, Florida.

04/2017 Pumping Iron: or How hemoglobin can kill you. Sanibel Symposium, Fort Myers, Florida. 2017

09/2016 Red Cell Transfusion in Heart Surgery; Oxygen Transport Issues and Outcomes, Florida Perfusion Society, Case Reports in the Sun XII (Invited Speaker), Palm Beach, Florida.

11/2015 An Anesthesiologists view of Patient Blood Management, Oklahoma Society of Perfusion – Board of Perfusionists Meeting, Keynote Speaker, Oklahoma City, Oklahoma

10/2011 Heparin Induced Thrombocytopenia and Update on New Anticoagulants (Invited Speaker); Maryland State Society of Perfusion Meeting, Baltimore, Maryland

05/2010 Update on blood transfusion and blood conservation; Virginia Orthopedic Society Annual Meeting, Charlottesville, Virginia

2007 Blood Transfusion and Outcome, Wisconsin Perfusionists Annual Meeting: Wisconsin Dells

04/2007 Transfusion and Outcomes; Illinois Association of Blood Bankers Annual Meeting, Chicago, Illinois.

12/2005 Transfusion Therapy: What’s the Trigger? Postgraduate Assembly in Anesthesiology, New York, New York

12/2005 Heparin-Induced Thrombocytopenia; Postgraduate Assembly in Anesthesiology, New York, New York

04/1998 Review of Coagulation (Invited Speaker); Oregon Society of Anesthesiology, Annual Meeting, Eugene, Oregon

04/1998 Blood Substitutes (Invited Speaker); Oregon Society of Anesthesiology, Annual Meeting, Eugene, Oregon

09/1994 Perioperative Cardiac Ischemia-A Coagulation Problem? (Invited Speaker); Oregon Society of Anesthesiology, Annual Fall Meeting, Eugene, Oregon

09/1994 Coagulation Dysfunction in Cardiopulmonary Bypass; Oregon Society of Anesthesiology, Annual Fall Meeting, Eugene, Oregon

12/1994 Tests of Coagulation Are Required Routinely Following Cardiopulmonary Bypass: Pro (Invited Speaker); New York State Society of Anesthesiology (PGA), New York, New York

09/1994 Coagulation Dysfunction in Cardiopulmonary Bypass; Oregon Society of Anesthesiology, Annual Fall Meeting, Eugene, Oregon

04/1994 Treatment of Coagulopathy Associated with Transfusion (Invited Speaker); Washington State Society of Anesthesiology, Spring Meeting, Washington

02/1994 Coagulation Dysfunction in Cardiopulmonary Bypass (Invited Speaker); Arizona Society of Anesthesiology, Phoenix, Arizona

02/1994 Contemporary Risks and Strategies for Perioperative Transfusion; Arizona Society of Anesthesiology, Phoenix, Arizona

02/1994 Perioperative Cardiac Ischemia-A Coagulation Problem? Arizona Society of Anesthesiology, Phoenix, Arizona

12/1993 Controversies in Cardiac Anesthesia – A Debate; New York State Society of Anesthesiology, PGA, New York, New York

12/1993 Coagulopathies & Trauma (Invited Speaker); New York State Society of Anesthesiology, PGA, New York, New York

06/1992 Hemorrhage and Transfusion in the Operating Room (Invited Speaker); Washington State Society of Anesthesiology, Seafair XIII Meeting, Washington

05/1992 Major Hemodynamic Monitoring of the Cardiovascular Patient: Today and in the Future (Invited Speaker); California Society of Anesthesiology, Annual Meeting, Monterey, California

04/1992 Rational Use of Cardiac and Vasoactive Drugs (Invited Speaker); Washington State Society of Anesthesiology, Spring Meeting, Washington

02/1987 Non-Invasive Cardiac Output Monitoring; Illinois Society of Anesthesiology, Fall Meeting, Chicago, Illinois

**Local:**

11/2017 Coagulation in Cardiac Surgery. The Cardiac Team, University of Florida, Gainesville, Florida.

11/2017 Basic Coagulation. The Department of Anesthesiology Residents, University of Florida, Gainesville, Florida.

09/2017 Lesson from the King of Pop: Propofol and Professionalism. Case Conference Department of Anesthesiology, University of Florida, Gainesville, Florida.

08/2017 TEG PCC Blood Transfusion. The Department of Anesthesiology Cardiovascular, University of Florida, Gainesville, Florida.

