

Joseph (Jay) Bertram Zwischenberger, M.D.

**JOHNSTON-WRIGHT PROFESSOR AND CHAIRMAN, DEPARTMENT OF SURGERY
UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE**

PERSONAL DATA:

Office Address:

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BIOGRAPHICAL:

Birthdate: May 19, 1952
Birth Place: Louisville, Kentucky
Citizenship: U.S.

EDUCATION:

1974 B.S. University of Kentucky, Cum Laude, Lexington, Kentucky
1977 M.D. University of Kentucky, Medical School, Cum Laude, Lexington, Kentucky

RESIDENCY:

1977-1979 Intern in Surgery, University of Michigan, Ann Arbor, Michigan
1981-1982 Senior Resident, General Surgery, University of Michigan
1982-1983 Chief Resident, General Surgery, University of Michigan
1984-1986 Cardiothoracic Surgery Residency, University of Michigan

FELLOWSHIPS:

1979-1981 Clinical Associate, NHLBI - Cardiac Division, Andrew G. Morrow, M.D. Director,
National Institutes of Health, Bethesda, M.D.
1984 Extracorporeal Membrane Oxygenation (ECMO)/Critical Care Fellow, Section of General
Surgery, University of Michigan, Mentor: Robert H. Bartlett, M.D.

PREVIOUS POSITIONS

5/1986 – 4/2007 Professor of Surgery, Medicine and Radiology
Clinical Professor of Respiratory Care and Preventive Medicine
Le Roy Hillyer, M.D. Endowed Chair in Surgery
Director of General Thoracic Surgery
Director of Extracorporeal Membrane Oxygenation (ECMO) Program
Director of Cardiopulmonary Section: Bioengineering Center
Co-Director of Multiple Disciplinary Thoracic Oncology Group
University of Texas Medical Branch, Galveston, TX

PROFESSIONAL AND TEACHING EXPERIENCE:

1986-1990 UTMB, Galveston, Texas: Department of Surgery, Cardiothoracic Surgery
Director: Extracorporeal Membrane Oxygenation (ECMO) Program
Shriners Burns Institute Scientific Staff
1986-1990 Assistant Professor UTMB
1990-1994 Associate Professor with Tenure UTMB
1993-2007 Joint Appointment, Medicine (Pulmonary/Critical Care Division) UTMB
1994-2007 Professor, Surgery and Medicine UTMB
1996-2007 Joint Appointment, Radiology (Interventional Radiology Division) UTMB
1996-2007 Professor: Surgery, Medicine and Radiology UTMB
1997-2007 Director of General Thoracic Surgery - UTMB
1997-1999 Experimental Pathology Graduate Faculty UTMB
1997-2007 Clinical Professor of Respiratory Care (School of Allied Health) UTMB
2000-2007 Preventive Medicine, Community Health Graduate Faculty UTMB

MILITARY SERVICE:

1979-1981 Lieutenant, US Public Health Service - NIH

RESEARCH ACTIVITIES:

Interests: Oxygenation and CO₂ Removal during Acute Respiratory Failure
Extracorporeal Circulation
1987-ongoing Extracorporeal Membrane Oxygenation (ECMO) for the Treatment of Severe Respiratory
Failure Unresponsive to Conventional Medical Management
1987-ongoing Multiple Modality Treatment of Resectable Esophageal Cancer
1990-1995 Intravenacaval Oxygenator and CO₂ Removal Device for Respiratory Failure
Permissive Hypercapnia for Acute Respiratory Failure
1991-ongoing Physiology of Cardiopulmonary Bypass (CPB)
1993-ongoing Perfusion-Induced Systemic Hyperthermia for Advanced Lung Cancer
1994-2000 Partial Liquid Ventilation with Perfluorocarbons for Acute Respiratory Failure in Adults
and Children
1995-2000 Heparin Removal Device (HRD) During Cardiopulmonary Bypass
1995-ongoing Treatment of Tracheobronchial Strictures with Intraluminal Stents
1996-ongoing Multiple Disciplinary Thoracic Oncology
1996-ongoing Arterio-Venous Carbon Dioxide Removal (AVCO₂ R) for Severe Respiratory
Failure in children and adults
1998-ongoing American College of Surgeons Oncology Group (ACOSOG)

1999-ongoing Artificial Lung Development, Cardiac assist device

2000-2002 Extracorporeal Liver Dialysis

ENDOWMENTS:

1. Le Roy Hillyer, M.D. Endowed Chair in Surgery
2. Constance Marcili Schafer Endowed Research Fund to promote research in respiratory disease. Joint Administration: Drs. Victor Cardenas and Joseph B. Zwischenberger, \$250,000 plus 1/6 of the Estate residual
3. Viacirq Research Gift for Perfusion Induced Systemic Hyperthermia (\$800,000)
4. Vince Rittman Endowment for Cardiovascular Research: Administrator, Joseph B. Zwischenberger, M.D., \$50,000
5. John Ulrich Memorial Research Fund for Cancer Research

GRANTS:

Active Funding:

- 2006-2008 PI: A Prospective, Randomized Outcomes Study of Three Gentle Ventilation Techniques (\$588,210)
- 2005-2009 PI: Venovenous Perfusion Induced Systemic Hyperthermia Circuit Modification and Preclinical Testing, Viacirq Inc. (\$200,000). Roger A. Vertrees, Ph.D., Co-PI.
- 2006-2008 PI (contract) Modified Tetracycline Effect on Sepsis-Induced Mortality. Phil Freidenreich, (PI) NIH, STTR phase II R42HL065030 (\$226,097).
- 2005-2007 PI: Paracorporeal Artificial Lung (PAL) for Lethal Smoke/Burn Injury. *Shriners Hospitals for Children* (\$556,110)
- 2004-2009 PI: Pathophysiology of Lung Injury as the Result of Smoke Inhalation (\$628,340) PPG Section IV; Program Project Grant. Daniel Traber, Ph.D., PPG-PI.
- 2004-2009 Collaborator: Research and Academic Enrichment Training Program. Lauree Thomas PI, NHLBI Short-Term Training for Minority Students (T35) (\$414,520).
- 2004-2006 PI: Paracorporeal Artificial Lung Development. Michigan Critical Care Consultants (MC³). Scott Merz, Co-PI, NIH, STTR Phase II R42 HL067523-02 (\$880,000).
- 2004-2007 PI (contract): Novel Dense Hollow Fiber for Blood-Gas Exchange. Med Array, Inc. J. Patrick Montoya PI, NIH, STTR Phase II (\$126,594)
- 2004-2007 PI: Ambulatory Arteriovenous Carbon Dioxide Removal. Michigan Critical Care Consultants (MC³), Sean Chambers, CO-PI NIH, STTR Phase II. *1 R41 HL71345-01* (\$450,000).
- 2003-2006 PI: Evaluation of New Low Resistance Oxygenator. NovaLung, Inc. (\$68,653) (AVCO₂R, HFPV, or LTV) in a Clinically Relevant LD₁₀₀ Smoke/Burn Sheep ARDS Model to Assess Ventilator Free Days, Survival and Pathophysiology. *Shriners Hospitals for Children* (\$756,191)
- 2002-open PI: Combined Effects of Hyperthermia and Gemcitabine in Lung Cancer. Roger Vertrees, Ph.D., Co-PI: Lilley, Inc. (\$40,000)
- 2000-open PI: Extended Phase I FDA Trial (Safety) Venovenous Perfusion Induced Systemic Hyperthermia for Metastatic Non-Small Cell Lung Cancer. IDT, Inc., (\$206,000)
- 1999-open PI: A Randomized Trial of Mediastinal Lymph Node Sampling Versus Complete Lymphadenectomy During Pulmonary Resection in the Patient with N₀ or N₁ (Less Than Hilar) Non-Small Cell Carcinoma (\$1500/patient)
- 1998-open PI: Membrane Coating to Enhance Gas Exchange in Intravascular Gas Exchange

Device (IVOX). *Compact Membrane Systems, Inc.* (\$10,000)

PREVIOUS FUNDING:

- 2001-2006 PI: Surgical Studies of Severe Respiratory Failure. *R01HL64668* (\$1,300,165).
- 2002-2004 PI: Paracorporeal Artificial Lung (PAL) for Lethal Smoke/Burn Injury. *Shriners Hospitals for Children* (\$556,110)
- 2002-2003 PI (contract): Novel Dense Hollow Fiber for Blood-Gas Exchange. Med Array, Inc. J. Patrick Montoya PI, NIH, STTR Phase I (\$37,226)
- 2002-2003 PI: Ambulatory Arteriovenous Carbon Dioxide Removal. Michigan Critical Care Consultants (MC³), Sean Chambers, CO-PI NIH, STTR Phase I. *1 R41 HL71345-01* (\$196,374)
- 2001-2002 PI: Paracorporeal Artificial Lung Development. Michigan Critical Care Consultants (MC³) Scott Merz, Co-PI, NIH, STTR Phase I (\$175,811).
- 2001-2002 Co-I: American Cancer Society Institutional Research Grant “Functions of β -TRCP as a Tumor Suppressor Gene in Lung Cancer”. Grant #2003-01. (\$15,000)
- 2000-2003 PI (contract): Intravenous Membrane Oxygenators SBIR Phase II. Stuart Nemser (PI) Compact membrane Systems, Inc. \$48,574.
- 2000-2003 PI: Multicenter Project: Safety and Efficacy of Extracorporeal Arteriovenous Carbon Dioxide Removal (AVCO₂R) in Acute, Severe Respiratory Failure in Children with Burns. *Shriners Hospitals for Children* (\$399,287)
- 2000-2003 PI: Trial of Perfusion-Induced Systemic Hyperthermia for Advanced Loco-regional or Metastatic Non-Small Cell Lung Carcinoma. IDT, Inc. GCRC Protocol #462.
- 2000-2003 PI: Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R) Defining Critical Limits of Management: Hemodynamic Augmentation, Heparin dosing and the Pathophysiology of CO₂ Homeostasis. *Shriners Hospitals for Children* (\$492,714)
- 2000 PI(contract): Enhanced Long-Term Care of Severe Respiratory Failure SBIR Phase I. Stuart Nemser (PI) Compact Membrane Systems, Inc. (\$32,366.)
- 2000 PI: Radiofrequency Ablation of Lung Tumors. Radiotherapeutics, Inc. (\$5,000)
- 1999-open PI: Phase II Trial. *Compact Membrane Systems, Inc.* (\$11,250).
- 1999-2001 Evaluation of Quadrox® Oxygenator with BioLine® Coating. *Jostra USA, Inc.* (\$15,000).
- 1998-open PI: Percutaneous Arterio-Venous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure. *AVECOR, Inc.* (\$15,000)
- 1998-2001 PI: Partial Liquid Ventilation (PLV) AF 0141 (Sterile Perflubron): Multicenter, Prospective, Randomized, Controlled Pivotal Trial for Dose Selection (High and Low Doses) and Efficacy of Partial Liquid Ventilation (PLV) with Perflubron in Adult Patients with Acute Lung Injury. *Alliance Pharmaceutical Corp., IND #42317 Phase II* (\$5,000 plus \$8,000/patient)
- 1996-2001 PI: Safety and Efficacy of Extracorporeal Arteriovenous Carbon Dioxide Removal (AVCO₂R) in Acute Respiratory Failure: A Phase I Study. *Avecor Cardiovascular, Inc.* (\$1,000/patient plus supplies).
- 1997-1999 PI: Severe Respiratory Distress Syndrome Caused by Severe Smoke Inhalation and Cutaneous Burn Injury Treated with Arteriovenous Carbon Dioxide Removal (AVCO₂R) and Low-Pressure Ventilation with Permissive Hypercapnia (LPV-PH). *Shriners Hospitals for Crippled Children* (\$459,814).
- 1998-1999 PI: Polymorphic Metabolizing Genes as Risk Modifiers for Lung Cancer. *Au W.* (\$10,000).

- 1998-1999 PI: Effects of RF Treatment in a Sheep Lung Tumor Model. van Sonnenberg E. *RITA Medical Systems, Inc.*, (\$9,900).
- 1998 Co-I: Laser Tissue Welding for Coronary Anastomosis. Motamedi M. (\$5,000).
- 1997-1999 I: Phase I FDA Trial (Safety) Venovenous Perfusion Induced Systemic Hyperthermia for Metastatic Non-Small Cell Lung Cancer. IDT, Inc., (\$233,698)
- 1996-1999 PI: Pre-Clinical Evaluation of a Heparin Removal Device during Cardiopulmonary Bypass. *Research Medical, Inc.* (\$238,659).
- 1996-1999 PI: Perfusion-Induced Systemic Hyperthermia. *IDT, Inc.*, (\$28,000).
- 1996-1999 PI: Partial Liquid Ventilation (PLV) with AF0141 (Sterile Perflubron): A Pilot Safety and Efficacy Study in Children with Acute Respiratory Distress Syndrome (ARDS) FDA Phase II Trial. *Alliance Pharmaceutical Corp.*, IND #42,317. (\$8,000/patient).
- 1996-1999 Co-I: Radiofrequency Ablation of Intrathoracic Malignancies. vanSonnenberg E. (\$15,000).
- 1996-1999 Co-I: RTOG 9511 Talc Sclerotherapy for Malignant Pleural Effusions. Credentialed Video Assisted Thoracic Surgeon. Intergroup Study, \$1,000/patient.
- 1996-1998 PI: Cardiac Surgery Transfusion Survey II. R.W. Johnson Pharmaceutical Research Institute (\$500).
- 1995-1998 Co-I: Treatment of Tracheobronchial Strictures with Wall Stent Tracheobronchial Prosthesis. van Sonnenberg E. (\$5,000).
- 1994-1998 PI: Partial Liquid Ventilation (PLV) with AF0141 (Sterile Perflubron): A Pilot Safety and Efficacy Study in Adults with Acute Respiratory Distress Syndrome (ARDS) FDA Phase I trial. *Alliance Pharmaceutical Corp.*, IND# 42,317. Phase II. (\$8,000/patient).
- 1995-1997 PI: Nitric Oxide for Blood Anesthesia during Cardiopulmonary Bypass. *Cormedics Corp.* (\$15,000).
- 1995-1997 Senior Collaborating Investigator: Perfusion-Induced Homogenous Hyperthermia: An Iterative Multi-Disciplinary Approach. Vertrees RA: *American Society of Extracorporeal Technology.* (\$7,500).
- 1995-1997 Co-I: The Cardiopulmonary Changes with Smoke Inhalation Following Thermal Injury. Traber LD: *Shriners Hospitals for Crippled Children* (\$150,000/yr x 3 yrs).
- 1994-1996 Co-I: A Heparin Removal Device for Cardiopulmonary Bypass. *NIH Small Business Innovation Research Program # 2R44 HL47257-02* (\$40,000 yr 1, 75,000 yr 2)
- 1995-1996 Co-I: Perfusion-induced Hyperthermia: Development of a Chronic Model. *iP Scientific* (\$161,611)
- 1994-1996 PI: Severe Smoke Inhalation Treated with a New Intravascular Membrane Oxygenator/Carbon Dioxide Removal Device and Continuous Positive Pressure Ventilation (CPPV) with Permissive Hypercapnia. *Shriners Hospitals for Crippled Children* (98,000/yr X 3 yrs).
- 1994-1996 PI: (UTMB Subcontract) Development and Testing of a New Intravenous Oxygenator. Walters FR: R44 HL 49026-02 *NIH Small Business Innovation Research Program* (\$36,432 + \$51,962).
- 1994-1996 PI: The Induction of Systemic Hyperthermia by Extracorporeal Technology and Potential for Therapeutic Application for Systemic Malignancy for HIV. *Trillium Health Foundation* (\$35,000).

- 1993-1996 PI: Medtronic Minimax™ Oxygenator with Carmeda Bioactive Surface (CBAS®) In Prolonged Use. *FDA Investigational Device Protocol* IDE #G-91-0212 OSP #92-371 (\$5,000 + \$2,350/patient).
- 1993-1996 PI: Evaluation of Heparin Removal Device during Cardiopulmonary Bypass. #92-371. *Research Medical, Inc.* (\$34,800).
- 1992-1996 Co-I: Evaluation of Survanta (Beractant) in the Treatment of Term Infants with Severe Respiratory Failure (Multicenter Trial). *FDA IND #CPCB46OSP #92-236* (\$37,000).
- 1992-1995 PI: The Efficacy of Fibrin Sealant (Human) on Topical Wound Hemostasis in Extracorporeal Membrane Oxygenation Patients. *FDA Investigational Drug IND #4353 OSP #92-107* (\$17,950).
- 1991-1993 PI: Pathophysiology of Smoke Inhalation Treated with an Intravascular Membrane Oxygenator/Carbon Dioxide Removal Device and Intratracheal Pulmonary Ventilation. *Shriners Hospitals For Crippled Children* (\$61,100/yr X 2 yrs).
- 1990-1993 PI: Intravascular Oxygenator (IVOX®) for Acute Respiratory Failure *FDA - Investigational Device Exemption Phase I & II IDE G890148 OSP #90-250* (\$84,110/yr), IVOX Data Coordinating Committee (Multicenter Trial).
- 1/92-12/92 PI: BioEtica Hemostagene Hemostatic Sponge Study, *FDA Investigational Device Exemption #6880184*, (\$82,588). Multicenter Trial Cooperating Centers: UTMB, Duke University, Ohio State University, University of Michigan.
- 1990-1991 PI: The Effect of Extracorporeal Membrane Oxygenation (ECMO) on Infants' Learning in Mother-Infant Social Cognitive Interactions. Landry SH: *John Sealy Memorial Endowment Fund* (\$30,000/yr x 2 yrs)
- 1993-1994 Co-I: Effects of Hypertonic Saline and Colloid on Intracranial Pressure during Cardiopulmonary Bypass. McDaniel LB: *American Heart Association* (\$30,000/yr x 2 yrs)
- 1992-1993 Co-I: Cross-Cultural Epidemiology: Lung and Cervical Cancer. Dayal HH: *Texas Cancer Council* (\$130,000 x 2 yrs)
- 1992-12/93 Co-I: Femoro-Popliteal Atherectomy with the Omnicath Device: A Pilot Trial Evaluation with Cadaver Specimens. Morettin LB: *American BioMed* (\$2,000)
- 1991-1993 Collaborator: Combined Bronchial Artery Infusion Chemotherapy and Radiotherapy in the Treatment of Advanced Carcinoma of the Lung. Morettin LB:
- 1989-1992 Collaborator: Postischemic Recovery of Mitochondria Adenine Nucleotides. Asimakis GK: *American Heart Association* (\$30,000/yr x 3 yrs)
- 1988-1990 PI: Pathophysiology of Ovine Smoke Inhalation Injury Treated by Venoarterial and Venovenous Extracorporeal Membrane Oxygenation. *Shriners Hospitals for Cripple Children #15883* (\$90,000/yr x 3 yrs)
- 1985-1990 Collaborator: Ischemic Heart: Loss of Mitochondrial Adenine Nucleotides. Asimakis GK: *National Institutes of Health H 34146* (\$45,000/yr x 5 yrs)
- 1987-1989 Co-I: ECMO in Neonatal Porcine Septic Shock. UTMB. Griffin MP: *American Heart Association* (\$30,000/yr X 2 yrs \$60,000)

COMMITTEE RESPONSIBILITIES:

National:

- 1987-1990 Lung Executive Committee: Southwest Oncology Group (SWOG)
- 1987-1990 Gastrointestinal Executive Committee: Southwest Oncology Group (SWOG)
- 1987-1992 Cardiothoracic Surgery Committee: American College of Chest Physicians (ACCP)
- 1987-1992 Council on Critical Care: American College of Chest Physicians (ACCP)

- 1988-1989 Devices and Techniques: ECMO National Committee
1988-1990 Auditor: Southwest Oncology Group (SWOG)
1988-1989 Study Committee: Western ECMO Study Group (WECMO)
1988-2000 Council on Circulation: American Heart Association
1988-2000 Cardiopulmonary Council: American Heart Association
1989-1992 Extracorporeal Life Support Organization (ELSO): Co-Chairman Communications Committee
1989-1992 Charter Member-Texas ECMO Organization
1991-1993 IVOX Data Coordinating Committee
1992-1995 Credentials Committee: College of Critical Care Medicine (Chairman, 1995)
1992-1995 Extracorporeal Life Support Organization (ELSO): Steering Committee/Chairman Communications Committee
1993-1994 Video Assisted Thoracic Surgery Study Group: Publication Committee
1994-2000 General Thoracic Surgery Club: By Laws Committee
1994-1995 ASAIO: Membership Committee
1994-1997 ASAIO: Program Committee, Abstract Reviewer
1994-1997 Society of University Surgeons: National Association of Biomedical Research
1995-1999 Minimally Invasive Thoracic Surgery Interest Group: Program Committee
1995-1997 CTCVS (NIH Contractors Meeting): Program Committee
1996-present Thoracic Surgery Directors Association (Education Committee)
1997-present TRIADS Minimally Invasive Surgery Club
1997-1999 Oxygen Delivery Club (Clinical Trial Committee)
1997-1999 College of Critical Care Medicine - Credentials Advisory Committee
1997-2000 Minimal Access Surgery for Thoracic Malignancies: Key Personnel Committee
1997 SESATS Question Committee (Esophagus, Mediastinum, Diaphragm)
1997-present Adults ARDS/ECMO Multicenter Trial Committee (Extracorporeal Life Support Organization: ELSO)
1998-present Thoracic Surgery Directors Association (Prerequisite Curriculum Committee)
1998-1999 Extracorporeal Life Support Organization (ELSO): Steering Committee/Chairman Communications Committee
1998-present Total Artificial Lung Interest Group
1998-2001 Society of Thoracic Surgeons Public Affairs Network
1999-2002 Society of Thoracic Surgeons: Standards and Ethics Committee
1999-2002 Southern Thoracic Surgical Association: TIKI Award Committee
2000-2003 Southern Thoracic Surgical Association: Postgraduate Program Committee (Chairman, 2002)
2000-2003 Society of Thoracic Surgeons: Standards and Ethics Committee (Conflicts of Interest with Industry)
2000-present General Thoracic Surgical Club: Executive Committee
2000-present American Society for Artificial Internal Organs (ASAIO) Industry Liaison Committee
2000-2002 Executive Council Advisor of the Southern Thoracic Surgical Association
2001 SESATS VIII Question Committee (Lung)
2001 Editorial Board Member – Case Reports and Clinical Practice Review
2002-2005 Society of Thoracic Surgeons: Standards and Ethics Committee
2002-2004 Extracorporeal Life Support Organization: Chairman
2002 Singleton Surgical Society (Awards Committee)

2002-2003 ASAIO Board of Trustees (Elected)
2002-2005 American Board of Surgery Exam Question Writer
2003-2004 ASAIO Board of Trustees (Re-Elected)
2004-open ASAIO Board of Trustees (Ex-Officio as ASAIO Journal Editor)
2006-2008 Society of Thoracic Surgeons: Program Committee
2006-2008 Southern Thoracic Surgical Association: Executive Council