06/2017 Maxillofacial Surgery Today: The King of Pop and Propofol: Lessons Learned in Professionalism, Graduating Seniors College of Dentistry, University of Florida, Gainesville, Florida.

01/2017 Oxygen: The Vital Toxin, The Department of Physiology and Functional Genomics, Spring 2017 Seminar Series, University of Florida, Gainesville, Florida

06/2016 Anemia and Transfusion: The needs for an anemia clinic, Perioperative Coordinated Care Conference, University of Florida, Gainesville, Florida

04/2012 The Coagulopathy of Trauma and the Pre-Hospital use of FFP in a large Multi-Centered Study; VCU Trauma Symposium, Richmond, Virginia

04/2012 The Coagulopathy of Trauma and Pre-Hospital Resuscitation (Invited Speaker); University of Virginia Annual Pegasus Trauma Symposium, Charlottesville, Virginia.

11/2011 Is Transfusion a Religion? (Speaker); Nurse Anesthesia Faculty Associates Meeting, Williamsburg, Virginia

11/2011 Transfusion, Coagulopathy and Trauma; Nurse Anesthesia Faculty Associates Meeting, Williamsburg, Virginia

03/2007 A Blood Reduction Program; Tufts New England Medical Center

03/2007 Blood Transfusion and outcome in Cardiac Surgery; Providence Hospital Cardiac Surgery Group, Portland, Oregon

10/2004 Transfusions and Outcomes (Invited Speaker); Oxford University, All Britain Conference on Blood Transfusion and Heart Surgery; Oxford, England

03/2003 The Coagulopathy of Heart Surgery (Invited Speaker), Coagulation Updates, Richmond Veterans Administration, Richmond, Virginia

10/1994 Intra-op Blood Conservation Therapies (Invited Speaker); Transfusion Medicine Conference, University of Wisconsin Medical School, Madison, Wisconsin

09/1994 Perioperative Cardiac Ischemia – A Coagulation Problem? (Invited Speaker); Oregon Society of Anesthesiology, Annual Fall Meeting, Eugene, Oregon

03/1989 What is New in Anesthesiology; Kishwaukee Hospital, Dekalb, Illinois

11/1988 Is Anesthesia High Risk? Four Lectures on Anesthesia Risk and Quality Assurance, Maryland Hospital Educational Institute, Baltimore, Maryland

03/1987 Anesthesia for Liver Transplantation Symposium; University of Illinois Medical Center, Chicago, Illinois

06/1986 Identifying Post Anesthesia Recovery Room Problems; Post Anesthesia Conference, Chicago, Illinois

 **Other:**

04/2014 Transfusion Immune Modulation; Country-wide Teaching Webinar Hosted by the University of Western Australia.

10/2013 Human Error Reduction through After Burner and FOCUS (Invited Speaker); Covidien, Inc. Sponsored Evening Seminar.

01/2012 Blood Transfusion Risks and Introduction; Society of Thoracic Surgeons, National Webinar, Blood Management

11/2010 Blood Management; Risks Cost and Compelling Reasons to Decrease Transfusion, Webinar Broadcast, Clinical Excellence Commission: New South Wales, Government/Australian National Government

12/2010 The Vision of Purple Heart Injury Laboratories (Keynote Speaker); Purple Heart Dinner, New York, New York

04/2009 Invited Speaker: Application of PFC to Hyperbaric and diving environments: Progress in the Utilization of Perfluorocarbon Emulsions in the Treatment/Prevention of Decompression Sickness; The Physiology and Pathophysiology of the Hyperbaric and Diving Environments Meeting Honoring Claes E. G. Lundgren, MD, PhD, Buffalo, New York

02/2008 The Guidelines for Transfusion; CREF Meeting: Perfusion and Cardiac Surgery, San Diego, California

04/2007 Review of the Guidelines; Industrial Symposium sponsored by Bayer Pharmaceuticals

04/2007 A Patient on Clopidogrel and Aspirin; Industrial Symposium sponsored by Bayer Pharmaceuticals

05/2001 Blood Transfusion: The Silent Epidemic, Industry Symposium, Sponsored by Bayer Pharmaceuticals, Vancouver, British Columbia, Canada

02/1993 Local Anesthetics (Invited Speaker); Dental Society, Big Sky, Montana

11/1992 Pharmacology Update: Antihypertensives and Vasopressors (Invited Speaker); Sacred Heart Medical Center, Spokane, Washington

05/1991 Hepatic Failure and Anesthesia; Institute for Post Graduate Education, Des Moines, Iowa

04/1991 Blood Utilization (Invited Speaker); Osler Institute, Las Vegas, Nevada

04/1991 Coagulation Review; Osler Institute, Las Vegas, Nevada

05/1989 Coagulation Function and Blood Utilization; Osler Institute, Anesthesia Board Review Course, Las Vegas, Nevada

07/1989 Coagulation Function and Blood Utilization; Osler Institute, Anesthesia Board Review Course, Las Vegas, Nevada

11/1987 Preventing Morbidity and Mortality in the Recovery Room, Westin Hotel, Chicago, Illinois

**Peer Review Groups:**

2016 Defense Medical Research and Development Program (DOD)

**Description of Teaching Award(s) Received:**

2016 Denison University – Alumni Citation Award: “Denison University’s highest award bestowed on graduates who have made a difference in society, their profession.” – At Graduation/Alumni Convocation June 4. 2016

2010 Teacher Excellence Award VCU Department of Anesthesia

1996–Present Best Doctors in America (Awarded every year for 20 years consecutively)

2002 America’s Registry of Outstanding Professionals

**Books, Edited**

**Spiess BD**, Spence R, Shander A. *Perioperative Transfusion and Coagulation*, 2nd Edition. Lippincott, Williams and Wilkins, Baltimore, Maryland. 2006. pgs1-673.

**Spiess BD**: *The Relationships Between Coagulation, Inflamation and Endothelium–A Pyramid Towards Outcome*. Lippincott, Williams & Wilkins, SCA Monograph, Baltimore 2002.

**Spiess BD**, Counts RB, Gould SA (Eds.): *Perioperative Transfusion Medicine.* Philadelphia, PA.Williams & Wilkins. 1998; p 607.

**Spiess BD** and Vender J (Eds.): *Post Anesthesia Care.* Philadelphia, W.B. Saunders, 1992; p 381.

**Spiess BD** (Ed.): *Anesthesiology Clinics of North America: Hemorrhagic Disorders.* Philadelphia, W.B. Saunders, July 1990; p 629.

**Books, Contributor of a Chapter**

**Spiess BD,** Armour S, Horrow J, Kaplan J. Transfusion Medicine and coagulation disorders. *Kaplan’s Cardiac Anesthesia: for cardiac and non-cardiac surgery-Seventh Edition.* By Kaplan Ja, Augoustides JGT, Manecke GR, Maus T, Reich DL. Elsevier, Philadelphia, PA 2017, pgs. 1248-1290.

**Spiess BD.** The vascular tree and heart with relationship to inflammation. In *Frontiers in Inflammation.* (Eds): Diegelmem RF, Calfant CE- Basic Biology and Clinical Aspects of Inflammation. Bentham Science Publishers, Sharjah. VAE 2016; pgs. 180-209.

**Spiess BD.** Outcomes after Platelet Transfusion. In. *Patient Blood Management*. (Eds): Gombotz H, Zacharowski K, Spahn DR. Georg Thieme Verlag KG- Thiem Publishers, Stuggart, Germany 2016; Chapter 1.4 pgs. 28-24.

**Spiess BD,** Harrow J, Kaplan JA. Transfusion medicine and coagulation disorders, In.  *Kaplan's Cardiac Anesthesia* (Eds): Kaplan JA, Reich DL, Lake CL, Konstadt SN, 6th Edition, Saunders Elsvevier, Philadelphia PA 2010.

Gravlee GP**, Spiess BD.** Pharmacologic prophylaxis for post-cardiopulmonary bypass bleeding. In. Cardiopulmonary Bypass Principles and Practice, (Eds.) Gravlee GP, Davis RF. Stammers AH, Ungerleider RM. Wolters Kluwer/ Lippincott Williams and Wilkins, Philadelphia, PA, 2009; Chapter 25; pgs 522- 542.

Fowler M, **Spiess BD.** Post anesthesia recovery. In*. Handbook of Clinical Anesthesia 6th Edition* (Eds): Barash PG, Cullen BF, Stoelting RK, Cahalan MK, Stock MC. Wolters Kluwer/ Lippincott Williams and Wilkins, Philadelphia, PA, 2009: Chapter 55 pgs 874-889.