UTMB:

1986-1990 Pediatric Transport Committee, UTMB
1987-1991 Junior Faculty Association - Vice President 1990
1987-1989 UTMB Cancer Center
1988-1992 Product Analysis and Standardization Committee
1988-1989 Infectious Disease Committee (Alternate)
1988-1992 Quality Assurance: General Surgery
1988-1989 Intensive Care Unit Flow Sheet Committee
1989 Pathology Search Committee
1989-1990 Transfusion Committee
1990-2007 Hospital Cancer Committee
1991 Internal Review Committee: Surgery
1991-1992 Research Advisory Committee
1992-2007 Small Grant Program: Reviewer
1992-2007t John Sealy Memorial Endowment Fund: Reviewer
1992 External Review Committee: Pathology
1992-1995 Institutional Review Board (IRB)
1993 Intensive Care Unit Continuous Improvement (CPI) Committee
1993-1996 Academic Planning Committee
1994-1995 Hospital Resuscitation Committee
1994-2007 Biomedical Engineering Center: Cardiopulmonary Systems (Director 2000-present)
1994-1996 Institutional Ethics Committee
1994-2007 Interactive Learning Track Committee
1994-1996 Operative and Other Invasive Procedures Committee (Co-chairman)
1995-2000 Institutional Review Board (IRB) - Vice Chairman (elected)
1995-2000 Academic Promotions and Tenure (APT) Committee of Professors (Surgery)
1995-2007 Medical Service Research & Development Plan (MSRDP) Board
1996-1997 Billing and Collection Committee (MSRDP)
1996-1999 Equipment Management Continuous Process Improvement (CPI) Committee
1996-2007 Risk Management Committee (ad hoc)
1997-2000 Research Advisory Council
1997-1998 Cardiopulmonary Curriculum Committee
1998-2007 LCME Self-Study Task Force Subcommittee
1998-2000 Cardiovascular/Pulmonary Curriculum Committee
1998-2000 Medical Service Research & Development Plan (MSRDP) Board (appointed)
1999 Medical Staff Nominating Committee
2000 Billing Advisory Committee

2000-2001 Medical Service Research & Development Plan (MSRDP) Board (elected)
2001-2002 Medical Service Research & Development Plan (MSRDP) Board (appointed)
2000-2005 Institutional Review Board (IRB#2) – Chairman (elected)
2001 Clinical Trials Committee
1999 Fellowship Committee
2002 External Review Committee: Otolaryngology Departmental Review
2003 Ophthalmology Chairman Search Committee
2003 Oncology Chief Search Committee
2003 Pulmonary Chief Search Committee
2004 Executive Nominating Committee
2004 Ad Hoc Committee (Privileges)
2006 Animal Care Advisory Group

TEACHING AT UTMB:

Coordinator of Cardiothoracic Teaching/Education
Clinical Correlation Seminars for Course Facilitators
Cardiopulmonary Course Design Committee; second year students
Practice of Medicine and Clinical Relevancy lectures to 1st year students
Surgery Clerkship, small groups and lectures to third year medical students
Clinical Relevancy lectures to Physical Therapy and Respiratory Therapy
Pulmonary Medicine-Core Lecture series
Anesthesia Curriculum – Thoracic Surgery
Mini Medical School – Lay Education Program
Advanced Mentoring Workshop

MEDICAL STUDENT PROGRAMS:

Interactive Learning Track (ILT)
Integrated Curriculum Evaluation Exercise (ICEE)

FELLOWS:

1988-1989 Paul K. Minifee, M.D.
1990-1992 Charles S. Cox., Jr., M.D.
1992-1993 Thuan T. Nguyen, M.D.
1993-1995 Weike Tao, M.D.
1995-1997 Robert L. Brunston, Jr., M.D.
1997-1999 Scott K. Alpard, B.S.
1997-2000 Paul Belyea, B.S., RRT (Respiratory Care Fellowship)
1999-open Roger A. Vertrees, Ph.D. (Post-Doctorate Fellowship)
2000-2003 Dongfang Wang, M.D.
2001-2002 Clare Savage, M.D.
2003-2004 David Loran, M.D.
2005-open Xiaqin Zhou, MD
2005-2006 James Lynch, RRT
2006-2007 Manuel Cevallos, MD

DISSERTATION COMMITTEE (Ph.D.):

Randa El-Zein - Ph.D. awarded 6/97

Roger A. Vertrees - Ph.D. awarded 3/99 (Stephen C. Silverthorne Memorial Award)

Nohelia Cajas-Salazar- Ph.D. awarded 7/01

Scott K. Alpard - MMS, Awarded Spring 2007

MENTOR:

UTMB Honors Program

Robert M. Bowers

John G. Pickens

March of Dimes Birth Defect Foundation Merit Award

Bowers RM, Pickens JG

National Student Research Forum

- 1) Tension Pneumothorax during Extracorporeal Membrane Oxygenation. June 1987, Bowers RM, Pickens JG.
- 2) Pulmonary Function Measurements in the Ovine Model of Smoke Inhalation Injury. June 1988, Golden JA
- 3) Precision of Activated Clotting Time (ACT) Reagents to Heparinized Whole Blood after Prolonged Storage. June 1989, Raymond GA
- 4) Effectiveness of the Amicon Diafilter in Removing Endotoxin During Cardiopulmonary Bypass, June 1991, Gianzero M.
- 5) Effectiveness of the Amicon Diafilter in Removing Circulating Endotoxin from an Isolated Extracorporeal Circuit. June 1991, Kim CN.
- 6) Permissive Hypercapnia with Controlled Positive Pressure Ventilation Effects on Cerebral and Renal Blood Flow, June, 1993, Le V.
- 7) High Flow/Low Resistance Cannulas for Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R), April 1997, Frank B.
- 8) Impact of Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R) on Acute Respiratory Failure Secondary to Smoke Inhalation and Cutaneous Flame Burn Injury, April 1998, Alpard S.
- 9) Total Artificial Lung Perioperative Management: A 7-Day Survival Study In Sheep, April 2000, Witt, S.
- 10) Comparison of Low and High Dose Heparinization With Arteriovenous Carbon Dioxide Removal (AVCO₂R) In An Ovine Model of ARDS, April 2000, Murphy JA.
- 11) Smoke and Burn Injury Causes Apoptotic and Necrotic Cell Death That Is Ameliorated With AVCO₂R, April 2000, Hold MD.
- 12) Pathophysiology of the Lung In An Ovine Model of ARDS Treated With Extracorporeal Arteriovenous Carbon Dioxide Removal (AVCO₂R), April 2000, Diba R.
- 13) Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R) Improves Survival In Respiratory Distress Syndrome: A Prospective Randomized Outcomes Study in Adult Sheep, April 2000, Jayroe J.
- 14) Decreased right Heart Failure with a Compliant Inflow Artificial Lung In Series With the Pulmonary Circulation, April 2001, Anderson C.
- 15) Hemodynamic Stability During AVCO₂R for ARDS, April 2001, Jayroe J.
- 16) Short-term performance evaluation of a perfluoropolymer coated gas exchanger for CO₂ removal, April 2002, Yamani H.

- 17) High Frequency Percussive Ventilation (HFPV) with systemic heparin improves short term survival in a clinically relevant LD100 smoke/burn injury sheep model of acute respiratory distress syndrome (ARDS), April 2002, Secil Edozie
- 18) Development of an Optional Assisted Compliance Chamber (OACC), April 2002, Adrian Olvera.
- 19) Paracorporeal Artificial Lung For Lethal Smoke Burn Injury, April 2003, Kyle Eskue.
- 20) Safety, Efficacy, and Ability to Remove Carbon Dioxide Using an Interventional Lung Assist Device Within the AVCO₂R Circuit, April 2004, Annisa Johnson.
- 21) Preliminary Results in a Prospective, Randomized Three-arm Outcomes Study Evaluating Three Gentle Ventilation Techniques (AVCO₂R vs HFPV vs LTV) Utilizing a Clinically Relevant LD100 ARDS Sheep Model, April 2004, Matt Hughes.
- 22) Development of Compact RH&LAD for Total Right Heart and Respiratory Support, April 2004, Casey Smolarz.

National Student Research Forum (Awards)

- 1) (Best Clinical Research) Life-Threatening Tension Pneumothorax During Extracorporeal Membrane Oxygenation 1987, Bowers RM
- 2) Mead-Johnson Award for Excellence in Research Resident/Intern Division (First Place), 1989, Miniffee P. Increased Pleural Fluid Formation After Severe Smoke Inhalation Injury Amplified by ECMO 1990, Hanson MN
- 3) (Transfusion Medicine Award) IVOX with Permissive Hypercapnia - A New Management Technique for Respiratory Failure in an Ovine Model of Smoke Inhalation Injury. 1993 Bush PE.
- 4) NSRF Surgery Award-Comparison of Low and High Dose Heparinization With Arteriovenous Carbon Dioxide Removal (AVCO₂R) In An Ovine Model of ARDS, 2000, Murphy JA
- 5) Sigma XI Award for Excellence in Research (Second Place) - Total Artificial Lung Perioperative Management: A 7 Day Survival Study In Sheep, 2000, Witt S
- 6) First Place in Molecular and Cellular Biology – Smoke and Burn Injury Causes Apoptotic and Necrotic Cell Death That Is Ameliorated With AVCO₂R, 2000, Hold M
- 7) Overall Excellence in Research Poster Presentation - First Place, 2002, Yamani H
- 8) Clinical Excellence in Research Poster Presentation – First Place, 2005, Obed Nyarenchi
- 9) The role of surgical adhesives in thoracic procedures: A single center review of patients utilizing albumin/glutaraldehyde for pulmonary air leaks. Honors Research Steering Committee and Ad Hoc Thesis Committee, April 10, 2006, Black, Thomas D

National Association of Blood Banking

Decreasing Blood Donor Exposure Risks in Neonates on ECMO. Miniffee P.

National Student Research Forum

Oral & Poster Judge, 1991, 1992, 1993, 1994, 1996, 1997, 1998, 2005, 2006

Allied Health Student Research Forum

Poster Judge April, 94

Society of University Surgeons Residents Program

Cardiothoracic Surgery (Chair): 1991, 1995, 1996

ASAIO Traveling Fellowship Awards

Cox CS, 1991

Tao W, 1994

Brunston RL, 1996

Alpard, SK, 1998

Wang, DF 2002

American College of Surgeons South Texas Chapter Resident Competition

Cox CS, 1991 (1st Place Award, Scientific)

Nguyen TT, 1992 (1st Place Award, Scientific)

Brunston RL, 1996 (1st Place Award, Clinical)

Alpard SK, 1997 (1st Place Award, Scientific)

Carl A. Moyer Award, American Burn Association

Nguyen TT, 1993

Merle Wood Scholarship of the Andrew G. Morrow Society

Weike Tao, M.D., 1994

Society of Critical Care Medicine Educational Fellowship Award

Weike Tao, M.D., 1995

Donald Duncan Memorial Scholarship

Aravind B. Sankar, 1995 - Human Gross Anatomy

Joseph B. Kass Award for Excellence in Research

Aravind B. Sankar, 1995

Singleton Surgical Society Research Award

Brunston RL, 1996

Society of Critical Care Medicine

Sara A. Witt, 2000 (Best Surgery Abstract)

UTMB Hospitals Academic Fellowship Awards

Lucinda Miller, M.D., 2002

Alpha Omega Alpha (AOA) Research Award

Angela Leeth, 2002

UTMB Summer Research Project Symposium

Michael Hold, 1999 (Best Overall Basic Science Poster)

Judge, 2001 Medical Student Summer Research Program

Judge, 2002 Medical Student Summer Research Program

Selby Oberton, 2003 (Best Patient Care Poster)

Jack Wallace Award in Cardiology

Hussein Yamani, 2003

UTMB

SUMMER RESEARCH PROGRAM FOR HIGH SCHOOL STUDENTS:

Vincent Dimayuga 1988

Bert Vick 1995

Casey Michael Smolarz 2001

Noliza Jo Stonum 1990

Natalie Harvey 1996

Saadiyah Sarvat 2003

Vonda Hellner (Teacher) 1993

ViVi Hoag 1997

Rachella Compton 1994

Brittany Zwischenberger 2000

Lisa Boyers 2005

Andrea Zwischenberger 2006

Gifted and Talented High School Student Program 2000, 2003, 2005

UTMB SUMMER RESEARCH PROGRAM FOR MEDICAL STUDENTS:

1987: Robert Bowers, John Pickens

1988: Joe Golden

1989: G. Raymond

1990: M. Hanson

1991: M. Gianzero, D. Kim

1993: V. Le

1997: B. Frank, Spencer Gould

- 1998: Raymond Estrade
1999: Jennifer Murphy, Michael Hold, John Chow (McCaughlin Scholarship)
Babak Tavakoli, Roxana Diba
2000: Laura Masters, Robert Nason, Carryn Anderson, Jess Kirby, Jason Jayroe
2001: Secil Edozie, Hussein Yamani, Joseph Smolarz, James Gregg, Yolanda Ajala
2002: David A. Olvera, Brannon R. Hyde, Shohreh Toutounchi, Lindsey Arnoult
2003: Shelby Oberton, Kyle Eskue, Casey Smolarz, Saadiyah Sarvat
2004: Annisa Johnson, Matt Hughes, Daryn Donathan, Casey Smolarz
2005: Conner Chan, Obed Nyarenchi, Ryan Ridley, Lindsey Clemson
2006: Amy Doss, Kristin Kucera, Sarah Dunn

MEMBERSHIP IN SOCIETIES:

- Alpha Epsilon Delta, General Honor Society, University of Kentucky
Alpha Omega Alpha, Medical Honor Society (President, 1976-77 University of Kentucky)
Andrew G. Morrow Society of Cardiovascular Surgeons
John Alexander Society
Singleton Surgical Society
American Medical Association (AMA)/Texas Medical Association (TMA)
Southwest Oncology Group (SWOG)
Sigma XI Research Society
American Heart Association
American College of Surgeons - South Texas Chapter
Texas Surgical Society
Southwestern Surgical Congress
Greater Houston Society of Critical Care
Galveston County Medical Society
American Society for Artificial Internal Organs (ASAIO)
Society of Critical Care Medicine (SCCM)
American Burn Association (ABA)
Academy of Surgical Research
American Association for Thoracic Surgery (AATS)
American Thoracic Society (ATS)
Society of Thoracic Surgeons (STS)
Southern Thoracic Surgical Association (STSA)
Society of University Surgeons (SUS)
Thoracic Surgery Program Directors Association - Associate Member
General Thoracic Surgical Club
Minimally Invasive Thoracic Surgery Interest Group (MITSIG)
International Society for Artificial Organs
International Society for Diseases of the Esophagus
International Society for Heart and Lung Transplantation
Societe' Internationale De Chirurgie (International Society of Surgery)
American Surgical Association (ASA)
Southern Surgical Association (SSA)
Halstead Society

FELLOWSHIPS:

- American College of Surgeons (FACS)
- American College of Critical Care Medicine (FCCM)
- American College of Chest Physicians (ACCP)
- American College of Cardiology (FACC)
- International College of Surgeons (FICS)

BOARD CERTIFICATION:

- 1978 National Board of Medical Examiners
- 1984 American Board of Surgery
- 1987 American Board of Thoracic Surgery
- 1988 American Board of Surgery - Surgical Critical Care
- 1994 American Board of Surgery: Recertification
- 1996 American Board of Thoracic Surgery: Recertification
- 1996 American Board of Surgery - Surgical Critical Care: Recertification
- 2003 American Board of Surgery: Recertification
- 2005 American Board of Thoracic Surgery

LICENSURE:

- Texas - H1684 - expiration date: 11/30/05
- Diplomate, National Board of Medical Examiners
- Basic Cardiac Life Support (BCLS)
- Advanced Cardiac Life Support (ACLS)
- Video Assisted Thoracoscopic Surgery (VATS)
- Human Subject Knowledge Assessment

HONORS:

- 1975 Alpha Omega Alpha, University of Kentucky (President '76-77)
- 1976 Merck Manual Award, University of Kentucky
- 1977 Neurosciences Award, University of Kentucky
- 1977 Francis M. Massie Award for Excellence in Surgery, University of Kentucky
- 1977 Upjohn Achievement Award for Excellent Clinical Proficiency
- 1982 Frederick A. Collier Society Travel Award, University of Michigan
- 1989 Visiting Professor to establish regional ECMO program in Dallas, TX with Perinatal Pediatric Associates of North Texas
- 1990 Visiting Professor: Phoenix Children's Hospital and Saint Joseph's Medical Center, Phoenix, Arizona. ECMO Program
- 1990 West's Who's Who in Health and Medical Services
- 1991 Visiting Professor - Loma Linda University, Loma Linda, California
- 1991 Steven's Who's Who in Health and Medical Sciences
- 1992 Visiting Professor: Albert-Ludwigs Universitat Freiburg, Freiburg, Germany
- 1992 Visiting Professor: University of Louisville, Louisville, Kentucky
- 1993 Visiting Professor: Indiana University, Indianapolis, Indiana
- 1995 Visiting Professor: Driscoll Children's Hospital, Corpus Christi, Texas
- 1996 Visiting Professor: Albert-Ludwigs Universitat Freiburg, Freiburg, Germany
- 1996 Best Doctors in America (Central)

- 1998 Visiting Professor: Imperial College at Hammersmith Hospital, London, England
- 1998 Best Doctors in America (National)
- 1999 Robert H. Bartlett Research Award (Extracorporeal Life Support Organization)
- 2000 “Hooder” for University of Texas Medical Branch Year 2000 Graduating Medical School Class
- 2000 Gastrointestinal/Nutrition and Pulmonary Teaching Award (Nominated)
- 2000 Visiting Professor: Mayo Clinic, Rochester, Minnesota
- 2001 Guest Professor: Tri-State Conference on Lung Diseases
- 2001 Visiting Professor: Southern Illinois University
- 2001, 2002, 2003 - Best Doctors in America (National)
- 2002 Visiting Professor: Upstate Medical, Syracuse, New York
- 2003 Visiting Professor, Princeton University, Princeton, New Jersey
- 2003 Visiting Professor: Rush Presbyterian Hospital, Chicago, Illinois
- 2004 Visiting Professor: George Washington University, Washington, DC
- 2005 Lifetime Achievement Award - Extracorporeal Life Support Organization
- 2005 William Osler Teaching Award (nominated)

JOURNAL EDITORIAL BOARD MEMBER:

ASAIO Journal

Section Editor “Bioengineering” 1998-2001

Section Editor “Gas Exchange” 2001-2003

Journal Editor 2004-2009

Chest

Editorial Board 2005-2010

Cardiovascular and Interventional Radiology (CVIR)

Case Reports and Clinical Practice Review: Editorial Board 2001-present

IEEE-EMBC

Associate Editor 2006

JOURNAL EDITORIAL CONSULTANT:

Journal of the American Medical Association (JAMA)

Journal of Thoracic and Cardiovascular Surgery

Annals of Thoracic Surgery

Chest

Surgery

Journal of Surgical Research

ASAIO Journal

Artificial Organs

Journal of Thoracic Imaging

Journal of Interventional Radiology

Journal of Membrane Science

Journal of Pediatric Surgery

The Laryngoscope

Clinical Science

Anesthesiology

American Journal of Surgery
SHOCK
Clinical Lung Cancer
American Journal of Respiratory and Critical Care Medicine
American Journal of Transplantation
Journal of Critical Care
Indian Journal of Medical Sciences

GRANT REVIEWER:

1. NIH Bioengineering Research Partnerships: Respiratory, 7/7, 2005, 7/9, 2006
2. NIH Biotechnology Study Section (BTSS) 10/5, 2005; 6/6, 2005; 10/7 2005; 3/1 2006; 6/4, 2006; 11/1/2006.
3. NIH Special Study Section, Respiratory (SBIR), 2/16, 2005.
4. NIH Special Study Section Medical Instrumentation (SBIR) 10/18, 2004; 2/25, 2005; 6/27, 2005.
5. NIH Special Study Section – Small Business Innovation Research (SBIR) Bioengineering and Physiology; 7/12-13, 2004, 11/15-16, 2004, 7/11-12, 2005, 11/17, 2005, 3/24, 2006, 7/9-11, 2006, 11/15, 2006.
6. NIH Special Study Section 8; pulmonary and monitoring (CHAIRMAN), Small Business Innovation Research (SBIR), 3/27-3/29, 1995; 7/20-21, 1995; 11/5-7, 1995; 4/17-19, 1996; 7/8-9, 1996; 11/18-19, 1996; 3/10-12, 1997; 7/6-8, 1997; 11/3-4, 1997; 3/9-10, 1998; 7/13-14, 1998; 10/26-27, 1998; 3/7-8, 1999; 7/12-13, 1999; 11/11-12, 1999; 3/6-7, 2000; 6/26-27, 2000; 2/26-27, 2001; 6/25-26, 2001; 10/30-31, 2001; 2/25, 2002 Invited Reviewer; 2/24-25, 2003; 6/26-27, 2003; 10/27-28, 2003.
7. NIH Special Study Section 7: cardiovascular, Small Business Innovation Research (SBIR), 6/29-30, 1998.
8. NIH Special Study Section 8: cardiovascular/pulmonary, Small Business Innovation Research (SBIR) Bethesda, MD 10/24-25, 1990; 3/26-27, 1991; 7/8-10, 1991; 11/11-13, 1991; 3/4-6, 1992; 7/8-10, 1992; 10/28-30, 1992; 3/9-10, 1993; 7/14-16, 1993; 11/15-17, 1993; 11/10, 1993; 3/27-29, 1994; 7/6-8, 1994; 11/7-9, 1994
9. NIH Review Panel: Lung Volume Reduction, 9/96
10. American Institute of Biological Sciences (AIBS), Invited Review 11/93
11. Swiss National Science Foundation, Invited Review, 5/95
12. Visions of Tomorrow, Jewish Hospital Foundation, Invited Review, 7/96, 7/98
13. Sealy Smith Foundation, Invited Review, 2/98
14. UTMB Technology Grants Program, 5/98
15. Sealy Smith Foundation Grants Program, 8/98, 8/00, 8/01, 8/02, 8/03
16. Department of Veterans Affairs - Merit Review, 8/98
17. Texas Higher Education Coordinating Board – Minority Health Research and Education Grant Program 2/00
18. FDA Review Panel: Bioglue 2/21/01
19. NIH Review Panel: Surgery, Applied Imaging & Applied Bioengineering Study Section Boundaries Team Meeting, 11/7-9/01
20. Engineering and Physical Sciences Research Council (EPSRC) Grant Reviewer 3/02.
21. University of Michigan Institute of Gerontology Pilot Grants Program 5/02
22. American Institute of Biological Sciences Grant Reviewer 7/04