Fowler M, **Spiess BD.** Post anesthesia recovery. In*. Clinical Anesthesia 6th Edition* (Eds): Barash PG, Cullen BF, Stoelting RK, Cahalan MK, Stock MC. Wolters Kluwer/ Lippincott Williams and Wilkins, Philadelphia, PA, 2009: Chapter 55 pgs1421-1443.

**Spiess BD,** Harrow J, Kaplan JA. Transfusion medicine and coagulation disorders, *in Kaplan's Cardiac Anesthesia* (Eds): Kaplan JA, Reich DL, Lake CL, Konstadt SN, 5th Edition, Saunders Elsvevier, Philadelphia PA 2006 pgs: 937-984.

**Spiess BD**. Red Cell Transfusion and Guidelines: *A work in Progress in Hematology/Oncology Clinics of North America* 2007: 21 pages 185-200.

**Spiess BD**, Spence RK. A history of transfusion in *Perioperative Transfusion Medicine*. 2nd Edition ed by Spiess BD, Spence RK, Shander A. Lippincott, Williams and Wilkins. Philadelphia, PA. 2006; pgs 3-12.

**Spiess BD**. Perfluorocarbon emulsions: Artificial gas transport media in *Perioperative Transfusion Medicine* 2nd Edition. ed by Spiess BD, Spence RK, Shander A. Lippincott, Williams and Wilkins. Philadelphia, PA. 2006; pgs 273-288.

**Spiess BD**, Shander A, Spence RK. Transfusion and outcome in *Perioperative Transfusion Medicine* 2nd Edition. ed by Spiess BD, Spence RK, Shander A. Lippincott, Williams, and Wilkins. Philadelphia, PA. 2006; pgs 645-658.

Shander A, **Spiess BD**. The transfusion decision in *Perioperative Transfusion Medicine* 2nd Edition. ed by Spiess BD, Spence RK, Shander A. Lippincott, Williams and Wilkins. Philadelphia, PA. 2006; pgs 659-666.

Shander A, Spence RK, **Spiess BD**. A philosophy of blood management in *Perioperative Transfusion Medicine* 2nd Edition. ed by Spiess BD, Spence RK, Shander A. Lippincott, Williams and Wilkins. Philadelphia, PA. 2006; pgs 671-672.

Cooper C, **Spiess BD**. Percutaneous cardiopulmonary bypass as an adjunctive strategy for resuscitation: the state of the art. *Cardiopulmonary Resuscitation* eds. Ornato JP, Peberdy MA. Humana Press, Totowa, New Jersey. 2005; pgs 269-274.

Green JA, **Spiess BD**. Current status of anti-fibrinolytics in cardiopulmonary bypass and elective deep hypothermic circulatory arrest. *Anesthesiology Clinics of North America*, eds. Nussmeier N, Lippincott, Williams and Wilkins, Baltimore, Maryland.

**Spiess BD**: Coagulation in cardiopulmonary bypass inThys D (Ed.): *Cardiothoracic and Vascular Anesthesia,* W.B. Saunders, 2001; pgs 1108-1174.

Nijhawan N, **Spiess BD**: *The Intraoperative Evaluation of Hemostasis in Anesthesiology Clinics of North America*: Ed. EY Cheng, W.B. Saunders, Philadelphia, PA. 1999; pgs 733-748.

**Spiess BD**. Preface, in *Perioperative Transfusion Medicine.* eds. Spiess BD, Counts RB, Gould SA, Williams and Wilkins, Baltimore, Maryland. 1998 pgs vii-xii.

**Spiess BD**. Perfluorocarbon Emulsions: Artificial Gas Transport Media. In Perioperative Transfusion Medicine. Eds. Spiess BD, Counts RB, Gould SA, Williams and Wilkins, Baltimore, Maryland. 1998; pgs 157-170.

**Spiess BD**, Counts RB, Gould SA. The transfusion decision, in *Perioperative Transfusion Medicine* eds. Spiess BD, Counts RB, Gould SA, Williams and Wilkins, Baltimore, Maryland. 1998; pgs. 583-590.

McCarthy JC, Turner RH, Kim A, O’Donnell P, Valeri RG, **Spiess BD**. *Blood Conservation in Orthopedic Surgery, in Perioperative Transfusion Medicine,* eds. Spiess, BD, Counts RB, Gould SA, Williams and Wilkins, Baltimore, Maryland 1998. pgs 493-506.