Presentations - Scientific (Peer Reviewed):

1. Total Respiratory Support with Single Cannula Venovenous ECMO: Double Lumen Continuous Flow vs. Single Lumen Tidal Flow. American Society for Artificial Internal Organs, 5/3/85.
2. Suppression of Shivering Decreases Oxygen Consumption (VO_2) and Improves Hemodynamic Stability During Postoperative Rewarming Following Cardiopulmonary Bypass. Surgical Forum, American College of Surgeons, 10/14/85.
3. Extracorporeal Membrane Oxygenation (ECMO) for Newborn Respiratory Failure. Symposium on Spectacular Problems in Surgery, American College of Surgeons, 10/15/85.
4. Does Mixed Venous Oxygen Saturation Accurately Reflect Oxygen Delivery and Oxygen Consumption During Postoperative Rewarming in Cardiac Surgery Patients? American College of Chest Physicians, 10/31/85.
5. Is Oxygen Consumption Dependent Upon Oxygen Delivery During Postoperative Rewarming in Cardiac Surgery Patients? American College of Chest Physicians, 10/31/85.
6. Does Continuous Monitoring of Mixed Venous Oxygen Saturation Accurately Reflect Oxygen Delivery and Oxygen Consumption Following Coronary Artery Bypass Grafting? Surgical Forum, American College of Surgeons, 10/20/86.
7. Extracorporeal Membrane Oxygenation (ECMO) for Newborn Respiratory Failure. 34th Annual Scientific Program, Singleton Surgical Society, The University of Texas Medical Branch, Galveston, Texas 3/15/87.
8. Survey of Mechanical Circulatory Support Following Cardiopulmonary Bypass in the USA and Canada 1982-1985. American College of Chest Physicians 53rd Annual Scientific Assembly 10/28/87.
9. Life-Threatening Intrathoracic Complications During Treatment With Extracorporeal Membrane Oxygenation (ECMO). American Academy of Pediatrics - Section on Surgery 56th Annual Meeting 10/31/87.
10. Mechanical Circulatory Support at University of Texas Medical Branch (UTMB) in Galveston. Circulatory Support 1988, Topical Meeting of Society of Thoracic Surgeons February 6-7, 1988.
11. Life-Threatening Tension Pneumothorax During Extracorporeal Membrane Oxygenation (ECMO). Society of Critical Care Medicine, 17th Annual Meeting, 6/1/88.
12. Extracorporeal Membrane Oxygenation (ECMO) for Newborn Respiratory Failure in Texas. Forum of Original Research, Texas Medical Association 122nd Annual Session, 5/12/89.
13. Loss of Whole-Tissue and Mitochondrial Adenine Nucleotides Without Loss of Mitochondrial Respiration Following Repetitive, Regional Ischemia in the Pig Heart. American Heart Association Scientific Conference on Myocardial Cell Viability, 7/10/89.
14. Neonatal Transport in Texas. Forum of Original Research, Texas Medical Association 123rd Annual Session, 5/11/90.
15. Application of an Intravenous Mechanical Blood Oxygen/Carbon Dioxide Exchange Device (IVOX) for Smoke Inhalation Injury in an Ovine Model. Cardiovascular Science and Technology Basic and Applied II, 12/1/90.
16. Postischemic Recovery of Mitochondrial Adenine Nucleotides in the Heart. Society of University Surgeons 52nd Annual Meeting, 2/7/91.
17. Postischemic Recovery of Mitochondrial and Whole-Tissue Adenine Nucleotides in the Heart. Federation of American Societies for Experimental Biology 75th Annual Meeting, 4/24/91.
18. Mitral Valve Repair. Forum of Original Research, Texas Medical Association 124th Annual Session, 5/10/91.

19. Extracorporeal Membrane Oxygenation (ECMO) for Neonatal Respiratory Failure: Experience from the Extracorporeal Life Support Organization (ELSO). First Annual Reunion of the Society for Thoracic Cardiac and Vascular Surgery of Germany, Austria and Switzerland, Bonn, Germany, 2/21/92.
20. Initial Clinical Experience with an Intravascular Oxygenator and Carbon Dioxide Removal Device (IVOX). First Annual Reunion of the Society for Thoracic Cardiac and Vascular Surgery of Germany, Austria and Switzerland, Bonn, Germany, 2/21/92.
21. Intratracheal Pulmonary Ventilation - A New Technique of Mechanical Ventilation. Biomedical Engineering Research Meeting, Houston, Texas, 3/19/92.
22. Reduction of Ventilator Support with IVOX. Biomedical Engineering Research Meeting, Houston, Texas, 3/19/92.
23. ECMO in the Management of Cardiac Failure. American Society for Artificial Internal Organs, 5/8/92.
24. Permissive Hypercapnia with IVOX: A Ventilation Technique to Reduce Barotrauma. American Society for Artificial Internal Organs, 5/9/92.
25. Mortality from Severe Adult Respiratory Distress Syndrome (ARDS) Remains Unchanged. American Thoracic Society, 5/16/92.
26. Beneficial Effects of Heparin After Smoke Inhalation Injury Not Due to Decreased Oxygen Free Radical Activity. American Thoracic Society, 5/16/92.
27. Intravascular Oxygenation/Carbon Dioxide Removal Allows Reduction of Ventilator Support in an Ovine Model of Acute Lung Injury. Society of Critical Care Medicine, 5/27/92.
28. Ileal Mucosal Hypoperfusion During Cardiopulmonary Bypass. Society of Critical Care Medicine, 5/27/92.
29. Management Strategies in Acute Respiratory Failure: Permissive Hypercapnia with IVOX. Extracorporeal Life Support Organization, 10/2/92.
30. Marked Enhancement of CO₂ Removal by Second Generation IVOX. American Society for Artificial Internal Organs, 5/1/93.
31. Model Analysis of the Effects of Permissive Hypercapnia on CO₂ Removal by IVOX, An Intracorporeal Gas Exchange Device. Society of Critical Care Medicine, 6/11/93.
32. Carotid Blood Flow During Permissive Hypercapnia in an Ovine Model. Society of Critical Care Medicine, 6/11/93.
33. Complications of Neonatal Extracorporeal Membrane Oxygenation: Collective Experience from the Extracorporeal Life Support Organization. Western Thoracic Surgical Association, 6/26/93.
34. Performance of an Intravenous Gas Exchanger (IVOX) in a Venovenous Bypass Circuit. Southern Thoracic Surgical Association, 11/6/93.
35. IVOX with Gradual Permissive Hypercapnia: A New Management Technique for Respiratory Failure. Association for Academic Surgery, 11/12/93.
36. Hypertonic Saline/Dextran for Cardiopulmonary bypass Ameliorates Gut Edema but Does Not Improve Mucosal Perfusion. Association for Academic Surgery, 11/12/93.
37. ECMO in Severe Cardiorespiratory Failure: 100 Cases. Texas Surgical Society, 4/11/94.
38. Tumor Necrosis Factor Monoclonal Antibody Prevents Alterations in Leukocyte Populations During Cardiopulmonary Bypass. American Society for Artificial Internal Organs, 4/15/94.
39. A Computer Assisted Hyperthermia Perfusion System. American Society for Artificial Internal Organs, 5/4/95.
40. Induction of Whole Body Hyperthermia with Venovenous Perfusion. American Society for Artificial Internal Organs, 5/6/95.

41. Membrane Surface Area Requirements for an Intra-venacaval Gas Exchange Device (IVOX) to Achieve Significant CO₂ Removal. Vienna Shock Forum 5/7/95.
42. Partial Liquid Ventilation: A New Approach to Management of the Acute Respiratory Distress Syndrome. Joint Annual Meeting (2nd) German, Swiss, Austrian Cardiothoracic Surgery Societies, 3/1/96.
43. Clinical Efficacy of Fibrin Sealant as a Topical Hemostatic Agent in Extracorporeal Membrane Oxygenation (ECMO) Patients. XIV International Fibrinogen Workshop. Canberra, Australia 8/23/96.
44. ECMO for Pediatric Burn Patients with Severe Respiratory Failure. Extracorporeal Life Support Organization, 9/20/96.
45. Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure. Extracorporeal Life Support Organization, 9/20/96.
46. Total Arteriovenous Carbon Dioxide Removal (AVCO₂R): Simplifying Extracorporeal Support for Severe Respiratory Failure. Society of Thoracic Surgeons, 2/4/97.
47. Airway Simulation to Guide Stent Placement for Tracheobronchial Obstruction in Lung Cancer. Society of Thoracic Surgeons, 2/5/97.
48. Extracorporeal Heparin Removal Following Cardiopulmonary Bypass with a Heparin Removal Device - An Alternative to Protamine. Society of Critical Care Medicine, 2/9/97.
49. Arteriovenous Carbon Dioxide Removal (AVCO₂R): Ovine Modeling to Predict Membrane Surface Area Requirements for Total Extracorporeal CO₂ Removal During Severe Respiratory Failure. Society of Critical Care Medicine, 2/9/97.
50. A Phase II, Randomized, Controlled Trial of Partial Liquid Ventilation (PLV) in Adult Patients with Acute Hypoxemic Respiratory Failure (AHRF). Society of Critical Care Medicine, 2/9/97.
51. Hemodynamic Effects of Prolonged Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure. American Burn Association, 3/20/97.
52. Parallel Dialysis Normalizes Serum Chemistries during venovenous perfusion-induced hyperthermia. American Society for Artificial Internal Organs, 5/3/97.
53. Efficacy of a Heparin Removal Device in Comparison with Protamine after Hypothermic Cardiopulmonary Bypass. American Society for Artificial Internal Organs, 5/3/97.
54. Percutaneous Cannulas to Achieve Maximum Flow for Optimized Gas Transfer during Arteriovenous Carbon Dioxide Removal. American Society for Artificial Internal Organs, 5/3/97.
55. Organ Blood Flow during Arteriovenous Carbon Dioxide Removal (AVCO₂R). American Society for Artificial Internal Organs, 5/3/97.
56. Inheritance of Polymorphic Metabolizing Genes as Risk Modifiers of Lung Cancer. Society of Thoracic Surgeons, 1/27/98.
57. Dose Dependent Development of Severe Respiratory Failure in an Ovine Model of Smoke Inhalation and Cutaneous Flame Burn Injury. Society of Critical Care Medicine, 2/5/98.
58. Severe Respiratory Failure Secondary to Smoke Inhalation and Cutaneous Flame Burn Injury: Initial Experience with Percutaneous Arteriovenous CO₂ Removal. American Burn Association, 3/21/98.
59. Percutaneous Access for Arteriovenous Carbon Dioxide Removal (AVCO₂R). American Society for Artificial Internal Organs, 4/23/98.
60. Significant Reduction in Circuit Pressure with Modified Plasma Separation Chamber for Heparin Removal Device. American Society for Artificial Internal Organs, 4/23/98.
61. An Iterative Computer Model for a Heparin Removal Device with Reinfused Heparinized Pump and Shed Blood. American Society for Artificial Internal Organs, 4/23/98.

62. Venovenous Perfusion Induced Systemic Hyperthermia Blood Flow Redistribution Determines End Organ Temperature. American Society for Artificial Internal Organs, 4/23/98.
63. Arteriovenous Carbon Dioxide Removal (AVCO₂R) Reduces Ventilator Dependence During Acute Lung Injury. American Thoracic Society, 4/27/98.
64. "An Evaluation of the Effect of Using a Baseline Defined Target ACT to Monitor Heparinization during ECMO." Extracorporeal Life Support Organization (ELSO), 9/18/98.
65. "Psychological Assessment in Perfusion-Induced Hyperthermia for Lung Carcinoma" 18th Annual National Academy of Neuropsychology Conference, 11/4-7/98.
66. "Arteriovenous Carbon Dioxide Removal: Development and Impact on Ventilator Management and Survivor during Severe Respiratory Failure". Southern Thoracic Surgical Association, 11/14/98.
67. "Mechanical Support of the Failing Lung" Cardiothoracic Surgery Network (CTS-Net), Society of Thoracic Surgeons Annual Meeting on the Web Jan. 1999.
68. "Percutaneous Venovenous Perfusion Induced Systemic Hyperthermia (VV-PISH): Initial Clinical Experience" American Association for Cancer Research (AACR), 4/11/99.
69. "Prospective Randomized Clinical Trials Using AVCO₂R (Arteriovenous Carbon Dioxide Removal) in Adults with Respiratory Failure or COPD with Acute Hypercapnic Respiratory Failure and Children with Burn Injury," Extracorporeal Life Support Organization, 9/24/99.
70. "Percutaneous Arteriovenous Carbon Dioxide Removal Improves Survival in Respiratory Distress Syndrome: A Prospective Randomized Outcomes Study in Adult Sheep." Surgical Forum, American College of Surgeons, 10/13/99.
71. "Safety and Efficacy of the Heparin Removal Device as an Alternative to Protamine: A Prospective Randomized Preclinical Trial." Southern Thoracic Surgical Association, 11/6/99.
72. "Extracorporeal Arteriovenous CO₂ Removal For Severe Respiratory Failure: High Versus Low Dose Heparin." Society of Critical Care Medicine (SCCM), 2/12/2000.
73. "Modified Bronchoalveolar Lavage For Macrophage Harvest In Sheep." Society of Critical Care Medicine (SCCM), 2/13/2000.
74. "Percutaneous Arteriovenous Carbon Dioxide Removal Improves Survival in Acute Respiratory Distress Syndrome: A Prospective Randomized Outcomes Study in Adult Sheep." American Association for Thoracic Surgery, 5/01/00.
75. "Hemodynamic Stability During Arteriovenous Carbon Dioxide Removal (AVCO₂R) for ARDS: A Prospective Randomized Study in Adult Sheep". American Society for Artificial Internal Organs (ASAIO), 6/29/2000.
76. "Histopathologic Correlation with P/F Ratios during ARDS In An Ovine Model Treated With Extracorporeal Arteriovenous Carbon Dioxide Removal (AVCO₂R)." American Society For Artificial Internal Organs (ASAIO), 6/30/00.
77. "AVCO₂R Perioperative Management: Rapid Recovery and Enhanced Survival." American Society for Artificial Internal Organs (ASAIO), 6/30/00.
78. "Mediastinal Transthoracic Needle Aspiration and Core Biopsy – Should It Precede Mediastinoscopy?" Texas Surgical Society, 10/07/00.
79. "Modified Bronchoalveolar Lavage Improves Macrophage Harvest In Acute Respiratory Distress Syndrome" American College of Chest Physicians 2000, 10/25/00.
80. "Improved Right Heart Function with a Compliant In Flow Artificial Lung In-Series with the Pulmonary Circulation. Society of Thoracic Surgeons 1/30/01.
81. "Increasing Compassionate Care by Addressing Coping Skills in General Thoracic Surgical Patients and the Relationship of Quality of Life in the Patients Psychological Profile". Society of Critical Care Medicine, 2/20/01.

82. Gas Exchange Performance During Arteriovenous CO₂ Removal (AVCO₂R) in Smoke/Burn Induced ARDS. American Thoracic Society, 5/22/01.
83. “Mediastinal Transthoracic Needle Aspiration and Core Biopsy – Should It Precede Mediastinoscopy?” American Thoracic Society, 5/22/01.
84. “The Effects of Augmented Hemodynamics on Blood Flow During Arteriovenous Carbon Dioxide Removal (AVCO₂R)” American Society for Artificial Internal Organs, 6/7/01.
85. “Management Complications During Development of an Ambulatory Paracorporeal Artificial Lung.” American Society for Artificial Internal Organs, 6/09/01.
87. “St. Thomas Hospital Cardioplegia #2 Fails to Suppress the Electrical Activity in the Heart Slow Reaction Pacemaker Cell – The Possible Etiology of Post – CPB Supraventricular Arrhythmia” American College of Chest Physicians 11/06/01.
88. Percutaneous Retrieval of Intravascular Foreign bodies. Society of Critical Care Medicine 1/27/02.
89. “The Paracorporeal Artificial Lung Improves Outcomes from Lethal Smoke/Burn Induced ARDS in Sheep”. Society of Thoracic Surgeons, 1/29/02.
90. “High Frequency Percussive Ventilation with Systemic Heparin Improves Short Term Survival in an LD₁₀₀ Sheep Model of ARDS. American Burn Association, 4/25/02.
91. “Staged Development of the Paracorporeal Artificial Lung (PAL) in a Large Animal Survival Model.” American Society for Artificial Internal Organs, 6/13/02.
92. “Percutaneous Venovenous Perfusion-Induced Systemic Hyperthermia for Lung Cancer: A Phase I Study.” Southern Thoracic Surgical Association, 11/9/02.
93. “Acute Respiratory Distress Syndrome (ARDS) Clinical Trial Entry Criteria: Are We Really Investigating ARDS?” Society of Critical Care Medicine, 1/31/03.
94. “Upper Extremity Central Venous Access: Which Imaging Study is Best?” Society of Critical Care Medicine, 1/30/03.
95. “Percutaneous Venovenous CO₂ Removal With Regional Anticoagulation in an Ovine Model”, Society of Critical Care Medicine, 1/31/03.
96. “Development of Percutaneous Venovenous Perfusion-Induced Systemic Hyperthermia for Lung Cancer”. American Academy of Cardiovascular Perfusion, 2/02/03.
97. “Extracorporeal Gas Exchange: Development of the Paracorporeal Artificial Lung and Ambulatory Arterial Venous Carbon Dioxide Removal.” Houston Society for Engineering in Medicine and Biology, 4/03/03.
98. “Transthoracic Image Guided Biopsy of Lung Nodules: When Is Benign Really Benign?” Texas Surgical Society, 4/04/03.
99. “An Assisted Compliance Chamber In An Artificial Lung In Series With The Pulmonary Circulation” ASAIO, 6/19/03.
100. “Testing The Para-Corporeal Artificial Lung Using Computer Models” ASAIO, 6/19/03.
101. “Development of Transapical to Aorta MI-LVAD with Impella Pump” ASAIO, 6/21/03.
102. “A Novel Permanent Rotary Total Artificial Heart with Permanent Maglev Impellers”, ASAIO, 6/21/03.
103. Development of Ambulatory Arteriovenous Carbon Dioxide Removal (AVCO₂R). National COPD Conference, Arlington, VA, 11/15/03.
104. “The Feasibility of Development of Ambulatory Arteriovenous Carbon Dioxide Removal (AVCO₂R) as a Bridge to Lung Transplant”. National COPD Conference, Arlington, VA, 11/15/03.
105. “The Arteriovenous Lung Assist Device in COPD”. National COPD Conference, Arlington, VA, 11/15/03.

106. "Poly (ADP-Ribose) Polymerase Controls Interleukin-8 in Smoke and Burn Injured Sheep". American Burn Assoc. 4/16/2004, Vancouver, BC.
107. "Steady Flow Transapical to Aorta Cannula/Pump Completely unloads the Left Ventricle (LV) and Generates Pulsatile Flow in Sheep". American Society of Artificial Internal Organs. Washington, DC. 6/18/04.
108. "Development of Compact Paracorporeal Right Heart and Lung Assist Device". American Society of Artificial Internal Organs. Washington, DC, 6/18/04.
109. "Development of Compact Paracorporeal Right Heart and Lung Assistance Device (RH&LAD) for Total Right Heart and Respiratory Support". ELSO Conference. Ann Arbor, MI, 9/11/04.
110. "Traumatic Laceration of Trachea Repaired Under Extracorporeal Membrane Oxygenation Support". ELSO Conference. Ann Arbor, MI, 9/12/04.
111. "Steady Flow Transapical to Aorta Cannula Pump Completely Unloads Left Ventricle and Generates Pulsatile Flow in Sheep." ELSO Conference. Ann Arbor, MI, 9/12/04.
112. "ArterioVenous CO₂Removal Review" The Summit, Frankfurt, Germany 11/1/06
113. "Ventilation strategy and survival in a ovine model of severe of smoke and Burn Injury, American Thoracic Society, San Francisco, CA, May 23, 2007.
114. Apoptosis of Neutrophils in Smoke and Burn Injured Sheep. American Burn Association, San Diego, CA, March, 2007.
115. "Major Differences in the Pathological Course of Smoke and Burn Injury among different Modes of Ventilation". American Burn Association. 38th Annual Meeting. April 2006. Las Vegas, Nevada
116. "Mortality benefit in LD₁₀₀ Smoke/Burn Induced ARDS by AVCO₂R in Sheep". The American Society for Artificial Internal Organs (ASAIO). 52nd Annual Conference. June, 2006, Chicago, IL.
117. "Arteriovenous CO₂ Removal improves survival and reduces intrapulmonary Neutrophil activation". Southern Thoracic Surgical Association. 53rd Annual Meeting November 9-11, 2006 - Tucson, Arizona
118. Delay of Neutrophil Apoptosis in an Ovine Model of Smoke and Burn Injury. Schmalstieg, F.C., Palkowetz, K.H., Rudloff, H.E., Traber, D.L., and Zwischenberger, J.B., (2006) American Thoracic Society, San Diego, CA .
119. Lung Tissue after Treatment for Smoke and Burn Injury. (2005) American Thoracic Society, San Diego, CA, A836.
120. Doss AE, Chernin JM, Zwischenberger JB. Use of ECMO in peripartum severe cardiopulmonary failure: A review of ELSO Registry. ACOG Annual Clinic Meeting, poster presentation. May 2007.

Presentations - Invited:

1. "ECMO in Newborn Respiratory Failure." Sinai Hospital of Detroit, 3/3/84.
2. "ECMO in Newborn Respiratory Failure." Georgetown University, Washington, DC 4/6/84.
3. "ECMO in Newborn Respiratory Failure." presented to Ohio Doctors Interested in Congenital Heart Disease (ODICH) University of Michigan, Ann Arbor, Michigan, 5/18/84.
4. "The Use of Fiberoptic Pulmonary Artery Catheters." Ann Arbor Critical Care Symposium, Michigan Society of Respiratory Therapists, 2/8/85.
5. "Complications and Emergency Procedures." Neonatal ECMO: A seminar on Extracorporeal Membrane Oxygenation for Newborn Respiratory Failure, 5/17/85.
6. "Metabolic Studies in Postoperative Coronary Artery Bypass Patients." Grand Rounds - University of Michigan, 12/3/85.