**Spiess BD**: Coagulation dysfunction after cardiopulmonary bypass, *in* Williams JP (Ed.): *Postoperative Management of the Cardiac Surgical Patient.* New York, Churchill Livingstone, 1996, pp. 175‑197.

**Spiess BD**: Normal and abnormal blood coagulation patterns, inBrown BR and Prys‑Roberts C (Eds.): *General Anaesthesia,* 6th ed. London, Butterworth, 1996.

**Spiess BD**: Coagulation function and monitoring, inLichtor JL (Ed.): *Atlas of Clinical Anesthesia.* Philadelphia, *Current Medicine*, 1996.

**Spiess BD**: Pericardial effusion, in Roizen MF and Fleisher LA (Eds.): *Essence of Anesthesia Practice.* Philadelphia, W.B. Saunders, 1996, p. 246.

**Spiess BD**: Perfluorocarbon emulsions: One approach to intravenous artificial respiratory gas transport, *in* Royston D and Feeley TW (Eds.): *International Anesthesiology Clinics.* Boston, Little, Brown & Co., 1995, 33:103‑113.

**Spiess BD**: Massive transfusion: Coagulation changes, *in* Lake CL and Moore RA (Eds.): *Blood: Hemostasis, Transfusion and Alternatives in the Preoperative Period.* New York, Raven Press, 1995, pp. 455­464.

**Spiess BD**: Monitoring metabolic indices and coagulation/hemostasis, inBlitt CD and Hines RL (Eds.): *Monitoring in Anesthesia and Critical Care,* 3rd ed. New York, Churchill Livingstone, 1994, pp. 581‑603.

**Spiess BD**: Hemodynamic monitoring, *in* Rogers MC, Tinker JH, Covino BG, Longnecker DE (Eds.): *Principles and Practice of Anesthesiology.* St. Louis, Mosby Year Book, 1993, pp. 756‑777.

**Spiess BD**, Su‑Pen BC: Intraoperative coagulation disorders, *in* Thomas SJ (Ed.): *Manual of Cardiac Anesthesia,* 2nd ed. New York, Churchill Livingstone, 1993, pp. 517‑552.

**Spiess BD**: Perioperative coagulation concerns: Function, monitoring and therapy, *in* Barash PG, Cullen BF, Stoelting RK (Eds.): *Clinical Anesthesia Updates.* Philadelphia, Lippincott, 1993, 4:1‑16,

**Spiess BD**: Hemorrhagic Problems During the Immediate Postoperative Period, *in* Spiess BD and Vender J (Eds.) *Post Anesthesia Care.* Philadelphia, W.B. Saunders, 1992, pp. 131‑140.

**Spiess BD**: Anesthesia, *in* Williams, J.W. (Ed.): *Hepatic Transplantation.* Philadelphia, PA. W.B. Saunders. 1990; pp. 182‑206.

**Spiess BD**: Anesthesia, *in* Economou, S. (Ed.): *Rush Review of Surgery.* Philadelphia, W.B. Saunders. 1988; pp. 52‑56.

**Spiess BD**, Ivankovich AD: Thromboelastography: A Coagulation‑Monitoring Technique Applied to Cardiopulmonary Bypass, *in* Ellison, N. and Jobes, D. (Eds.): *Effective Hemostasis in Cardiac Surgery.* Philadelphia, PA. W.B. Saunders. 1988; pgs 163‑182.

**Spiess BD**, DeValle M: Coagulation monitoring in the Surgical Intensive Care Unit, in Vender, J. (Ed.) *Critical* Care *Clinics.* Philadelphia, PA. W.B. Saunders. 1988; 4:605‑620

**Book, Reviews**

**Spiess BD**: *Perioperative Autologous Transfusion: Proceedings of a National Conference,* edited by Linda Stehling. American Association of Blood Bankers, Arlington, VA, 177 p., 1991. *Anesth Analg* 73:511, 1991.

**Referred Publications**

Perez, W., Warsame, I., Hunter, N., **Spiess, BD**, Whitson, B. A Patient With Remote HIT and Antiphospholipid Syndrome Requiring CPB: Do Current Guidelines Apply? *Seminars in Cardiothoracic and Vascular Anesthesia2018*

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