7. "Venous Oximetry During Postoperative Recovery." Venous Oximetry Seminar, Ann Arbor, Michigan 4/1/86.
8. "Complications and Emergency Procedures." Neonatal ECMO: A seminar on Extracorporeal Membrane Oxygenation for Newborn Respiratory Failure, Ann Arbor, Michigan 5/19/86.
9. "Monitoring Mixed Venous Oxygen Saturation." Houston District Texas Society for Respiratory Care, Galveston, Texas 2/6/87.
10. "Establishing a New ECMO Program." Sixth Annual Spring Conference, ECMO Seminar: Basic, The University of Michigan Medical School, Ann Arbor, Michigan, April 26, 1987.
11. "Veno-Venous Bypass." Sixth Annual Spring Conference, ECMO Seminar: Advanced, The University of Michigan, Ann Arbor, Michigan, 4/29/87.
12. "Extracorporeal Membrane Oxygenation." Medical Branch Television Series, University of Texas Medical Branch, Galveston, Texas, 6/87.
13. "Mixed Venous O₂ Saturation: What It Does and Doesn't Tell You." Texas Society for Respiratory Care, Dallas, Texas, 7/10/87.
14. "ECMO." American Society for Extracorporeal Technology Region VIII Fall Conference, Houston, Texas, 9/25/87.
15. "Monitoring in the ICU." Symposium 53rd Annual Scientific Assembly of the American College of Chest Physicians (ACCP), Atlanta, GA 10/28/87.
16. "Survey of Mechanical Circulatory Support Following Cardiopulmonary Bypass in the USA and Canada 1982-1985." Circulatory Support 1988, Topical Meeting of Society of Thoracic Surgeons February 6-7, 1988.
17. "Concurrent Chemotherapy and Radiotherapy followed by Esophagectomy in Loco-Regional Esophageal Cancer." St. Elizabeth Hospital, Beaumont, Texas 2/9/88.
18. "The Old, the New, and Complications: Hemofiltration, V-V and Single Catheter Techniques, Heparin Bonded Circuits, Hydrogel Circuits." Moderator 4th Annual CHNMC ECMO Symposium, 2/25/88.
19. "Life-Threatening Tension Pneumothorax During Extracorporeal Membrane Oxygenation (ECMO)." 4th Annual CHNMC ECMO Symposium 2/25/88.
20. "Cardiac Surgery 1988." Galveston/Houston Scientific Conference on Cardiovascular Disease 2/26/88.
21. "Update on Extracorporeal Membrane Oxygenation (ECMO) at UTMB." 35th Annual Scientific Program, Singleton Surgical Society UTMB, Galveston, Texas 3/11/88.
22. "Special Problems and Emergencies during ECMO." Seventh Annual Spring Conference. The University of Michigan Medical School, Ann Arbor, Michigan, 4/14/88.
23. "ECMO for Cardiac Support Following Congenital Heart Surgery." Seventh Annual Spring Conference. University of Michigan Medical School, Ann Arbor, Michigan, 4/15/88.
24. "Cardiac Surgery Update." 22nd Annual Family Practice Review, Galveston, Texas, 4/18/88.
25. "Blood Bank Practices During ECMO." Topics in Pediatric Taxation. South Central Association of Blood Banks, Galveston, Texas 5/7/88.
26. "Esophageal Cancer Update -- New Techniques of Resection and Concurrent Chemotherapy Plus Radiotherapy Followed by Esophagectomy in Loco-Regional Esophageal Cancer." Texarkana Cancer Conference. Texarkana, Texas 5/14/88.
27. "Extracorporeal Membrane Oxygenation (ECMO) for Newborn Respiratory Failure." Pediatric Grand Rounds, UT Houston, Houston, Texas 6/21/88.
28. "ECMO: Indications and Outcome." 1988 Annual Pediatric Postgraduate Course, Galveston, Texas. 6/25/88.
29. 6/25/88.

30. "The Current Status and Future Application of Perfusion Support." Keynote Address, Western ECMO Study Group Conference, Phoenix, Arizona 10/21/88.
31. "Surgical Issues of ECMO." Western ECMO Study Group Conference, Phoenix, Arizona 10/22/88.
32. "Alternate Access in ECMO." Western ECMO Study Group Conference, Phoenix, Arizona 10/22/88.
33. "Why ECMO?" Scientific Basis for Medical Practice Program, Galveston, Texas 1/21/89.
34. "Esophageal Surgery and Cardiac Surgery." General Surgery Board Review Course, Houston, Texas 1/29/89.
35. "Innovations in Cardiac Surgery." 23rd Annual Family Practice Review, Galveston, Texas 4/10/89.
36. "ECMO for Newborn Respiratory Failure in Texas." American Association for Medical Transcription Continuing Education, Galveston, Texas 7/9/89.
37. "How Long Can You Store Activated Clotting Time (ACT) Reagents?" Extracorporeal Life Support Organization, Charter Meeting, Ann Arbor, Michigan 10/2/89.
38. "Pulmonary Leukosequestration and Lung Edema After Severe Smoke Inhalation Injury-Not Improved with Extracorporeal Membrane Oxygenation (ECMO)." Extracorporeal Life Support Organization, Charter Meeting, Ann Arbor, Michigan 10/2/89.
39. "Ovine Pleural Fluid Formation in Severe Smoke Inhalation Injury." Extracorporeal Life Support Organization, Charter Meeting, Ann Arbor, Michigan 10/2/89.
40. "Extracorporeal Life Support Organization (ELSO) - ECMO Enters Childhood." Keynote Address, Issues In Critical Care: ECMO Symposium, Miami, Florida 2/2/90.
41. "Physiology of the ECMO Patient." Issues in Critical Care: ECMO Symposium, Miami, Florida 2/3/90.
42. "Results and Long-Term follow-up of the ECMO Patient." Issues in Critical Care: ECMO Symposium, Miami, Florida 2/3/90.
43. "Mixed Venous Oxygen Saturation Monitoring." Galveston Chapter of AACN, Galveston, Texas 2/13/90.
44. "Outcome and Follow-up of the ECMO Patient." Issues in Critical Care: ECMO Symposium, Miami, Florida 2/3/90.
45. "New Horizons in Thoracic Oncology." 24th Annual Family Practice Review, Galveston, Texas 4/9/90.
46. "Cardiac Surgery Update 1990." Brazosport Memorial Hospital Staff Grand Rounds, Lake Jackson, Texas 4/10/90.
47. "Physician - Nurse Collaboration: Essential Combination for Positive Patient Outcome Update 1990." Adult Health Nursing, Galveston, Texas 5/18/90.
48. "ECMO for Respiratory and Cardiac Failure." St. Joseph's Hospital Grand Rounds, Houston, Texas 7/27/90.
49. "ECMO and Gas Exchange Physiology." Third Annual Respiratory Care Seminar, Galveston, Texas 9/7/90.
50. "Physiology of ECMO for Respiratory Failure." 2nd Annual Respiratory Review Symposium, Beaumont, Texas 9/21/90.
51. "Consumptive Coagulopathy during ECMO." Extracorporeal Life Support Organization, Ann Arbor, Michigan 11/5/90.
52. "Cardiopulmonary Management During Extracorporeal Membrane Oxygenation (ECMO)." American Association for Respiratory Care, New Orleans, Louisiana 12/8/90.
53. "Ethical Issues of Extracorporeal Membrane Oxygenation (ECMO)." American Association of Respiratory Care, New Orleans, Louisiana 12/8/90.

54. "Vascular Surgery - Residents Session Moderator." Society of University of Surgeons 52nd Annual Meeting, 2/7/91
55. "Pseudocoarctation of the Aorta." Invited Discussant, South Texas Chapter American College of Surgeons Annual Meeting, 2/15/91
56. "Blunt Chest Trauma." Texas Society for Respiratory Care Annual Meeting, 2/22/91.
57. "Status of Extracorporeal Membrane Oxygenation (ECMO)." 40th Annual Pediatric Review and Update, Galveston, Texas 6/20/91.
58. "Intravascular Oxygenator (IVOX) FDA Phase I/II UTMB Experience." IVOX Principal Investigators' Meeting, San Francisco, California 7/26/91.
59. "Operative Procedures on ECLS, Advanced Techniques." Extracorporeal Life Support Organization, Ann Arbor, Michigan 9/10/91
60. "Clinical Experience With IVOX for Acute Respiratory Failure." Extracorporeal Life Support Organization, Ann Arbor, Michigan 9/12/91.
61. "Extracorporeal Membrane Oxygenation (ECMO) update." Brazosport Memorial Hospital Grand Rounds, 10/14/91.
62. "Role of Thrombolysis in Vascular Surgery: Diagnosis of Anatomical Disorder." Role of Thrombolysis in Peripheral Vascular Disease Symposium, Galveston, Texas 11/23/91.
63. "Cardiac Surgery Update." UT-Med CME presentation, West Columbia, Texas 01/30/92.
64. "Current Perspective on the Use of Intravascular Oxygenator Therapy (IVOX)." Topics in Critical Care Seminar, Galveston, Texas 06/05/92.
65. "Status of Extracorporeal Membrane Oxygenation (ECMO)." 41st Annual Pediatric Review and Update, Galveston, Texas 06/18/92.
66. "Current Perspectives on the Use of Intravascular Oxygenator Therapy (IVOX)." Texas Society for Respiratory Care, San Antonio, Texas 07/17/92.
67. "Intravascular Membrane Oxygenation." 4th Annual Educational Seminar, Beaumont, Texas 09/18/92.
68. "Dirty Electricity: A Plea for Uninterruptible Power Supply (UPS)." Extracorporeal Life Support Organization, Dearborn, Michigan 10/2/92.
69. "Extracorporeal Membrane Oxygenation (ECMO) for Cardiac Failure: State-of-the-Art." Extracorporeal Life Support Organization, Dearborn, Michigan 10/3/92.
70. "Extracorporeal and Intracorporeal Oxygenation and Carbon Dioxide Removal for Severe Respiratory Failure." Visiting Professor Grand Rounds, University of Louisville, Louisville, Kentucky 11/21/92.
71. "Extracorporeal and Intracorporeal Membrane Gas Exchange for Severe Respiratory Failure." Biomedical Engineering Research: 11th Annual Conference, Houston, Texas 2/11/93.
72. "Marked Enhancement of CO₂ Removal By Second Generation IVOX." 9th Annual Children's National Medical Center ECMO Symposium, Keystone, Colorado 3/1/93.
73. "Intracorporeal Oxygenation and CO₂ Removal." John Alexander Society, U. Michigan, Ann Arbor, Michigan 5/14/93.
74. "ECMO/IVOX." Society of Critical Care Medicine 22nd Educational and Scientific Symposium, New York, NY 6/11/93.
75. "Hospital Logistics, Extracorporeal Life Support for Respiratory Failure in Children and Adults." Introductory Course, Ann Arbor, Michigan 6/19/93.
76. "Complications of Neonatal Extracorporeal Membrane Oxygenation: Collective Experience from the Extracorporeal Life Support Organization." Extracorporeal Life Support Organization, Dearborn, Michigan 10/2/93.

77. "Confessions of an ECMO Team." Extracorporeal life Support Organization, Dearborn, Michigan 10/3/93.
78. "ECMO: Limiting the Risks American Association for Respiratory Care." 39th Annual Convention, Nashville, TN 12/13/93.
79. "Intravascular Lung Assist Devices." Panel, American Society for Artificial Internal Organs, San Francisco, California, 4/15/94.
80. "Industry Speaks: Oxygenators." Chairman American Society for Artificial Internal Organs, San Francisco, California, 4/14/94.
81. "ECMO." Southeast Memorial Hospital CME Program, Clear Lake, Texas, 5/4/94. "What's Next in Ventilatory Support." Texas Medical Association, Austin, Texas, 5/13/94.
82. "ECMO in Texas." Texas Medical Association, Austin, Texas, 5/13/94.
83. "Intravenous Gas Exchange." AMSECT Regional Symposium, Little Rock, Arkansas, 8/27/94.
84. "Ventricular Assist Devices." AMSECT Regional Symposium, Little Rock, Arkansas, 8/27/94.
85. "Adult ECMO for 636 Hours." Case Reports III, Perfusion Research and Education Foundation, Galveston, Texas, 10/23/94.
86. "Liquid Ventilation." 4th Annual Pediatric/Perinatal Seminar, Galveston, Texas, 10/28/94.
87. "Liquid Ventilation." Texas Thoracic Society; Texas Pulmonary Medicine: A Comprehensive Review and Update, League City, Texas, 3/4/95
88. "Partial Liquid Ventilation." New Frontiers in Critical Care Medicine, Pulmonary Care Services, Hotel Galvez, Galveston, Texas, 3/31/95.
89. "ECMO for Neonatal Respiratory Failure." 3rd Annual Symposium on Perinatal Medicine and Nursing, League City, Texas, 4/27/95.
90. "Advances in Extracorporeal Membrane Oxygenation." Chairman, American Society for Artificial Internal Organs, Chicago, Illinois, 5/4/95.
91. "Intravascular Gas Exchange." American Society for Artificial Internal Organs, Chicago, Illinois, 5/5/95.
92. "Perfluorocarbons (Perflubron) for Moderately Severe Respiratory Failure." Texas Medical Association Annual Session, Dallas, Texas, 5/19/95
93. "Interventional Radiology of the Chest." 2nd Annual Radiology Review Symposium, Galveston, Texas, 6/24/95.
94. "Pediatric and Adult ECMO." Chairman, 3rd Congress of the International Society for Rotary Blood Pumps, Houston, Texas 8/27/95.
95. "Confessions of an ECMO Team." Extracorporeal Life Support Organization, Dearborn, Michigan, 10/1/95.
96. "Case Reports." Moderator, Perfusion Research and Education Foundation, Galveston, Texas 10/22/95.
97. "Multiple Disciplinary Treatment for Severe Respiratory Failure." U. Freiberg, Freiburg, Germany 3/4/96.
98. "Grantsmanship." American College of Surgeons Young Surgical Investigators Conference, Chantilly, Virginia, 3/30/96
99. "Arteriovenous Carbon Dioxide Removal (AVCO₂R)." American Society for Artificial Internal Organs, Washington DC 5/2/96.
100. "Pediatric/Adult ECMO." Keynote Address, Southeastern ECMO Conference, Richmond, Virginia, 6/1/96.
101. "Thoracoscopic Metastectomy." Minimally Invasive Thoracic Surgery Interest Group, Boston, Massachusetts, 9/13/96.

102. "ECMO for Pediatric Patients." 6th Annual Pediatric / Perinatal Symposium, Galveston, Texas, 9/27/96.
103. "Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure." John Alexander Society, Ann Arbor, Michigan, 11/1/96.
104. "Staging, Surgery and Palliation for Lung Cancer: A Multidisciplinary Approach." Potpourri of Managed Care Symposium, Galveston, Texas, 1/31/97.
105. "Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Respiratory Failure," American Society for Artificial Internal Organs (ASAIO), Atlanta, GA, 5/1/97.
106. "Arteriovenous (AV) ECLS: The Current Research Experience" Advances in Extraordinary Life Support: SEECMO Conference, Ft. Lauderdale, FL, 5/15/97.
107. "Esperanza to 1997, ECMO to ECLS" Advances in Extraordinary Life Support: SEECMO Conference, Ft. Lauderdale, FL, 5/16/97.
108. "Lung Cancer: Surgical Management" International College of Surgeons, Vancouver, BC, 7/26/97.
109. "Esophageal Cancer: Surgical Update" International College of Surgeons, Vancouver, BC, 7/26/97.
110. "Confessions" Extracorporeal Life Support Organization (ELSO), Detroit, MI, 9/19/97.
111. "Pumpless Extracorporeal Arteriovenous Carbon Dioxide Removal (AVCO₂R): Initial Clinical Experience" Extracorporeal Life Support Life Organization (ELSO), Detroit, MI, 9/20/97.
112. Multiple Disciplinary Management of Non-Small Cell Lung Cancer" Bristol-Myers Squibb Oncology, Dallas, TX 11/22/97.
113. "Emphysema" Medstar Television Interview, 12/10/97.
114. "Lung Cancer" Nacogdoches General Grand Rounds, Nacogdoches, TX 12/23/98.
115. Poster Session - Moderator, Society of Thoracic Surgeons, New Orleans, LA, 1/27/98.
116. Scientific Session - Moderator, Society of University Surgeons, Milwaukee, WI, 2/13/98.
117. "Evening with the Experts," Panel of Experts – Gastroenterology. The Houstonian Hotel, Houston, TX 2/19/98.
118. Abstract Presentations Session - Moderator, 14th Annual CNMC Symposium on ECMO, Keystone, CO, 3/2/98.
119. "Impact of Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R) on Acute Respiratory Failure Secondary to Smoke Inhalation and Cutaneous Burn Injury." 14th Annual CNMC Symposium on ECMO, Keystone, CO, 3/2/98.
120. "Perioperative Extracorporeal Life Support (ECLS) for Tracheal Reconstruction." 14th Annual CNMC Symposium on ECMO, Keystone, CO, 3/2/98.
121. "Severe Respiratory Failure - The Basics and Beyond." General Thoracic Surgical Club, Carlsbad, CA, 3/12/98.
122. "Perfusion: Apheresis." Moderator, American Society for Artificial Internal Organs, New York, NY, 4/25/98.
123. "Thoracic Interventions - A Surgeon's Prospective." Interventional Radiology Update 1998, Houston, TX, 5/10/98.
124. "AVCO₂R: State-of-the-Art." Mechanisms of Perfusion XIII, Orlando, FL, 5/16/98.
125. "Approach to Esophageal Reflux and its Complications." 1998 ASGE Postgraduate Course, New Orleans, LA, 5/21/98.
126. "Multidisciplinary Lung Cancer Program." Singleton Surgical Society, Galveston, TX, 5/29/98.
127. "Surgical Management of Esophageal Carcinoma." International College of Surgeons, Maui, Hawaii, 6/20/98.
128. "Surgical Management of Bronchial Carcinoma." International College of Surgeons, Maui, Hawaii, 6/20/98.

129. "New Aspects of Critical Care Medicine". C-TAF 1998, Minneapolis, MN, 8/29/98.
130. "Lung Volume Reduction Surgery" Respiratory Care Symposium, Beaumont, TX, 9/11/98.
131. "Changing Criteria for ECMO Patients" Western ECMO Conference, Little Rock AK, 10/23/98.
132. "Highlights of UTMB's ECMO Program" Western ECMO Conference, Little Rock AK, 10/23/98.
133. "Pediatric ECMO – Change is Good" Respiratory Care Symposium, Galveston, TX, 10/6/98.
134. "Minimally Invasive Versus Conventional Staging of Lung Cancer" Postgraduate Course Program, Southern Thoracic Surgical Association, Orland, FL, 11/12/98
135. "Arterio-Venous CO₂ Removal (AVCO₂R)" 1998 Hammersmith Perfusion Workshop, London, England, 12/11/98.
136. "Mechanical Support of the Failing Lung" Society of Thoracic Surgeons 32nd Postgraduate Program, San Antonio, TX, 1/24/99.
137. "General Thoracic" Session Moderator, Society of Thoracic Surgeons, San Antonio, TX 1/26/99.
138. "Postoperative ARDS" Society of Thoracic Surgeons Clinical Workshop, San Antonio, TX, 1/26/99.
139. "Dose Dependent Development of Severe Respiratory Failure in an Ovine Model of Smoke Inhalation and Cutaneous Flame Burn Injury" 17th Annual Houston Conference on Biomedical Engineering Research, Houston, TX 2/11/99.
140. "A Phase I Clinical Evaluation of Pumpless Extracorporeal Arteriovenous Carbon Dioxide Removal in Acute Respiratory Failure" 17th Annual Houston Conference on Biomedical Engineering Research, Houston, TX, 2/11/99.
141. "Percutaneous Access for Arteriovenous CO₂ Removal (AVCO₂R)" 17th Annual Houston Conference on Biomedical Engineering Research, Houston, TX, 2/11/99.
142. "An Iterative Computer Model for a Heparin Removal Device with Reinfused Heparinized Pump and Shed Blood" 17th Annual Houston Conference on Biomedical Engineering Research, Houston, TX, 2/11/99.
143. "Minimally Invasive Versus Conventional Staging of Lung Cancer" Grand Rounds, Baylor Health Science Center, Houston, TX, 3/5/99.
144. "Multidisciplinary Thoracic Oncology" UTMB Internal Medicine Alumni Society Scientific Meeting, Galveston, TX, 5/1/99.
145. "Arteriovenous Carbon Dioxide Removal (AVCO₂R)" Respiratory Care Symposium, Galveston, TX, 5/7/99.
146. "Lung Volume Reduction Surgery for Severe Emphysema" German Thoracic Society, Freiburg, Germany, 6/10-11/99.
147. "Update in Thoracic Critical Care" Cardiothoracic Advisory Forum, Onamia, MN, 8/28/99.
148. "Staging and Surgery of Lung Cancer", Grand Rounds, Corpus Christi, TX, 9/15/99.
149. "Perfusion Induced Systemic Hyperthermia for Advanced Non-Small Cell Lung Cancer", Extracorporeal Life Support Organization, Ann Arbor, MI, 9/25/99.
150. "Extracorporeal Support As A Means to Reduce Ventilator Induced Lung Injury" American College of Surgeons, San Francisco, CA, 10/14/99.
151. "Extracorporeal CO₂ Removal and Update on Conventional ECMO", Perfusion Education and Research Foundation, New Orleans, LA., 10/16/99.
152. "New Technology: Where is the Future for Perfusion", Perfusion Education and Research Foundation, New Orleans, LA, 10/16/99.
153. "Arteriovenous Carbon Dioxide Removal (AVCO₂R)" 16th Annual CNMC Symposium on ECMO, Keystone, CO, 2/28/00.
154. "Management of Respiratory Failure". Moderator, 13th Annual Meeting of General Thoracic Surgical Club, Tucson, Arizona, 3/10/00.

155. "Artificial Lung Development", Artificial Lung Symposia, ASAIO, New York, New York, 6/18/00.
156. "Actual Status and Experience in Extracorporeal Lung Support", Extracorporeal Assist & Failing Lungs Workshop, Regensburg, Germany, 9/01/00.
157. "Lung Cancer" Mini Medical School, Houston, Texas, 9/28/00.
158. "Staging and Surgery of Lung Cancer" St. Elizabeth Hospital Cancer Center, Beaumont, Texas, 10/02/00.
159. "Laparoscopic Fundoplication, Promise and Pitfalls" International Course and Workshop on Gastrointestinal Motility/Functional Disorders, Galveston, Texas, 12/02/00.
160. General Thoracic Research – Moderator, Society of Thoracic Surgeons, New Orleans, LA, 1/28/01.
161. "Development of the Artificial Lung" Houston Society for Biomedical Engineering, Houston, Texas, 2/08/01.
162. "Super Bowl of X-Rays" General Thoracic Surgical Club, Captiva Island, Florida, 3/10/01.
163. "Lung Cancer – Staging and Surgery" Medical Coders Society, Galveston, Texas 3/16/01
164. "Advanced Ventilator Strategies" Thoracic Critical Care Symposia, Seattle, Washington, 4/13/01.
165. "The Role of ECMO in Traumatic and Non-Traumatic Respiratory Failure" Thoracic Critical Care Symposia, Seattle, Washington, 4/13/01
166. "Liquid Ventilation" Thoracic Critical Care Symposia, Seattle, Washington, 4/13/01.
167. "Artificial Lungs: A New Inspiration" School of Allied Health Sciences Symposium, Galveston, Texas, 5/10/01.
168. "Development of an Implantable Artificial Lung: Challenges and Progress" American Society for Histocompatibility and Immunogenetics, Galveston, Texas, 6/01/01.
169. Cardiopulmonary Slide Forum – Moderator, American Society for Artificial Internal Organs, New York, NY, 6/09/01.
170. "Artificial Lung Development – Inspiration and Perspiration". Tri-State Conference on Lung Disease. Ponte Vedra Beach, Florida, 9/09/01.
171. "Lung Cancer: A Patient Care Evaluation Review" Texas Tumor Registrars Association 29th Annual Education Conference. Clear Lake, Texas, 9/28/01.
172. Cardiothoracic Surgery III-Moderator-American College of Surgeons, New Orleans, LA, 10/10/01.
173. "Revolution in Treatment of Respiratory Distress Syndromes in the Surgical Intensive Care Unit" – Moderator/Presenter – American College of Surgeons, New Orleans, LA, 10/11/01.
174. "Advanced Therapy for Pulmonary Failure" – American College of Surgeons, New Orleans, LA.10/11/01.
175. "ECMO for Severe Respiratory Failure" Phosgene Panel Medical Work Group, American Chemistry Council, Galveston, TX, 10/22/01.
176. "Thoracic Trauma – What does The Pulmonologist Need to Know", American College of Chest Physicians, Philadelphia, PA. 11/06/01.
177. "Surgical Issues in Reflux Treatment", 2nd Annual International Course & Workshop on Gastrointestinal Motility and Functional Disorders, Galveston, Texas 11/10/01.
178. "Artificial Lungs – A New Inspiration", Imperial College School of Medicine, Hammersmith Workshop, London, England 12/07/01
179. "The Paracorporeal Artificial Lung Improves Outcomes from Lethal Smoke/Burn Induced ARDS in Sheep". 23rd Children's Hospital Medical Center ECMO symposium, Keystone, Colorado 2/24/02.
180. "Arteriovenous CO₂ Removal for Severe Respiratory Failure in Adults". 23rd Children's Hospital Medical Center ECMO symposium, Keystone, Colorado, 2/24/02.
181. "My Worst Case" – Moderator. General Thoracic Surgery Club. Tucson, Arizona 3/09/02.

182. "Clinical Impact of 3-D Imaging in Radiology". Joseph B. Zwischenberger, M.D. Interviewed by Raleigh Johnson, Jr., Ph.D., Southwestern Chapter of Society of Nuclear Medicine. Galveston, Texas, 3/15/02.
183. "The Role of Surgery in Stage 3 Non Small Cell Lung Cancer" American Radium Society. Las Croabas, Puerto Rico, 4/28/02.
184. "Multiple Disciplinary Management of Non Small Cell Lung Cancer" – Panel. American Radium Society. Las Croabas, Puerto Rico, 4/28/02.
185. "Artificial Lung Development – A New Inspiration", Upstate Medical, Syracuse, New York, 5/30/02.
186. "Artificial Lung Update", ASAIO Annual Meeting, New York, New York, 6/12/02.
187. "The Paracorporeal Artificial Lung Improves Outcomes from Lethal Smoke/Burn-Induced ARDS in Sheep", Halsted Society Meeting, High Hampton, S.C., 9/12/02.
188. Moderator – Postgraduate Course, Southern Thoracic Surgical Association, Miami, FL., 11/07/02.
189. "Artificial Lung: A New Inspiration", New Jersey Chapter, American College of Surgeons, Princeton, NJ, 12/07/02.
190. "Artificial Lung: A New Inspiration", Texas Children's Hospital Heart Center, Houston, Texas, 1/21/03.
191. "Evolution and Development of the Implantable Artificial Lung", American Academy of Cardiovascular Perfusion, San Diego, CA, 2/02/03.
192. "Interventional Radiologic Diagnosis and Staging of Lung Cancer", Oregon Thoracic Society 41st Annual Conference, Sun River, Oregon, 2/09/03.
193. "Artificial Lung: A New Inspiration", Oregon Thoracic Society 41st Annual Conference, Sun River, Oregon, 2/09/03.
194. "VenoVenous Perfusion Induced Systemic Hyperthermia for Non-Small Cell Lung Cancer", Scott & White Hospital Grand Rounds. Temple, Texas, 2/18/03.
195. "ECLS in Burn Patients", 24th Children's Hospital Medical Center ECMO Symposium, Keystone, CO, 2/24/03.
196. "VenoVenous Perfusion Induced Systemic Hyperthermia for Non-Small Cell Lung Cancer". 24th Children's Hospital Medical Center ECMO Symposium, Keystone, CO 2/24/03.
197. "Accrual Rates for an Early ARDS Study at Pediatric Burn Centers". 24th Children's Hospital Medical Center ECMO Symposium, Keystone, CO, 2/24/03.
198. "Super Bowl of X-Rays" General Thoracic Surgical Club, Naples, Florida, 3/08/03.
199. "Lung Panel" moderator. American Radium Society, Houston, Texas 4/27/03.
200. "The History and Progress of Resuscitation Therapy" The 13th Annual Adult Education Symposium "Human Resuscitation: The Care Team", Pulmonary Care Services, UTMB, Galveston, TX, 5/08/03.
201. "Seminar on Investigator Initiated Clinical Research in Cancer Agenda", General Clinical Research Center, UTMB, Galveston, Texas, 05/12/03.
202. "Ambulatory AVCO₂R" American Society of Artificial Internal Organs, Washington, D.C., 6/18/03.
203. "Artificial Lung and Gas Exchange" Moderator. American Society of Artificial Internal Organs, Washington, D.C., 6/20/03.
204. "Development and Evaluation of a Prototype of Implantable Artificial Lung" American Society of Artificial Internal Organs, 6/20/03.
205. "To Breathe or Not To Breathe – That Is The Question" 2003 National Youth Leadership Forum on Medicine, 7/25/03.

206. "Arterio Venous Carbon Dioxide Removal vs. Total Artificial Lung for Acute or Chronic Respiratory Failure: Great Debates" Extracorporeal Life Support Organization, Chicago, IL, 9/13/03.
207. "Perioperative Respiratory Failure". Postgraduate course, General Thoracic Surgery, American College of Surgeons, Chicago, IL 10/17/03.
208. "Surgical Management of GERD". Houston Gastrointestinal Club-Seminar. Houston, TX 10/30/03.
209. "Artificial Lung Development – A New Inspiration." Rush Presbyterian Hospital Grand Rounds, Chicago, IL 12/12/03.
210. "Artificial Lung Development – A New Inspiration." George Washington University, Washington, DC 1/14/2004.
211. "Severe Respiratory Failure". 2nd Annual Current Trends in Cardiothoracic Surgery." Houston, TX, May 15, 2004.
212. "Artificial Lungs, New Inspiration." American Society of Artificial Internal Organs. Washington, DC. 6/18/04.
213. "Pulmonary-Gas Exchange-Lung Technology." Moderator. American Society of Artificial Internal Organs. Washington, DC. 6/18/04.
214. "Staging and Management of Lung Cancer". 3rd Annual Current Trends in Cardiovascular Surgery. Houston, TX, 5/18/05.
215. "Ventricular Assist Devices". Biomedical Engineering Research Symposium, 2/11/05.
216. "New Applications and Technologies". Society for Biomaterials, Memphis, TN, 4/27-30, 2005
217. "Image-directed Staging and Management of Lung Cancer". American Radiologic Society, San Antonio, TX, 6/9/05.
218. "Critical Care and Artificial Organs". Robert H. Bartlett Symposium, Ann Arbor, MI, 9/16/05.
219. Moderator Robert H. Bartlett Retirement Roast. Ann Arbor, MI 9/16/05.
220. "Mechanical Ventilation and Inotropes". American College of Surgeons Cardiothoracic Surgery Board Review. San Francisco, CA, 10/18/05.
221. "Perfusion Induced Systemic Hyperthermia" Texas Surgical Society, Houston, Tx 2/10/06.
222. "ArterioVenous CO₂Removal in ARDS, 27th Children's Hospital Medical Center ECMO Symposium, Keystone, CO, 2/24/06.
223. "Update on Critical Care". 4rd Annual Current Trends in Cardiovascular Surgery. Houston, TX, 5/18/06.
224. "Artificial Lung Development, A New Inspiration." American Society of Artificial Internal Organs. Washington, DC. 6/18/06.
225. "Development and Evaluation of the Implantable Artificial Lung" European Society of Artificial Internal Organs, Umeo, Sweden 7/24/06.
226. "Artificial Lung" International Bioengineering Society, Munich , Germany 8/12/06.

BIBLIOGRAPHY:

A) JOURNAL ARTICLES

1. Rutledge R, McIntosh CL, Morrow AG, Picken CA, Siwek LG, **Zwischenberger JB**, Schier JJ. Mitral valve replacement after closed mitral commissurotomy. *Circulation* 1982;66:1162-6.
2. Rutledge R, **Zwischenberger JB**. Actinobacillus actinomycetemcomitans prosthetic valve endocarditis. *Contemp Surg* 1984;24:71
3. Toomasian JM, **Zwischenberger JB**, Oram AD, DeSmet GM, Bartlett RH. The use of bound heparin in prolonged extracorporeal membrane oxygenation. *Trans Am Soc Artif Intern Organs* 1984;30:133-136.
4. Bartlett RH, Roloff DW, Cornell RG, Andrews AF, Dillon PW, **Zwischenberger JB**. Extracorporeal circulation in neonatal respiratory failure: a prospective randomized study. *Pediatrics* 1985;76:479-487.
5. **Zwischenberger JB**, Dechert RE, Kirsh MM, Bartlett RH. Suppression of shivering decreases oxygen consumption and improves hemodynamic stability during postoperative rewarming following cardiopulmonary bypass. *Surg Forum* 1985;36:11-13.
6. Bowerman RA, **Zwischenberger JB**, Andrews AF, Bartlett RH. Cranial sonography of the infant treated with extracorporeal membrane oxygenation. *AJNR* 1985;6:377-382.
7. Cilley RE, Wesley JR, **Zwischenberger JB**, Toomasian JM, Bartlett RH. Pulmonary recovery predicted by measurement of pulmonary and membrane lung gas exchange during extracorporeal membrane oxygenation. *Surg Forum* 1985;36:294-296.
8. **Zwischenberger JB**, Toomasian JM, Drake K, Andrews AF, Kolobow T, Bartlett RH. Total respiratory support with single cannula venovenous ECMO: double lumen continuous flow vs. single lumen tidal flow. *Trans Am Soc Artif Intern Organs* 1985;31:610-615.
9. Bowerman RA, **Zwischenberger JB**, Andrews AF, Bartlett RH. Cranial sonography of the infant treated with extracorporeal membrane oxygenation. *Am J Roentgenol* 1985;145:161-166.
10. Anderson HL, III, Cilley RE, **Zwischenberger JB**, Bartlett RH. Thrombocytopenia in neonates after extracorporeal membrane oxygenation. *ASAIO Trans* 1986;32:534-537.
11. Cilley RE, Wesley JR, **Zwischenberger JB**, Toomasian JM, Bartlett RH. Method of pulmonary and membrane lung gas exchange measurement during extracorporeal membrane oxygenation. *ASAIO Trans* 1986;32:525-529.
12. Cilley RE, **Zwischenberger JB**, Andrews AF, Bowerman RA, Roloff DW, Bartlett RH. Intracranial hemorrhage during extracorporeal membrane oxygenation in neonates. *Pediatrics* 1986;78:699-704.
13. Toomasian JM, Haiduc NJ, **Zwischenberger JB**, Cilley RE, Behrendt DM, Gazzaniga AB, Bartlett RH. Techniques of extracorporeal membrane oxygenation for cardiac failure. *Proc Am Acad Cardiovasc Perfusion* 1986;7:105-109.
14. **Zwischenberger JB**, Cilley RE, Andrews AF, Roloff DW, Bartlett RH. The role of extracorporeal membrane oxygenation in the management of respiratory failure in the newborn. *Respir Care* 1986;31:491-501.
15. **Zwischenberger JB**, Cilley RE, Kirsh MM, Dechert RE, Bartlett RH. Does continuous monitoring of mixed venous oxygen saturation accurately reflect oxygen delivery and oxygen consumption following coronary artery bypass grafting? *Surg Forum* 1986;37:66-68.
16. Andrews AF, **Zwischenberger JB**, Cilley RE, Drake KL. Venovenous extracorporeal membrane oxygenation (ECMO) using a double-lumen cannula. *Artif Organs* 1987;11:265-268.

17. Asimakis GK, DiPette DJ, Conti VR, Holland OB, **Zwischenberger JB**. Hemodynamic action of calcitonin gene-related peptide in the isolated rat heart. *Life Sci* 1987;41:597-603.
18. Cilley RE, Wesley JR, **Zwischenberger JB**, Dechert RE, Bartlett RH. Metabolic rates of newborn infants with severe respiratory failure treated with extracorporeal membrane oxygenation. *Curr Surg* 1987;44:48-51.
19. Faulkner SC, Kurusz M, **Zwischenberger JB**, Allison PL, Pickens GJ, Bowers RM, Conti VR. Doppler monitoring of venous flow during extracorporeal membrane oxygenation: an inexpensive, readily available monitoring device. *Proc Am Acad Cardiovasc Perfusion* 1987;8:156-169.
20. Kirsh MM, Lemmer JH, **Zwischenberger JB**. Rapid technique of occlusion of the venae cavae for total cardiopulmonary bypass during repeat cardiac operations. *Ann Thorac Surg* 1987;43:566-567.
21. Lemmer JH, **Zwischenberger JB**, Bove EL, Dick M. Lymph leak from a femoral cutdown site in a neonate: repair with fibrin glue. *J Pediatr Surg* 1987;22:827-828.
22. **Zwischenberger JB**, Kirsh MM, Dechert RE, Arnold DK, Bartlett RH. Suppression of shivering decreases oxygen consumption and improves hemodynamic stability during postoperative rewarming. *Ann Thorac Surg* 1987;43:428-431.
23. Cilley RE, Wesley JR, **Zwischenberger JB**, Bartlett RH. Gas exchange measurements in neonates treated with extracorporeal membrane oxygenation. *J Pediatr Surg* 1988;23:306-311.
24. **Zwischenberger JB**, Cilley RE, Hirschl RB, Heiss KF, Conti VR, Bartlett RH. Life-threatening intrathoracic complications during treatment with extracorporeal membrane oxygenation. *J Pediatr Surg* 1988;23:599-604.
25. Cilley RE, Polley TZ, Jr., **Zwischenberger JB**, Toomasian JM, Bartlett RH. Independent measurement of oxygen consumption and oxygen delivery. *J Surg Res* 1989;47:242-247.
26. **Zwischenberger JB**, Shalaby TZ, Conti VR. Viable cryopreserved aortic homograft for aortic valve endocarditis and annular abscesses. *Ann Thorac Surg* 1989;48:365-370.
27. **Zwischenberger JB**, Bowers RM, Pickens GJ. Tension pneumothorax during extracorporeal membrane oxygenation. *Ann Thorac Surg* 1989;47:868-871.
28. Allison PL, Kurusz M, Graves DF, **Zwischenberger JB**. Devices and monitoring during neonatal ECMO: surgery results. *Perfusion* 1990;5:193-201.
29. Asimakis GK, Sandhu GS, Conti VR, Sordahl LA, **Zwischenberger JB**. Intermittent ischemia produces a cumulative depletion of mitochondrial adenine nucleotides in the isolated perfused rat heart. *Circ Res* 1990;66:302-310.
30. Cox CS, Jr., **Zwischenberger JB**, Traber LD, Traber DL, Herndon DN. Application of an intravenous mechanical blood oxygen/carbon dioxide exchange device (IVOX) for smoke inhalation injury in an ovine model. *Cardiovasc Sci Tech* 1990;2:391-394.
31. Delius RE, **Zwischenberger JB**, Cilley R, Behrendt DM, Bove EL, Deeb GM, Crowley D, Heidelberger KP, Bartlett RH. Prolonged extracorporeal life support of pediatric and adolescent cardiac transplant patients. *Ann Thorac Surg* 1990;50:791-795.
32. Faulkner SC, Kurusz M, **Zwischenberger JB**. Review of ECMO modified priming techniques. *Perfusion* 1990;5:222-223.
33. Griffin MP, Gore DC, **Zwischenberger JB**, Lobe TE, Hall M, Traber DL, Herndon DN. Does heparin improve survival in experimental porcine gram-negative septic shock? *Circ Shock* 1990;31:343-349.
34. Minifee PK, Daeschner CW, III, Griffin MP, Allison PL, **Zwischenberger JB**. Decreasing blood donor exposure in neonates on extracorporeal membrane oxygenation. *J Pediatr Surg* 1990;25:38-42.
35. **Zwischenberger JB**, Bartlett RH. Extracorporeal circulation for respiratory or cardiac failure. *Semin Thorac Cardiovasc Surg* 1990;2:320-331.

36. **Zwischenberger JB**, Null D, Goldthorn J, Harper N. Neonatal extracorporeal membrane oxygenation in Texas. *Tex Med* 1990;86:72-79.
37. Cox CS, Jr., **Zwischenberger JB**, Traber LD, Traber DL, Herndon DN. Use of an intravascular oxygenator/carbon dioxide removal device in an ovine smoke inhalation injury model. *ASAIO Trans* 1991;37:M411-3.
38. Cox CS, Jr., **Zwischenberger JB**, Kurusz M. Development and current status of a new intracorporeal membrane oxygenator. *Perfusion* 1991;6:291-296.
39. Griffin MP, **Zwischenberger JB**, Minifee PK, Allison PL, Lobe TE. Extracorporeal membrane oxygenation for gram-negative septic shock in the immature pig. *Circ Shock* 1991;33:195-199.
40. Kurusz M, **Zwischenberger JB**. Logistics of an ECMO program. *Perfusion* 1991;6:175-181.
41. **Zwischenberger JB**, Cox CS, Jr. Staging and surgery for lung cancer. *J Thorac Imaging* 1991;7:57-69.
42. **Zwischenberger JB**, Cox CS, Jr. A new intravascular membrane oxygenator to augment blood gas transfer in patients with acute respiratory failure. *Tex Med* 1991;87:60-63.
43. Asimakis GK, **Zwischenberger JB**, Inners-McBride K, Sordahl LA, Conti VR. Postischemic recovery of mitochondrial adenine nucleotides in the heart. *Circulation* 1992;85:2212-2220.
44. Boyars MC, **Zwischenberger JB**, Cox CS, Jr. Clinical manifestations of pulmonary fungal infections. *J Thorac Imaging* 1992;7:12-22.
45. Cox CS, Jr., **Zwischenberger JB**, Fleming RYD. Ileal mucosal hypoperfusion during cardiopulmonary bypass. *Curr Surg* 1992;47:507-510.
46. Cox CS, Jr., **Zwischenberger JB**, Traber DL, Minifee PK, Navaratnam N, Haque AK, Herndon DN. Immediate positive pressure ventilation with positive end-expiratory pressure (PEEP) improves survival in ovine smoke inhalation injury. *J Trauma* 1992;33:821-827.
47. Griffin MP, Minifee PK, Landry SH, Allison PL, Swischuk LE, **Zwischenberger JB**. Neurodevelopmental outcome in neonates after extracorporeal membrane oxygenation: rianal magnetic resonance imaging and ultrasonography correlation. *J Pediatr Surg* 1992;27:33-35.
48. Griffin MP, Minifee PK, Daeschner CW, III, **Zwischenberger JB**. Benefits of a lower hematocrit during extracorporeal membrane oxygenation? *Am J Dis Child* 1992;146:373-374.
49. Hunter JG, **Zwischenberger JB**, Bhatia J. Neonatal Extracorporeal Membrane Oxygenation: Neurodevelopmental outcome of ECMO survivors. *Inf Young Child* 1992;4:63-67.
50. **Zwischenberger JB**, Keeney S, Raymond G, Hanson M, Cox CS, Jr. Neonatal transport in Texas. *Tex Med* 1992;88:66-69.
51. **Zwischenberger JB**, Cox CS, Jr. Extracorporeal membrane oxygenation (ECMO) for neonatal respiratory failure. *Thorac Cardiovasc Surg* 1992;40:316-322.
52. **Zwischenberger JB**, Cox CS, Jr. ECMO in the management of cardiac failure. *ASAIO J* 1992;38:751-753.
53. **Zwischenberger JB**, Cox CS, Jr., Graves D, Bidani A. Intravascular membrane oxygenation and carbon dioxide removal--a new application for permissive hypercapnia? *Thorac Cardiovasc Surg* 1992;40:115-120.
54. Cox CS, Jr., **Zwischenberger JB**, Graves DF, Niranjan SC, Bidani A. Intracorporeal CO₂ removal and permissive hypercapnia to reduce airway pressure in acute respiratory failure. The theoretical basis for permissive hypercapnia with IVOX. *ASAIO J* 1993;39:97-102.
55. Cox CS, Jr., **Zwischenberger JB**, Traber DL, Traber LD, Haque AK, Herndon DN. Heparin improves oxygenation and minimizes barotrauma after severe smoke inhalation in an ovine model. *Surg Gynecol Obstet* 1993;176:339-349.

56. Naunheim KS, Hanosh J, **Zwischenberger JB**, Turrentine MW, Kesler KA, Reeder LB, Ferguson MK, Baue AE. Esophagectomy in the septuagenarian. *Ann Thorac Surg* 1993;56:880-884.
57. Nguyen TT, **Zwischenberger JB**, Tao W, Traber DL, Herndon DN, Duncan CC, Bush P, Bidani A. Significant enhancement of carbon dioxide removal by a new prototype IVOX. *ASAIO J* 1993;39:M719-24.
58. O'Rourke PP, Stolar CJ, **Zwischenberger JB**, Snedecor SM, Bartlett RH. Extracorporeal membrane oxygenation: support for overwhelming pulmonary failure in the pediatric population. Collective experience from the extracorporeal life support organization. *J Pediatr Surg* 1993;28:523-529.
59. **Zwischenberger JB**, Cox CS, Jr., Minifee PK, Traber DL, Traber LD, Flynn JT, Linares HA, Herndon DN. Pathophysiology of ovine smoke inhalation injury treated with extracorporeal membrane oxygenation. *Chest* 1993;103:1582-1586.
60. Bidani A, Tzouanakis AE, Cardenas VJ, Jr., **Zwischenberger JB**. Permissive hypercapnia in acute respiratory failure. *JAMA* 1994;272:957-962.
61. Conrad SA, Bagley A, Bagley B, Schaap RN, **Zwischenberger JB**. Major findings from the clinical trials of the intravascular oxygenator. *Artif Organs* 1994;18:846-863.
62. Liu CH, Niranjana SC, Clark JW, Jr., San KY, **Zwischenberger JB**, Bidani A. Analysis of airway mechanics in a ventilated lumped alveolar model coupled with pulmonary gas exchange. *Proceedings of the International Federation of Automatic control (IFAC) Symposium: Modeling and Control in Biomedical Systems* 1994;527-530.
63. Niranjana SC, Clark JW, Jr., San KY, **Zwischenberger JB**, Bidani A. Simulation of gas transport in an intravenacaval blood-gas exchange device (IVOX). *Proceedings of the International Federation of Automatic control (IFAC) symposium: Modeling and Control in Biomedical Systems* 1994; 198-201.
64. Chung DC, Clark JW, Jr., Vinten-Johansen J, Bidani A, **Zwischenberger JB**, Johnston WE, Traber DL. A mathematical model of the canine circulation. *Proceedings of the International Federation of Automatic control (IFAC) Symposium: Modeling and Control in Biomedical Systems* 1994; 109-112.
65. Conrad SA, **Zwischenberger JB**, Eggerstedt JM, Bidani A. In vivo gas transfer performance of the intravascular oxygenator in acute respiratory failure. *Artif Organs* 1994;18:840-845.
66. Dodge WF, Jelliffe RW, **Zwischenberger JB**, Bellanger RA, Hokanson JA, Snodgrass WR. Population pharmacokinetic models: effect of explicit versus assumed constant serum concentration assay error patterns upon parameter values of gentamicin in infants on and off extracorporeal membrane oxygenation. *Ther Drug Monit* 1994;16:552-559.
67. McDaniel LB, Nguyen T, **Zwischenberger JB**, Vertrees R, Uchida T, Kramer GC. Hypertonic saline dextran prime reduces increased intracranial pressure during cardiopulmonary bypass in pigs. *Anesth Analg* 1994;78:435-441.
68. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A. Analysis of factors affecting gas exchange in intravascular blood gas exchanger. *J Appl Physiol* 1994;77:1716-1730.69.
69. Sorrell VL, Callaway MJ, **Zwischenberger JB**, Schmedtje JF, Jr. Left ventricular pseudoaneurysm. *J Thorac Imaging* 1994; 9:258-259.
70. Tao W, Schroeder T, Bidani A, Cardenas VJ, Jr., Nguyen PD, Bradford DW, Traber DL, **Zwischenberger JB**. Improved gas exchange performance of the intravascular oxygenator by active blood mixing. *ASAIO J* 1994; 40:M527-32.
71. Tao W, **Zwischenberger JB**, Nguyen TT, Vertrees RA, Nutt LK, McDaniel LB, Kramer GC. Hypertonic saline/dextran for cardiopulmonary bypass reduces gut tissue water but does not improve mucosal perfusion. *J Surg Res* 1994; 57:718-725.

72. Tao W, **Zwischenberger JB**, Nguyen TT, Tzouanakis AE, Matheis EJ, Traber DL, Bidani A. Performance of an intravenous gas exchanger (IVOX) in a venovenous bypass circuit. *Ann Thorac Surg* 1994; 57:1484-90.
73. Upp JR, Jr., Bush PE, **Zwischenberger JB**. Complications of neonatal extracorporeal membrane oxygenation. *Perfusion* 1994;9:241-256.
74. Vertrees RA, **Zwischenberger JB**, McRea JC, Tao W, Kurusz M, Conti VR. Reversal of anticoagulation without protamine using a heparin removal device after cardiopulmonary bypass. *ASAIO J* 1994;40:M560-4.
75. Vertrees RA, Tao W, Kramer GC, Nutt L, McDaniel LB, DeVine SD, Jesmok G, **Zwischenberger JB**. Tumor necrosis factor monoclonal antibody prevents alterations in leukocyte populations during cardiopulmonary bypass. *ASAIO J* 1994;40:M554-9.
76. Vertrees RA, McDaniel LB, Deyo DJ, Kurusz M, **Zwischenberger JB**. Nuclear magnetic resonance of the brain during cardiopulmonary bypass: technical considerations. *Proc Am Acad Cardiovasc Perfusion* 1994;15:147-151.
77. Wildin SR, Landry SH, **Zwischenberger JB**. Prospective, controlled study of developmental outcome in survivors of extracorporeal membrane oxygenation: the first 24 months. *Pediatrics* 1994;93:404-408.
78. **Zwischenberger JB**, Cardenas VJ, Jr., Tao W, Niranjana SC, Clark JW, Bidani A. Intravascular membrane oxygenation and carbon dioxide removal with IVOX: can improved design and permissive hypercapnia achieve adequate respiratory support during severe respiratory failure? *Artif Organs* 1994;18:833-839.
79. **Zwischenberger JB**, Nguyen TT, Tao W, Bush PE, Cox CS, Traber DL, Herndon DN, Bidani A. IVOX with gradual permissive hypercapnia: a new management technique for respiratory failure. *J Surg Res* 1994;57:99-105.
80. **Zwischenberger JB**, Nguyen TT, Upp JR, Jr., Bush PE, Cox CS, Jr., Delosh T, Broemling L. Complications of neonatal extracorporeal membrane oxygenation. Collective experience from the Extracorporeal Life Support Organization. *J Thorac Cardiovasc Surg* 1994;107:838-849.
81. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A. Simulation of gas transport in an intravenacaval blood-gas exchange device (IVOX). *Proc IFAC Symposium on Modeling and Control in Biomedical Systems* 1994; 198-201.
82. Conti VR, Vertrees RA, **Zwischenberger JB**, Kurusz M. First clinical use of a heparin removal device: an alternative to protamine. *J Thorac Cardiovasc Surg* 1995;109:1015-1017.
83. Feerick AE, Church JA, **Zwischenberger JB**, Conti VR, Johnston WE. Systemic gaseous microemboli during left atrial catheterization: a common occurrence? *J Cardiothorac Vasc Anesth* 1995;9:395-398.
84. Lick SD, **Zwischenberger JB**. Endocarditis: When to operate? *ACC Curr J Rev* 1995;142-145.
85. McDaniel LB, **Zwischenberger JB**, Vertrees RA, Nutt L, Uchida T, Nguyen T, Kramer GC. Mixed venous oxygen saturation during cardiopulmonary bypass poorly predicts regional venous saturation. *Anesth Analg* 1995;80:466-472.
86. Nguyen TT, **Zwischenberger JB**, Watson WC, Traber DL, Prough DS, Herndon DN, Kramer GC. Hypertonic acetate dextran achieves high-flow-low-pressure resuscitation of hemorrhagic shock. *J Trauma* 1995;38:602-608.
87. Tao W, Bidani A, Cardenas VJ, Jr., Niranjana SC, **Zwischenberger JB**. Strategies to reduce surface area requirements for carbon dioxide removal for an intravenacaval gas exchange device. *ASAIO J* 1995;41:M567-72.

88. Tao W, **Zwischenberger JB**, Nguyen TT, Vertrees RA, McDaniel LB, Nutt LK, Herndon DN, Kramer GC. Gut mucosal ischemia during normothermic cardiopulmonary bypass results from bloodflow redistribution and increased oxygen demand. *J Thorac Cardiovasc Surg* 1995;110:819-828.
89. **Zwischenberger JB**, Sankar AB. Transhiatal esophagectomy. *Chest Surg Clin N Am* 1995;5:527-542.
90. **Zwischenberger JB**, Sankar AB. Surgery of the thoracic trachea. *J Thorac Imaging* 1995;10:199-205.
91. Bidani A, **Zwischenberger JB**, Cardenas VJ, Jr. Intracorporeal gas exchange: current status and future development. *Intensive Care Med* 1996;22:91-93.
92. Cardenas VJ, Jr., **Zwischenberger JB**, Tao W, Nguyen PJ, Schroeder T, Traber LD, Traber DL, Bidani A. Correction of blood pH attenuates changes in hemodynamics and organ blood flow during permissive hypercapnia. *Crit Care Med* 1996;24:827-834.
93. **Zwischenberger JB**, Tao W, Bidani A. Intracorporeal membrane gas exchange - Will it still prevail? *ASAIO J* 1996; 42:207-208.
94. Vertrees RA, Tao W, Pencil SD, Sites JP, Althoff DP, **Zwischenberger JB**. Induction of whole body hyperthermia with venovenous perfusion. *ASAIO J* 1996; 42:250-254.
95. Vertrees RA, Conti VR, Lick SD, **Zwischenberger JB**, McDaniel LB, Shulman G. Adverse effects of Postoperative Infusion of Shed Mediastinal Blood. *Ann Thorac Surg* 1996;62:717-723.
96. Brunston RL, Tao W, Bidani A, Cardenas VJ, Jr., Traber DL, **Zwischenberger JB**. Determination of low blood flow limits for arteriovenous carbon dioxide removal (AVCO₂R). *ASAIO J* 1996; M42:845-51.
97. Graves D, Chernin J, Kurusz M, **Zwischenberger JB**. Anticoagulation practices during neonatal ECMO: Survey results. *Perfusion* 1996; 11:461-466.
98. Alpard SK, Vertrees RA, Tao W, Deyo DJ, Brunston RB, Jr., **Zwischenberger JB**. Therapeutic hyperthermia. *Perfusion* 1996; 11:425-435.
99. Lick SD, Conti VR, **Zwischenberger JB**, Kurusz M. A simple technique of left heart bypass. *Ann Thorac Surg* 1996;61:1555-1556.
100. El-Zein RA, **Zwischenberger JB**, Abdel-Rahman SZ, Sankar AB, Au WW. Polymorphism of metabolizing genes and lung cancer histology: Prevalence of CYP2E1 in adenocarcinoma. *Cancer Letters* 1997;112:71-80.
101. Lick SD, **Zwischenberger JB**, Mileski WJ, Ahmad M. Torn ascending aorta missed by transesophageal echocardiography. *Ann Thorac Surg* 1997;63:1768-70.
102. Atkinson JB, Gomperts ED, Kang R, Lee M, Arensmen RM, Bartlett RH, Rais-Bharami K, Breauz CW, Cornish JD, Haase GM, Roden J, **Zwischenberger JB**. Prospective, randomized evaluation of the efficacy of fibrin sealant as a topical hemostatic agent at the cannulation site in neonates undergoing Extracorporeal Membrane Oxygenation. *Am J Surg* 1997;173(6):479-484.
103. Tao W, **Zwischenberger JB**, Kramer GC. Rapid monitoring of gastrointestinal intraluminal pCO₂ as an end-organ perfusion index. *Crit Care Med* 1997;25:1458-1459.
104. Frank BR, Tao W, Brunston RL Jr., Grochoske TL **Zwischenberger JB**. High flow/low resistance cannulas for arteriovenous carbon dioxide removal. *ASAIO J* 1997;43:17817- 17820.
105. Vertrees RA, Brunston RL Jr., Tao W, Deyo DJ, **Zwischenberger JB**. Parallel dialysis normalizes serum chemistries during veno-venous perfusion-induced hyperthermia. *ASAIO J* 1997;43:M806-M811.

106. Tao W, Deyo DJ, Brunston RL Jr., Vertrees RA, Grochoske TL, **Zwischenberger JB**. Efficacy of a heparin removal device in comparison with protamine after hypothermic cardiopulmonary bypass. *ASAIO J* 1997;43:M825-M830.
107. Brunston, RL Jr., Tao W, Bidani A, Traber DL, **Zwischenberger JB**. Organ blood flow during arteriovenous carbon dioxide removal (AVCO₂R). *ASAIO J* 1997;43:M821-M824.
108. Landry SH, Knowles LM, Miller-Loncar CL, Wildin SR, **Zwischenberger JB**. Extracorporeal membrane oxygenation versus conventional treatment: neurodevelopmental and social outcomes at 24 months. *Child Neuropsych* 1997;3(1):1-13.
109. Walser EM, Crow WN, **Zwischenberger JB**, Conti VR. Percutaneous tamponade of inadvertent transthoracic catheterization of the aorta. *Ann Thorac Surg* 1997;62:895-896.
110. Chung DC, Niranjana SC, Clark JW, Bidani A, Johnston WE, **Zwischenberger JB**, Traber Dynamic model of ventricular interaction and pericardial influence. *Am J Physiol*; 1997;272: H2942-2962.
111. Tao W, Brunston RL, Bidani A, Pirtle P, Dy J, Cardenas VJ, Jr., Traber DL, **Zwischenberger JB**. Significant reduction in minute ventilation and peak airway pressure with arteriovenous carbon dioxide removal during acute respiratory failure. *Crit Care Med* 1997;25:689-695.
112. Abreo G, **Zwischenberger JB**, Farrell RW, Ahmad M, Stouffer GA. Aortic root pseudoaneurysm after aortic dissection repair. *Am J Med Sci* 1997;314:273-275
113. **Zwischenberger JB**, Wittich GR, vanSonnenberg E, Johnson RF, Alpard SK, Anand SK, Morrison RJ. Airway simulation to guide stent placement for tracheobronchial obstruction in lung cancer. *Ann Thorac Surg* 1997;64:1619-1625.
114. Tao W, Callahan JB, Vertrees RA, Brunston RL Jr., Deyo DJ, McRea JL, Grochoske TL, **Zwischenberger JB**. Heparin clearance profiles following systemic anticoagulation using a heparin removal device system *ASAIO J* 1997;43:922-926.
115. **Zwischenberger JB**, Alpard SK. Mechanical support for the failing lung. *Current Surgery* 1997;54:467-470.
116. Brunston RL Jr., Tao W, Bidani A, Traber DL, Alpard SK, **Zwischenberger JB**. Prolonged hemodynamic stability during arteriovenous carbon dioxide removal (AVCO₂R) *J Thorac Cardiovasc Surg* 1997;114:1107-14.
117. Conforti-Froes N, El-Zein R, Abdel-Rahman S, **Zwischenberger JB**, Au WW. Predisposing genes and increased chromosome aberrations in lung cancer cigarette smokers. *Mut Res* 1997;379:53-59.
118. Brunston RL Jr., **Zwischenberger JB**, Tao W, Cardenas VJ Jr., Traber DL, Bidani A. Total arteriovenous carbon dioxide removal (AVCO₂R): Simplifying extracorporeal support for severe respiratory failure. *Ann Thorac Surg* 1997; 64:1599-1605
119. Athanasiades A, Ghorbel F, Clark JW, Jr., Niranjana SC, Liu CH, **Zwischenberger JB**, Bidani A. The work of breathing in a nonlinear human lung model. *Proceedings of the ASME International Mechanical Engineering Congress and Exposition, DSC*.1997;61:433-438.
120. El-Zein R, **Zwischenberger JB**, Wood TG, Abdel-Rahman SZ, Brekelbaum C, Au WW. Combined genetic polymorphism and risk for development of lung cancer. *Mut Res* 1997;381:189-200.
121. Alpard SK, **Zwischenberger JB**. Adult extracorporeal membrane oxygenation (ECMO) for severe respiratory failure. *Perfusion* 1998;13:3-15.
122. Liu CH, Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A. Airway mechanics and gas exchange in a nonlinear model of the normal human lung. *J Appl Physiol* 1998;84(4):1447-1469
123. **Zwischenberger JB**, Vertrees RA, Brunston RL Jr., Tao W, Alpard SK, Brown PS Jr. Application of a Heparin Removal Device (HRD) in patients with known protamine hypersensitivity. *J Thorac Cardiovasc Surg* 1998;115(3):729-731

124. Pierre EJ, **Zwischenberger JB**, Angel C, Upp J, Cortiella J, Sankar A, Herndon DN. Extracorporeal membrane oxygenation in the treatment of respiratory failure in pediatric patients with burns. *J Burn Care Rehabil* 1998;19:131-4.
125. vanSonnenberg E, Wittich GR, Goodacre BW, **Zwischenberger JB**. Percutaneous drainage of thoracic collections. *J Thorac Imag* 1998;13:74-82.
126. Alpard SK, Bidani A, Conrad SA, **Zwischenberger JB**. Arteriovenous carbon dioxide removal. *ASAIO J* 1998;44(3):223-224.
127. **Zwischenberger JB**. Advances in the management of respiratory failure: overview. *ASAIO J* 1998;44:(3):222.
128. Tao W, **Zwischenberger JB**. Intracorporeal gas exchange: taking steps further. *ASAIO J* 1998;44:(3):224-226.
129. Delius RE, **Zwischenberger JB**, Cilley R, Behrendt DM, Bove EL, Deeb GM, Crowley D, Heidelberger KP, Bartlett RH. Extracorporeal heparin adsorption following cardiopulmonary bypass with a heparin removal device - an alternative to protamine. *Ann Thoracic Surg* 1998;65:877
130. Abdel-Rahman SZ, El-Zein R, **Zwischenberger JB**, Au WW. Association of the NAT*10 genotype with increased chromosome aberrations and higher lung cancer risk in cigarette smokers. *Mut Res* 1998;398:43-54.
131. Conrad SA, Brown EG, Grier LR, Baier J, Blount J, Heming T, **Zwischenberger JB**, Bidani A. Arteriovenous extracorporeal carbon dioxide removal (AVCO₂R): a mathematical model and experimental evaluation. *ASAIO J* 1998;44:267-277.
132. Olansen JB, Ghorbel F, Clark JW Jr., Deyo D, **Zwischenberger JB**, Bidani A. An Automated LabView™-Based Data Acquisition System for Analysis of Pulmonary Function. *J Clin Eng* 1998;23:(4):279-287.
133. Hilt T, Graves DF, Chernin JM, Angel CA, Herndon DN, **Zwischenberger JB**. Successful use of extracorporeal membrane oxygenation to treat severe respiratory failure in a pediatric patient with a scald injury. *Crit Care Nurse* 1998;18:(6):63-72.
134. Boyars M, **Zwischenberger JB**. Conservative and surgical treatment of tuberculosis and other mycobacterium infections. *Problemy Tuberkuleza* 1998;2:47-51.
135. Hirschl RB, Conrad S, Kaiser R, **Zwischenberger JB**, Bartlett RH, Booth F, Cardenas V. Partial liquid ventilation in adult patients with ARDS: A Multicenter Phase I-II Trial: *Ann Surg* 228:692-700, 1998.
136. Khan AM, Shabarek FM, **Zwischenberger JB**, Warner BW, Cheu HW, Jaksic T, Goretsky MJ, Meyer TA, Doski J, Lally KP. Utility of daily head ultrasound in infants on ECMO. *J Ped Surg* 1998;33(8):1229-1232.
137. Kurusz M, McRea JL, Tao W, Vertrees RA, **Zwischenberger JB**. Heparin removal device: an alternative therapy? *Proceedings of the American Academy of Cardiovascular Perfusion* 1998;19:21-23.
138. Tao W, Deyo DJ, Alpard SK, **Zwischenberger JB**. Significant reduction in circuit pressure with modified plasma separation chamber for heparin removal device. *ASAIO J* 1999;45:50-52.
139. **Zwischenberger JB**, Tao W, Bidani A. Intravascular membrane oxygenator and carbon dioxide removal device (IVOX) - a review of performance and improvements. *ASAIO J* 1999, 45:(1):41-46.
140. **Zwischenberger JB**, Brunston RL Jr., Swann J, Conti VR. Comparison of two topical collagen-based hemostatic sponges during cardiothoracic procedures. *J Investigat Surg* 1999;12:(2):101-106.
141. Alpard SK, **Zwischenberger JB**. Staging and surgery for non-small cell lung cancer (NSCLC). *Surg Onc* 1999;7:25-43.

142. **Zwischenberger JB**, Conrad SA, Alpard SK, Grier LR, Bidani A. Percutaneous Extracorporeal arteriovenous CO₂ removal for severe respiratory failure. *Ann Thorac Surg* 1999;68:181-187.
143. **Zwischenberger JB**, Alpard SK. Pulmonary Metastasectomy: Key References. *Ann Thorac Surg* 1999;68:287-288.
144. **Zwischenberger JB**, Alpard SK, Conrad SA, Johnigan RH, Bidani A. Arteriovenous carbon dioxide removal: development and impact on ventilator management and survival during severe respiratory failure. *Perfusion* 1999;14(3):299-310.
145. Alpard SK, **Zwischenberger JB**, Tao W, Deyo DJ, Bidani A. Reduced ventilator pressure and improved p/f ratio during percutaneous arteriovenous carbon dioxide removal (AVCO₂R) for severe respiratory failure. *Ann Surg* 1999;230(2):215-224.
146. Niranjana SC, Bidani A, Ghorbel F, **Zwischenberger JB**, Clark JW Jr. Theoretical study of inspiratory flow waveforms during mechanical ventilation on pulmonary blood flow and gas exchange. *Comp and Biomed Res* 1999;32:355-390.
147. Kurusz M, Deyo DJ, Sholar AD, Tao W, **Zwischenberger JB**. Laboratory testing of femoral venous cannulae: effect of size, position and negative pressure on flow. *Perfusion* 1999;14:379-387.
148. **Zwischenberger JB**, Alpard SK, Tao W, Deyo DJ, Bidani A. Percutaneous arteriovenous carbon dioxide removal improves survival in respiratory distress syndrome: a prospective randomized outcomes study in sheep. *Surg Forum* 1999;50:140-142.
149. **Zwischenberger JB**, Alpard SK, Bidani A, Pritchard P. ARDS and mechanical ventilation-Part I. *RT Journal* 1999;13(1):47-56.
150. Haque AK, Adegboyega P, Al-Salameh A, Vrazel DP, **Zwischenberger JB**. P53 and P-glycoprotein in expression do not correlate with survival in nonsmall cell lung cancer: a long-term study and literature review. *Mod Pathol* 1999;12(12):1158-1166.
151. Sawh RN, Payne D, Seifert SL, Wen JW, Popov V, **Zwischenberger JB**, Cardenas V, Lee RW, Haque AK. Acute interstitial pneumonia: ultrastructural evidence of a viral cause. *AM J Clin Pathol* 1999;112:532-533.
152. Baker J, **Zwischenberger JB**, Baumgartel A. Neuropsychological assessment in patients evaluated for hyperthermia for metastatic nonsmall lung carcinoma (FDA Phase 1 and Phase 2). *Arch Clin Neuropsychol* 2000;15(8), November.
153. Angel CA, Murillo C, **Zwischenberger JB**, Swischuk L, Graves D, Chernin J. Perioperative extracorporeal membrane oxygenation (ECMO) for tracheal reconstruction in children. *Pedi Surg International* 2000;16(1-2):98-101.
154. Alpard SK, Duarte AG, Bidani A, **Zwischenberger JB**. Pathogenesis and management of respiratory insufficiency following pulmonary resection. *Seminars in Surgical Oncology* 2000;18:183-196.
155. Johnston WE, **Zwischenberger JB**. Improving splanchnic perfusion during cardiopulmonary bypass. *Anesthesiology* 2000;92:305-307.
156. Mathew P, Roberts JA, **Zwischenberger JB**, Haque AK. Mediastinal atypical carcinoid and neurofibromatosis type 1. *Arch Pathol Lab Med* 2000;124:319-321.
157. Alpard SK, **Zwischenberger JB**, Tao W, Deyo DJ, Traber DL, Bidani A. New clinically relevant sheep model of severe respiratory failure secondary to combined smoke inhalation/cutaneous flame burn injury. *Crit Care Med* 2000, 28(5):1469-1476.
158. Vertrees RA, Deyo DJ, Quast M, Lightfoot KM, Boor PJ, **Zwischenberger JB**. Development of a human to murine orthotopic xenotransplanted lung cancer model. *Journal of Investigative Surgery* 2000;13:349-358.

159. **Zwischenberger JB**, Alpard SK, Pritchard P, Conrad SA. ARDS and Extrapulmonary Gas Exchange-Part II. *RT Journal* 2000;13(4):49-55.
160. **Zwischenberger JB**, Savage CM. Megaesophagus from a 26-year history of Achalasia. *Ann Thorac Surg* 2000;69:1597.
161. Vertrees RA, **Zwischenberger JB**, Boor PJ, Pencil SD. Oncogenic *ras* results in increased cell kill due to defective thermoprotection in lung cancer cells. *Ann Thorac Surg* 2000;69:1675-1680.
162. Baker J, **Zwischenberger JB**, Baumgartel A. Neuropsychological assessment in patients evaluated for hyperthermia for metastatic non-small lung carcinoma (FDA phase 1 and phase 2). *Arch Clin Neuropsychol* 2000;15:668-669.
163. Vertrees RA, Bidani A, Deyo DJ, Tao W, **Zwischenberger JB**. Venovenous perfusion-induced systemic hyperthermia: hemodynamics, blood flow, and thermal gradients. *Ann Thorac Surg* 2000;70:644-652
164. El-Zein R, Abdel-Rahman SZ, Conforti-Froes N, Alpard SK, **Zwischenberger JB**. Chromosome aberrations as a predictor of clinical outcome for smoking associated lung Cancer. *Cancer Letters* 2000;158:65-71.
165. Ferguson MK, Landreneau RJ, Hazelrigg SR, Altorki NK, Naunheim KS, **Zwischenberger JB**, Kent M, Yim APC. Long-term outcome after resection for bronchial carcinoid tumors. *European Journal of Cardio-thoracic Surgery* 2000;18:156-161.
166. Savage C, **Zwischenberger JB**. Image guided fine needle aspirate strategies for staging of lung cancer. *Clinical Lung Cancer* 2000;2(2):101-110.
167. Athanasides A, Ghorbel F, Clark JW, Jr., Niranjan SC, Olansen J, **Zwischenberger JB**, Bidani A. Energy analysis of a nonlinear model of the normal human lung. *J Biolog Sys* 2000;8: 115-139.
168. Vertrees RA, **Zwischenberger JB**, Woodson LC, Bedell EA, Deyo DJ, Chernin JM. Veno-venous perfusion-induced systemic hyperthermia: case report with perfusion considerations. *Perfusion* 2001;16:243-248.
169. **Zwischenberger JB**, Tao W, Deyo DJ, Vertrees RA, Alpard SK, Shulman G. Safety and efficacy of a heparin removal device – a prospective randomized preclinical outcomes study. *Ann Thorac Surg* 2001;71:270-271.
170. **Zwischenberger JB**, Alpard SK, Bidani A. Severe respiratory failure: key references. *Ann Thorac Surg* 2001;71:394-396.
171. Harper DD, Alpard SK, Deyo DJ, Lick SD, Traber DL, **Zwischenberger JB**. Anatomic study of the pulmonary artery as a conduit for an artificial lung. *ASAIO J* 2001;47:34-36.
172. Savage C, **Zwischenberger JB**, Deyo DJ, Heming TA, Alpard SK, Bidani A. New technique for performing bronchoalveolar lavage in sheep. *J Bronchology* 2001;8:17-20.
173. Savage C, **Zwischenberger JB**. Hemoptysis secondary to pulmonary pseudoaneurysm 30 years after a gunshot wound. *Ann Thorac Surg* 2001;71:1021-3
174. Wang, D, Holden B, Savage C, Zhang K, **Zwischenberger JB**. Giant left atrial intrapericardial aneurysm: noninvasive preoperative imaging. *Ann Thorac Surg* 2001;71:1014-6
175. **Zwischenberger JB**, Alpard SK, Tao W, Deyo DJ, Bidani A. Percutaneous arteriovenous carbon dioxide removal improves survival in acute respiratory distress syndrome: a prospective randomized outcomes study in adult sheep. *J Thorac Cardiovasc Surg* 2001;121:542-551
176. Jayroe JB, Alpard SK, Deyo DJ, Savage C, Murphy J, **Zwischenberger JB**. Hemodynamic stability during arteriovenous carbon dioxide removal (avco₂r) for ards: a prospective randomized outcomes study in adult sheep. *ASAIO J* 2001;47(3):211-214.

177. **Zwischenberger JB**, Woodson LC, Vertrees RA, Alpard SK, Chernin JM, Bedell EA. Percutaneous veno-venous perfusion-induced systemic hyperthermia for advanced non-small cell lung cancer: initial clinical experience. *Ann Thorac Surg* 2001;72:234-242.
178. **Zwischenberger JB**, Anderson CM, Cook KE, Lick SD, Mockros LF, Bartlett RH. Development of an implantable artificial lung: challenges and progress. *ASAIO* 2001; 47(4):316-320.
179. Conrad SA, **Zwischenberger JB**, Grier LR, Alpard SK, Bidani A. Total extracorporeal arteriovenous carbon dioxide removal (AVCO₂R) in acute respiratory failure: A Phase I Clinical Study. *Intensive Care Med* 2001;27:1340-1351
180. Schmalsteig FC, Chow J, Savage C, Rudloff HE, Palkowetz KH, **Zwischenberger JB**. Interleukin-8, aquaporin-1, and inducible nitric oxide synthase in smoke and burn injured sheep treated with percutaneous carbon dioxide removal. *ASAIO J* 2001;47(4):365-371
181. Lick SD, **Zwischenberger JB**, Alpard SK, Witt SA, Deyo DJ, Merz SI. Development of ambulatory artificial lung in an ovine survival model. *ASAIO J* 2001;47(5):486-491.
182. Lick SD, **Zwischenberger JB**, Wang D, Deyo DJ, Alpard SK, Merz SI. Improved right heart function with a compliant in flow artificial lung in-series with the pulmonary circulation. *Ann Thorac Surg* 2001;72(3):899-904
183. Murphy J, Savage C, Alpard SK, Deyo D, Jayroe JB, **Zwischenberger JB**. Low-dose versus high-dose heparinization during arteriovenous carbon dioxide removal. *Perfusion* 2001;16(6):460-468
184. Elerian LF, Sparks JW, Meyer TA, **Zwischenberger JB**, Doski J, Goretsky MJ, Warner BW, Cheu HW, Lally KP. Usefulness of surveillance cultures in neonatal Extracorporeal membrane Oxygenation. *ASAIO J* 2001;47(3):220-223
185. Chan R, Morrill S, Freeman Jr. D, Colman M, **Zwischenberger JB**. Bi-modality (Chemo-radiation) Vs. Tri-modality (Chemo-radiation followed by Surgery) Treatment for Carcinoma of Esophagus. *Dis Esoph* 2001;14:202-207.
186. Chan R, He Y, Haque A, **Zwischenberger JB**. CT-pathologic correlation of gross tumor volume (GTV) and clinical target volume (CTV) in non-small cell lung cancer: a pilot experience. *Arch Path Lab Med* 2001;125:1469-1472
187. **Zwischenberger JB**. Acute respiratory distress syndrome: new techniques bring new challenges. *Medical Crossfire General Surgery Edition* 2001; 2(4):14-23.
188. **Zwischenberger JB**, Savage C, Bidani A. Surgical aspects of esophageal disease and perforation and caustic injury. *Am J Respir Crit Care Med* 2002;165:1037-1040.
189. Alpard SK, **Zwischenberger JB**. Extracorporeal membrane oxygenation for severe respiratory failure. *Chest Surg Clin N Am* 2002;12(2):355-378.
190. Hirschl RB, Croce M, Gore D, Weiderman H, Davis K, **Zwischenberger JB**, Bartlett RH. For the adult PLV Study Group. Prospective, randomized, controlled pilot study of partial liquid ventilation in adult acute respiratory distress syndrome. *Am J Resp and Crit Care Med* 2002;165:781-787.
191. Parmer KS, **Zwischenberger JB**, Reeves AL, Waxman I. Image directed endoscopic ultrasound guided fine needle aspiration of celiac axis lymph nodes (M1a disease) in esophageal cancer. *Ann Thorac Surg* 2002; 73:916-921.
192. **Zwischenberger JB**, Savage C, Witt SA, Alpard SK, Harper DD, Deyo DJ. Arterio-venous CO₂ Removal (AVCO₂R) perioperative management: rapid recovery and enhanced survival. *J Investigative Surgery* 2002; 15:15-21.
193. Vertrees RA, Leeth A, Girouard M, Roach JD, **Zwischenberger JB**. Whole-body hyperthermia, a review of theory, design and application. *Perfusion* 2002;17(4):279-290.
194. **Zwischenberger JB**, Alpard SK. Artificial lungs: a new inspiration. *Perfusion* 2002;17(4):253-268.

195. Kurusz M., **Zwischenberger JB**. Percutaneous cardiopulmonary bypass for cardiac emergencies. *Perfusion* 2002;17(4):269-278.
196. Goodacre BW, Savage C, **Zwischenberger JB**, Wittich GR, vanSonnenberg E. Salinoma window technique for mediastinal lymph node biopsy. *Ann Thorac Surg* 2002;74:276-277
197. Savage C, **Zwischenberger JB**. Letter to the Editor. Removal of tooth obstructing the distal bronchus 12 days after traumatic aspiration: extraction of a chronically aspirated tooth. *J Bronchology* 2002;9(3):232-233.
198. Rolle AG, **Zwischenberger JB**, Alpard SK, Koch R. Lobe-sparing resection of multiple pulmonary metastases with a new 1318 nm Nd:YAG Laser – First 100 Patients. *Ann Thorac Surg* 2002; 74(3):865-869.
199. **Zwischenberger JB**, Wang D, Lick SD, Alpard SK, Deyo DJ, Chambers S. The paracorporeal artificial lung improves 5-day outcomes from lethal smoke/burn induced ARDS in sheep. *Ann Thorac Surg* 2002;74:1011-1018
200. Loran DB, Woodside KJ, Cerfolio RJ, **Zwischenberger JB**. Predictors of alveolar air leaks. *Chest Surg Clin N Am* 2002;12(3):477-488
201. **Zwischenberger JB**, Savage C, Alpard SK, Anderson C, Marroquin S, Goodacre B. Mediastinal lymph node transthoracic needle aspiration and core biopsy—should it precede mediastinoscopy? *Chest* 2002;121(4):1165-1170
202. Parmar KS, **Zwischenberger JB**, Reeves AL, Waxman I. Clinical impact of endoscopic ultrasound-guided fine needle aspiration of celiac axis lymph nodes (M1a disease) in esophageal cancer. *Ann Thorac Surg* 2002;73:916-20.
203. Savage C, McQuitty C, Wang D, **Zwischenberger JB**. Postthoracotomy pain management. *Chest Surg Clin N Am* 2002;12(2):251-264.
204. Walser E, Savage C, **Zwischenberger JB**. Thoracic imaging in the ICU: Interventional Radiology. *Chest Surg Clin N Am* 2002;12 (2):209-226.
205. Jayroe JB, Wang D, Deyo D, Alpard SK, Bidani A, **Zwischenberger JB**. The effect of augmented hemodynamics on blood flow during arteriovenous carbon dioxide removal (AVCO₂R). *ASAIO J* 2003;49:30-34.
206. Woodside KJ, vanSonnenberg E, Chon KS, Loran DB, Tocino IM, **Zwischenberger JB**. Pneumothorax in patients with acute respiratory distress syndrome: pathophysiology, detection, and treatment. *J Intensive Care Med* 2003;18(1):9-20.
207. Walser EM, Savage C, Ozkahn O, **Zwischenberger JB**. Percutaneous unknotting and retrieval of Swan-Ganz Catheter. *Ann Thorac Surg* 2003;75(3) 1027.
208. vanSonnenberg E, Goodacre BW, Wittich Gr, Logrono R, Kennedy PT, **Zwischenberger JB**. Image-guided 25-gauge needle biopsy for thoracic lesions: diagnostic feasibility and safety. *Radiology*. 2003; 227(2): 414-8.
209. Lick SD, Deyo DJ, Wang D, Witt SA, Alpard SK, Harper DD, **Zwischenberger JB**. Paracorporeal artificial lung perioperative management for survival study in sheep. *J Invest Surg* 2003; 16:177-184.
210. Cajas-Salazar N, Au WW, **Zwischenberger JB**, Sierra-Torres CH, Salama SA, Alpard SK, Tying SK. Effect of epoxide hydrolase polymorphisms on chromosome aberrations and risk for lung cancer. *Cancer Genet Cytogenet* 2003;145:97-102.
211. Cajas-Salazar N, Sierra-torres H, Salama SA, **Zwischenberger JB**, Au WW. Combined effect of MPO, GSTM1 and GSTT1 polymorphisms on chromosome aberrations and lung cancer risk. *Int J Hyg Environ Health*. 2003; 206(6): 473-83.

212. Wang D, Lick S, Alpard SK, Deyo DJ, Savage C, Duarte A, Chambers S, **Zwischenberger JB**. Ambulatory arterio-venous CO₂ removal: Initial studies and prototype development. *ASAIO J* 2003;49:564-567.
213. Wang D, Savage C, Yamani HN, Alpard SK, Deyo DJ, Nemser S, **Zwischenberger JB**. Short-term performance evaluation of a perfluorocopolymer coated gas exchanger for arterio-venous CO₂ removal (AVCO₂R). *ASAIO J* 2003;49:673-677.
214. **Zwischenberger JB**, Girouard M, Lynch JE. Bone wax cast to repair a cannula leakage during prolonged extracorporeal membrane oxygenation. *Perfusion* 2003;18:363-364.
215. Savage C, Reabe S, Goldman SM, Zelitt DL, **Zwischenberger JB**, Sandler CM. Imaging of bilateral ureteropelvic laceration from blunt trauma. *Emerg Radiol*. 2003; 10(2):99-101.
216. Lu K, Clark JW Jr, Ghorbel FH, Ware DL, **Zwischenberger JB**, Bidani A. Whole-body gas exchange in human predicted by a cardiopulmonary model. *Cardiovasc Engineering: An International Journal* 2003; 3(1).
217. **Zwischenberger JB**. Artificial lung. The Next 50 Years of Extracorporeal Circulation: Organ Replacement in the 21st Century. *Proc Am Acad Cardiovasc. Perfusion* 2003; 24:76-81.
218. Savage C, Walser EM, Wang D, Ozkahn O, **Zwischenberger JB**. Percutaneous retrieval of intravascular foreign bodies. *Cardiovasc Intervent Radiol* 2003;26:440-442.
219. Lu K, Clark JW Jr, Ghorbel FH, Robertson CS, Ware DL, **Zwischenberger JB**, Bidani A. Cerebral autoregulation and gas exchange studied using a human cardiopulmonary model. *Am J Physiol Heart Circ Physiol* 2004;286(2):H584-H601.
220. Schmalsteig F, **Zwischenberger JB**. Artificial lung/inflammatory interface-a refocus of the problem. *ASAIO J* 2004;50:6-8.
221. Lick SD, **Zwischenberger JB**. Artificial lung: bench toward bedside. *ASAIO J* 2004;50:2-5.
222. **Zwischenberger JB**. Holding true to the old making way for the new. *ASAIO J* 2004;50:1.
223. Vertrees RA, Nason R, Hold MD, Leeth AM, Schmalstieg FC, Boor PJ, **Zwischenberger JB**. Smoke-burn induced respiratory failure elicits apoptosis in ovine lungs and cultured lung cells, ameliorated with arterio-venous carbon dioxide removal (AVCO₂R). *Chest* 2004;125(4): 1472-1482.
224. Woodside K, **Zwischenberger JB**, Olvera DA, Conti VR. T-Modification of sternotomy to accommodate a low-lying tracheostomy. *Ann Thorac Surg* 2004; 77(3):1109.
225. Savage C, Walser E, Ozkan O, Woodside K, Schnadig V, **Zwischenberger JB**. Transthoracic image-guided biopsy of lung nodules: "when is benign really benign?" *J Vascular and Interventional Radiology* 2004;15:161-164.
226. **Zwischenberger JB**, Vertrees RA, Bedell EA, McQuitty C, Chernin JM, Woodson LC. Percutaneous veno-venous perfusion-induced systemic hyperthermia for lung cancer: A Phase I Safety Study. *Ann Thorac Surg* 2004; 77(6): 1916-1925.
227. Amini, B, Bidani, A, **Zwischenberger JB**, Clark JW Jr. A model of the rat phrenic motor neuron. *IEEE Trans Biomed Eng* 51(7); 2004, 1103-1114.
228. Walser EM, Gomez G, Zwischenberger JB, Ozkan O, Pulnik J, Gouner C, Meisamy S. Combined transthoracic and transtracheal closure of large bronchopleural fistulae. *J Laparoendosc Adv Surg Tech A*. 2004; 14(2):97-101
229. Wang D, Savage C, Xiao S, Yamani H, Zhou X, Sun Z, **Zwischenberger JB**. St. Thomas Hospital Cardioplegia #2 Fails to Suppress Slow Reaction Pacemaker Cell Electrical Activity. *J Surg Res* 2004;120, 56-63.

230. Walser EM, Robinson B, Raza SA, Ozkan OS, Ustuner E, **Zwischenberger JB**. Clinical outcomes with airway stents for proximal versus distal malignant tracheobronchial obstructions. *J Vasc Interv Radiol*. 2004;15(5):471-7.
231. Vertrees RA, **Zwischenberger JB**. Invited commentary. *Ann Thorac Surg* 2004; 78(5):1772-1773.
232. Haque AK, Au W, Cajas-Salazar N, Khan S, Ginzler AW, Jones DV, **Zwischenberger JB**, Xie J. CYP2E1 polymorphism, cigarette smoking, p53 expression, and survival in non-small cell lung cancer: a long-term follow-up study. *Appl Immunohistochem Mol Morphol* 2004;12(4):315-322.
233. **Zwischenberger JB**. Future of artificial lungs. *ASAIO J* 2004; 50(6):xlix-li. Review.
234. Loran DB, **Zwischenberger JB**. Thoracic surgery in the elderly. *J Am Coll Surg* 2004;199(5):773-784.
235. Ha R, Qian J, Wang D, **Zwischenberger JB**, Bidhani A, Clark JW Jr. A closed-loop model of the ovine cardiovascular system. *Conf Proc IEEE Eng Med Biol Soc* 2004;5:3781-3784.
236. Amini B, Bidani A, **Zwischenberger JB**, Clark JW Jr. A model of the respiratory central pattern generator. *Conf Proc IEEE Eng Med Biol Soc* 2004;6:4580-4583.
237. Yue Y, Croitoru M, Bidani A, **Zwischenberger J**, Clark JW Jr. Ultrasonic speckle suppression using robust nonlinear wavelet diffusion for LV volume quantification. *Conf Proc IEEE Eng Med Biol Soc* 2004;3:1609-1612
238. Vertrees RA, Das GC, Popov VL, Coscio AM, Goodwin TJ, Logrono R, **Zwischenberger JB**, Boor PJ. Synergistic interaction of hyperthermia and gemcitabine in lung cancer. *Cancer Biol Ther* 2005;4(10):e52-e61.
239. Bhutani MS, Jones DV, Jr., **Zwischenberger JB**. Endoscopic ultrasound-guided fine-needle aspiration staging of lung cancer: is it time to go beyond cytology? *Chest* 2005;127:418-420.
240. Vertrees RA, Das GC, Coscio AM, Xie J, **Zwischenberger JB**, Boor PJ. A mechanism of hyperthermia-induced apoptosis in RAS-transformed lung cells. *Mol Carcinog* 2005;44:111-121.
241. DeBerry BB, Lynch JE, Chung DH, **Zwischenberger JB**. Pertussis with severe pulmonary hypertension and leukocytosis treated with extracorporeal membrane oxygenation. *Pediatr Surg Int* 2005;June 4 [Epub ahead of print]
242. **Zwischenberger JB**, Hyde BR, Escalon JC. What's new in general thoracic surgery. *J Am Coll Surg* 2005;201(1):90-99.
243. Amini B, Bidani A, Zwischenberger JB, Clark JW Jr. A model of the pacemaking neuron of the respiratory central pattern generator. *Trans Neural Syst Rehabil Eng* 2005;13(2):120-124.
244. DeBerry BB, Lynch JE, Chernin JM, **Zwischenberger JB**, Chung DH. A survey for pain and sedation medications in pediatric patients during extracorporeal membrane oxygenation. *Perfusion* 2005;20(3):139-143.
245. Raju GS, Thompson C, **Zwischenberger JB**. Emerging endoscopic options in the management of esophageal leaks (videos). *Gastrointest Endosc* 2005;62(2):278-286.
246. Wang D, Lick SD, Campbell KM, Loran DB, Alpard SK, **Zwischenberger JB**, Chambers SD. Development of ambulatory arterio-venous carbon dioxide removal (AVCO2R): the downsized gas exchanger prototype for ambulation removes enough CO₂ with low blood resistance. *ASAIO J* 2005;51(4):385-389.
247. Lynch JE, Clemson L, DeBerry B, **Zwischenberger JB**. ECMO: Back where we started, again. *Int J Artif Organs* 2005;28(8):787-796.
248. **Zwischenberger JB**, Littleton BL. State of the ASAIO Journal. *ASAIO J* 2005;51(6):iii (editorial).
249. Zhou X, Loran DB, Wang D, Hyde BR, Lick SD, **Zwischenberger JB**. Seventy-two hour gas exchange performance and hemodynamic properties of NOVALUNG®iLA as a gas exchanger for arteriovenous carbon dioxide removal. *Perfusion* 2005;20:303-308.

250. Cox RA, Burke AS, Oliveras G, Enkhbaatar P, Traber LD, **Zwischenberger JB**, Jeschke MG, Schmalstieg FC, Herndon DN, Traber DL, Hawkins HK. Acute bronchial obstruction in sheep: histopathology and gland cytokine expression. *Experi Lung Res* 2005;31:819-837.
251. Ridley RW, **Zwischenberger JB**. Tracheoinnominate fistula: surgical management of an iatrogenic disaster. *J Laryngol Otol*. 2006;120(8):676-80.
252. Qian KX, Wang D, Topaz SR, Ru WM, Zeng P, Yuan HY, Wang H, Wang FQ, Feng ZG, **Zwischenberger JB**. Use of aortic valvo-pumps placed in valve annulus for long-term left ventricular assist. *ASAIO J* 2005;51(6):736-738.
253. Baker J, Keenan L, **Zwischenberger JB**. A model for primary care psychology with general thoracic surgical patients. *J Clin Psychol Med Set* 2005;12(4):359-366.
254. Loran DB, Hyde BR, **Zwischenberger JB**. Perioperative management of special populations: the geriatric patient. *Surg Clin N Am* 2005;85(6):1259-1266.
255. **Zwischenberger JB**. A new section is added to the journal. *ASAIO J* 2005;51(5):i.
256. **Zwischenberger JB**, Littleton BL. 2006 ASAIO Journal report. *ASAIO J* 2006;52(6):e1-e2.
257. Yue Y, Croitoru MM, Bidani A, **Zwischenberger JB**, Clark Jr, JW: Nonlinear multiscale wavelet diffusion for speckle suppression and edge enhancement in ultrasound images. *IEEE Transactions on Medical Imaging* 2006;25(3):297-311.
258. Cardenas VJ Jr, Miller L, Lynch JE, Anderson MJ, **Zwischenberger JB**: Percutaneous venovenous CO2 removal with regional anticoagulation in an ovine model. *ASAIO J* 2006;52:467-470.
259. Zwischenberger BA, Clemson LA, **Zwischenberger JB**: Artificial lung: progress and prototypes. *Expert Rev Med Devices* 2006;3:485-497.
260. Wang D, **Zwischenberger JB**, Savage C, Miller L, Deyo DJ, Alpard S, Cardenas VJ, Jr. High-frequency percussive ventilation with systemic heparin improves short-term survival in a LD₁₀₀ sheep model of ARDS. *J Burn Care Rehabil*, 2006;27:463-471.
261. Lynch JE, Cheek JM, Chan EY, **Zwischenberger JB**: The role of the bronchial circulation in in ARDS. *Semin Thorac Cardiovasc Surg* 2006;18:20-27.
262. **Zwischenberger JB**: Options for the management of ARDS: Introduction. *Semin Thorac Cardiovasc Surg* 2006;18:1.
263. Ridley RW, **Zwischenberger JB**. Tracheo-innominate fistula: surgical management of an iatrogenic disaster. *J Laryngol Otol*, 2006;120:676-680.
264. Dejohn C, **Zwischenberger JB**: Ethical implications of extracorporeal interval support for organ retrieval (EISOR). *ASAIO J* 2006;52:119-122.
265. Chi S, Huang S, Li C, Zhang X, He N, Bhutani M, Jones D, Castro CY, Logrono R, Haque A, **Zwischenberger JB**, Zhang H, Xie J. Activation of the hedgehog pathway in a subset of lung cancers. *Cancer Letters*, 2006;244(1):53-60.
266. Ha RR, Wang D, **Zwischenberger JB**, Clark JW Jr: Hemodynamic analysis and design of a paracorporeal artificial lung device. *Cardiovasc Eng* 2006;6:10-29.
267. Kropp BP, **Zwischenberger JB**. Tissue-engineered autologous bladders: new possibilities for cystoplasty. *Nat Clin Pract Urol*, 2006;3(11):588-589.
268. Clemson LA, Walser E, Gill A, Lynch JE, **Zwischenberger JB**. Transthoracic closure of a postpneumectomy bronchopleural fistula with coils and cyanoacrylate. *Ann Thorac Surg* 2006;82:1924-1926.
269. **Zwischenberger JB**, Lynch JE. Wedge resection: when a little is not enough. (editorial) *Chest* 2007;131(1):6-7.

270. Traber DL, Hawkins HK, Enkhbaatar P, Cox RA, Schmalstieg FC, **Zwischenberger JB**, Traber LD. The role of the bronchial circulation in the acute lung injury resulting from burn and smoke inhalation. *Pulm Pharmacol Ther* 2007;20:163-166.
271. Groce JR, Raju GS, Hewlett A, **Zwischenberger JB**. Endoscopic clip closure of a gastric staple-line dehiscence (with video). *Gastrointest Endosc* 2007;65:321-322.
272. Cevallos M, Traber L, Traber D, **Zwischenberger J**. New method for evaluation of lung lymph flow rate with intact lymphatics in anaesthetized sheep. *Acta Physiol* 2007; 189:99-100.

B) OTHER:

1. Ha, R., J. Qian, D. Wang, **J.B. Zwischenberger**, A. Bidani, J.W. Clark Jr., "A Closed-Loop Model of the Ovine Cardiovascular System, Proc. 26th Annual Conference of the IEEE Engineering in Medicine and Biology Society, Sept, 2004, San Francisco, CA, pp 3781-3784.
2. Yue, Y. M.M. Croitoru, **J.B. Zwischenberger**, J.W. Clark, Jr., "Ultrasonic Speckle Suppression Using Robust Nonlinear Wavelet Diffusion for LV Volume Quantification," Proc. 26th Annual Conference of the IEEE Engineering in Medicine and Biology Society, Sept, 2004, San Francisco, CA, pp 1609 -1612.
3. Amini, B., A. Bidani, **J.B. Zwischenberger**, and J.W. Clark Jr., "A Model of the Respiratory Central Pattern Generator," Proc. 26th Annual Conference of the IEEE Engineering in Medicine and Biology Society, Sept, 2004, San Francisco, CA, pp 4580-4583.

Books:

1. **Zwischenberger JB**, Bartlett RH, eds. Extracorporeal Cardiopulmonary Support in Critical Care. Ann Arbor: Extracorporeal Life Support Organization (ELSO), 1996.
2. **Zwischenberger JB**, Steinhorn R, Bartlett RH, eds. Extracorporeal Cardiopulmonary Support In Critical Care 2nd Edition. Ann Arbor: Extracorporeal Life Support Organization (ELSO) 2000.
3. **Zwischenberger JB**, ed. Critical Care in General Thoracic Surgery, In: Chest Surgery Clinics of North America. Elsevier Science. May 2002.
4. **Zwischenberger JB**, DeCamp MM, DiSesa VJ, Grossi EA, Spray TL, Whyte RI, Wood D, eds. A Multimedia Textbook of Introductory Topics in Cardiothoracic Surgery. CD-Rom/Internet Hybrid.Thoracic Surgery Directors Assn (TSDA) 2002.
5. Van Meurs K, Lally KP, Peek G, **Zwischenberger JB**, eds. ECMO Extracorporeal Cardiopulmonary Support in Critical Care. 3rd Edition. Ann Arbor: Extracorporeal Life Support Organization (ELSO), 2005.

Book Chapters:

1. **Zwischenberger JB**, Bartlett RH. Extracorporeal circulation and oxygenation. In: Civetta JM, Taylor RW, Kirby RR, eds. Critical Care. Lippincott, 1988:1629-1637.
2. **Zwischenberger JB**, Nguyen TT, Bartlett RH. ECMO physiology: gas exchange. In: Neonatal ECMO specialist training manual. Ann Arbor: ELSO, 1991:31-51.
3. **Zwischenberger JB**, Bartlett RH. Extracorporeal circulation and oxygenation. In: Civetta JM, Taylor RW, Kirby RR, eds. Critical Care. Lippincott, 1992:1809-1820.
4. **Zwischenberger JB**, Cox CS, Jr. Extracorporeal membrane oxygenation (ECMO) for neonatal respiratory failure: experience from the extracorporeal life support organization (ELSO). In: Fraedrich G, von Segesser L, Hasse J, Schlosser V, eds. Besondere Aspekte der extrakorporalen Zirkulation, Extrakorporale Membranoxygenierung, zerebrale Zirkulation, Blutkardioplegie. Berlin: Steinkopff Verlag, 1992:1-12.
5. **Zwischenberger JB**, Cox CS, Jr. Intravascular membrane oxygenation and carbon dioxide removal - a new application for permissive hypercapnia? In: Fraedrich G, von Segesser L, Hasse J, Schlosser V, eds. Besondere Aspekte der extrakorporalen Zirkulation, Extrakorporale Membranoxygenierung, zerebrale Zirkulation, Blutkardioplegie. Berlin: Steinkopff Verlag, 1992:37-46.

6. **Zwischenberger JB**, Cox CS, Jr. Emergencies during extracorporeal membrane oxygenation and their management. In: Arensman RM, Cornish JD, eds. Extracorporeal Life Support. Boston: Blackwell Scientific, 1993:207-225.
7. Allison P, Cox CS, Jr., Cornish JD, **Zwischenberger JB**. ECMO complications: mechanical and physiologic. In: Neonatal ECMO Specialist Training Manual. Ann Arbor: ELSO, 1994:128-145.
8. Bidani A, Cardenas VJ, Jr., Tzouanakis AE, **Zwischenberger JB**. Permissive hypercapnia. In: Bone RL, Dantzker DR, George RB, Matthay RA, Reynolds HY, eds. Pulmonary and Critical Care Medicine. 1994:1-17.
9. Cox CS, Jr., Traber DL, **Zwischenberger JB**, Herndon DN. Cardiovascular function in acute burns. In: Traber DL, Herndon DN, eds. Pathophysiology of Shock, Sepsis, and Organ Failure. 1994:242-256.
10. **Zwischenberger JB**, Tao W, Cardenas VJ, Jr., Bidani A. Intravascular membrane oxygenation and carbon dioxide removal with permissive hypercapnia - new concepts and progress in the management of respiratory failure. In: Unger F, ed. Assisted Circulation. 4th Ed. Berlin: Springer-Verlag, 1995:336-352.
11. **Zwischenberger JB**, Bartlett RH. An introduction to extracorporeal life support. In: **Zwischenberger JB**, Bartlett RH, eds. Extracorporeal Cardiopulmonary Support in Critical Care. Ann Arbor: ELSO, 1995:11-13.
12. **Zwischenberger JB**, Upp JR, Jr. Emergencies during extracorporeal membrane oxygenation and their management. In: **Zwischenberger JB**, Bartlett RH, eds. Extracorporeal Cardiopulmonary Support in Critical Care. Ann Arbor: ELSO, 1995:221-249.
13. **Zwischenberger JB**, Tao W, Cardenas VJ, Jr., Bidani A. Intravascular membrane oxygenation and carbon dioxide removal - Devices and management techniques. In: **Zwischenberger JB**, Bartlett RH, eds. Extracorporeal Cardiopulmonary Support in Critical Care. Ann Arbor: ELSO, 1995:647-661.
14. **Zwischenberger JB**, Sankar AB. Transhiatal esophagectomy. In: Reed C, ed. Chest Surgery Clinics of North America. 1995:527-542.
15. **Zwischenberger JB**, Bradford DW. Malignant pericardial effusions. In: Pass HI, Mitchell J, Johnson DH, Turrisi AT, eds. Lung Cancer Principles and Practice. Lippincott-Raven, 1996:665-672.
16. **Zwischenberger JB**, Sankar AB, Bartlett RH. Extracorporeal circulation for respiratory or cardiac failure. In: Civetta JM, Taylor RW, Kirby RR, eds. Critical Care. Lippincott, 1996:669-681.
17. Vertrees RA, Kurusz M, **Zwischenberger JB**, McRea JC, Conti VR. Heparin removal after protamine reaction. In: Toomasian JM, Kurusz M, Stafford TB, eds. Case reports. Clinical Studies In Extracorporeal Circulation. Vol. 2. Houston: The Perfusion Research and Education Foundation Press, 1996:54-61.
18. **Zwischenberger JB**. ECMO for 636 hours in an adult after a sickle cell crisis during childbirth. In: Toomasian JM, Kurusz M, Stafford TB, eds. Case reports. Clinical Studies in Extracorporeal Circulation. Vol. 2. Houston: The Perfusion Research and Education Foundation Press, 1996:113-121.
19. Alpard SK, **Zwischenberger JB**. Cardiothoracic Surgery. In Dunn K, Viegas S, ed. Telemedicine - Practicing in the Information Age. Lippincott-Raven, 1998:347-366.
20. **Zwischenberger JB**, Brunston RL Jr., Bidani A. Advanced Techniques in the Management of Severe Respiratory Failure. In Franco K, Putnam J eds. Advanced Therapy in Thoracic Surgery, 1998:328-337.

21. **Zwischenberger JB**, Alpard SK. Resection for Pulmonary Metastases. In Yim, Hazelrigg, Izzat, Landreneau, Mack, Naunheim eds. W.B. Saunders; Minimal Access Cardiothoracic Surgery 1998, pp. 152-165.
22. **Zwischenberger JB**, vanSonnenberg E, Alpard SK, Goodacre B, Wittich GR. Interventional Radiology in the Chest. In Yim, Hazelrigg, Izzat, Landreneau, Mack, Naunheim, ed. W.B. Saunders; Minimal Access Cardiothoracic Surgery, 1998, pp. 388-397.
23. Alpard SK, **Zwischenberger JB**. Extracorporeal Gas Exchange. In: Brown SD ed. Respiratory Care Clinics of North America. 1998, 4(4):711-738.
24. **Zwischenberger JB**, Alpard SK, Bidani A. Early Complications of Pneumonectomy: Respiratory Failure. In: Chest Surgery Clinics of North America 1999, 9(3);543-564.
25. Hilt, T, Graves D, **Zwischenberger JB**. ECMO Physiology. In: Krisa Van Meurs, M.D., ed. ECMO Specialist Training Manual, 2nd edition, Extracorporeal Life Support Organization, 1999, 3:19-37.
26. Hilt T, Graves D, **Zwischenberger JB**. ECMO Complications. In: Krisa Van Meurs, M.D., ed. ECMO Specialist Training Manual, 2nd edition, Extracorporeal Life Support Organization, 1999, 8:101-119.
27. LoCicero J, **Zwischenberger JB**. Ventilatory Support of Postoperative Surgical Patients. In Shields T, Penn RB, LoCicero J, Ed. General Thoracic Surgery, 5th edition. Williams and Wilkins; 2000;39:517-532.
28. **Zwischenberger JB**, Tao W, Alpard SK, Bidani A. Barotrauma and Inhalation Injuries. In: Shields T, Ponn RB, LoCicero J, ed. General Thoracic Surgery, 5th edition. Williams and Wilkins; 2000;71:833-840.
29. Lee RW, **Zwischenberger JB**. Pericardium. In: Norton, Bollinger, Chang, Lowry, Mulvihill, Pass, and Thompson, Eds. Essential Practice of Surgery: Basic Science and Clinical Evidence. Springer-Verlag; 2003;47:539-546.
30. Alpard SK, **Zwischenberger JB**. Extracorporeal Membrane Oxygenation For Respiratory or Cardiac Support. In: Gravlee GP, Davis RE, Kurusz M, Utley JR, Eds. Cardiopulmonary Bypass: Principles and Practice, 2nd edition. 2000;31:662-695.
31. **Zwischenberger JB**, Sankar A, Lee R. Malignant Pericardial Effusion. In: Pass, Mitchell, Johnson, Turrisi, Munna, eds. Lung Cancer, 2nd edition, Lippincott Williams & Wilkins, 2000;60:1038-1045.
32. **Zwischenberger JB** and Bartlett RH. An Introduction to Extracorporeal Life Support. In: Zwischenberger, Steinhorn, and Bartlett, eds. ECMO: Extracorporeal Cardiopulmonary Support in Critical Care, 2nd edition, 2000;1:23-39.
33. Chung DH, **Zwischenberger JB**. Emergencies During Extracorporeal Membrane Oxygenation and Their Management. Zwischenberger, Steinhorn, Bartlett, eds. ECMO: Extracorporeal Cardiopulmonary Support in Critical Care, 2nd edition, 2000;15:269-294.
34. Alpard SK, Tao W, Conrad SA, Bidani A, **Zwischenberger JB**. Intracorporeal Membrane Oxygenation and Carbon Dioxide Removal – Devices and Management Techniques. Zwischenberger, Steinhorn, Bartlett, eds. ECMO: Extracorporeal Cardiopulmonary Support in Critical Care, 2nd edition, 2000;41:735-761.
35. Prichard PA, Kurusz M, and **Zwischenberger JB**. Cardiopulmonary Support. In ECMO, Extracorporeal Cardiopulmonary Support in Critical Care, 2nd Ed., Zwischenberger, J.B., Steinhorn and Bartlett, R.H. (Eds), Ann Arbor: Extracorporeal Life Support Organization, 2000;619-632.
36. **Zwischenberger JB**. Exploring the Frontiers of Severe Respiratory Failure. Eds. Shriners Hospitals for Children. Medical Research Programs 2001;5-12.
37. **Zwischenberger JB**, Alpard SK, Orringer MB. Esophagus. In: Townsend CM, ed. Sabiston's Textbook of Surgery, 16th edition. W.B. Saunders Company;2001;37:709-753.

38. **Zwischenberger JB.** Advanced Ventilator Strategies. Eds. American College of Surgeons. American College of Surgeons Clinical Congress, October 7-12, 2001 New Orleans, LA.
39. Savage C, Morrison RJ, **Zwischenberger JB.** Bronchoscopic Diagnosis and Staging of Lung Cancer. Chest Surgery Clinics of North America 2001;11(4):701-721
40. Bidani A, Tuazon DM, Alpard SK, **Zwischenberger JB.** Mechanical Ventilatory Assistance. Thoracic Surgery, 2nd edition. In: F. Griffith Pearson et al, ed. 2002;10:155-188.
41. Bidani A, Tao W, **Zwischenberger JB.** Testing and Performance Evaluation of Artificial Lungs. In: Anderson RW, Vaslef SN. (eds.), The Artificial Lung: Tissue Engineering Intelligence Unit. Landes Bioscience: Austin. 2002;98-132.
42. Loran DB, Woodside KJ, Cerfolio RJ, **Zwischenberger JB.** Predictors of Alveolar Air Leaks. Chest Surgery Clinics of North America 2002;477-488.
43. **Zwischenberger JB.** Severe Respiratory Failure. In: TSDA Prerequisite Curriculum Textbook, Thoracic Critical Care. CD-ROM, Internet Hybrid. 2002.
44. **Zwischenberger JB.** Critical care in the general thoracic surgical patient. In: Chest Surgery Clinics of North America. Elsevier Science. May 2002;12(2): xi-xii.
45. Alpard SK, Chung DH, **Zwischenberger JB.** ECMO. In: Kay PH, Munsch C, eds. Techniques in Extracorporeal Circulation, 4th Ed. Arnold Publishers, London 2004; 254-291.
46. Alpard SK, **Zwischenberger JB.** ECMO In the Surgical Patient. In: Karmy-Jones R, Nathens A, Stern EJ, Eds. Thoracic Trauma and Critical Care. Kluwer Academic Publishers 2002; 8.6:479-490.
47. Woodside KJ, Alpard SK, **Zwischenberger JB.** Extracorporeal Life Support in the Adult. In: Yan SC, Cameron DE, Eds. Current Therapy in Thoracic and Cardiovascular Surgery. Philadelphia, Mosby, 2004, pp. 568-573.
48. **Zwischenberger, JB,** Savage C, Bhutani, MS. Esophagus. In: Townsend, CM, Beauchamp, RD, Evers, BM, Mattox KL, Eds. Sabiston Textbook of Surgery, 17th Ed. Philadelphia, Elsevier, 2004, pp. 1091-1150.
49. **Zwischenberger JB,** Savage C. Caustic Ingestion. In: McIntyre RC, Stiegmann GV, Eiseman B, eds. Surgical Decision Making. 5th Edition. Philadelphia: Elsevier Saunders 2004, pp. 132-133.
50. **Zwischenberger JB,** Savage C. Esophageal Perforation. In: McIntyre RC, Stiegmann GV, Eiseman B, eds. Surgical Decision Making. 5th Edition. Philadelphia: Elsevier Saunders 2004, pp. 130-131.
51. Woodside KJ, Miller L, Bidani A, **Zwischenberger JB.** Barotrauma and Inhalation Injuries. In: Shields TW, LoCicero J, Ponn RB, Rusch V., Eds. General Thoracic Surgery, 6th Ed. Lippincott Williams & Wilkins 2005, pp. 972-980.
52. Miller L, Woodside KJ, Bidani A, **Zwischenberger JB.** Mechanical Ventilation of the Surgical Patient. In: Shields TW, LoCicero J, Ponn RB, Rusch V., Eds. General Thoracic Surgery, 6th Ed. Lippincott Williams & Wilkins 2005, pp. 610-649.
53. **Zwischenberger JB,** Bartlett RH. Extracorporeal Life Support: An Overview. In: Van Meurs K, Lally KP, Peek G, **Zwischenberger JB,** eds. ECMO Extracorporeal Cardiopulmonary Support in Critical Care. 3rd Edition. Ann Arbor: Extracorporeal Life Support Organization (ELSO), 2005, pp. 1-27.
54. DeBerry BB, Lynch J, Chung DH, **Zwischenberger JB.** Emergencies during ECLS and their management. In: Van Meurs K, Lally KP, Peek G, **Zwischenberger JB,** eds. ECMO Extracorporeal Cardiopulmonary Support in Critical Care. 3rd Edition. Ann Arbor: Extracorporeal Life Support Organization (ELSO), 2005, pp. 133-156.
55. Lynch JE, Black TD, DeBerry BB, Alpard SK, **Zwischenberger JB.** Carbon dioxide removal devices; intracorporeal membrane oxygenation and artificial lungs. In: Van Meurs K, Lally KP,

- Peek G, **Zwischenberger JB**, eds. ECMO Extracorporeal Cardiopulmonary Support in Critical Care. 3rd Edition. Ann Arbor: Extracorporeal Life Support Organization (ELSO), 2005, pp. 577-593.
56. Alpard SK, Loran D, **Zwischenberger JB**. ECMO and Extracorporeal and Arteriovenous CO₂ Removal. In: Franko K, Putnam J, eds. Advanced Therapy in Thoracic Surgery. Hamilton, B.C. Decker Inc., 2005, pp. 308-323.
57. Chan EY, Lynch JE, Loran DB, **Zwischenberger JB**. Barotrauma. In: Herndon DN, ed. Total Burn Care, 3rd edition. Philadelphia: Elsevier, 2006.

Invited Reviews:

1. **Zwischenberger JB**: Review of Extracorporeal Membrane Oxygenation. *Pediatric News* 22(9):29, 1988.
2. **Zwischenberger JB**, Shalaby TZ, Conti VR: Viable Cryopreserved Aortic Homograft for Aortic Valve Endocarditis and Annular Abscesses *In: Doty DB (ed) Cardiac Surgery. Aortic A45*, 1991.
3. **Zwischenberger JB**: Role of Thrombolysis in Vascular Surgery: Diagnosis of Anatomical Disorder *In: Morettin LB (ed). Role of Thrombolysis in Peripheral Vascular Disease*, 1991.
4. **Zwischenberger JB**, Sankar AB, Taylor W: Artificial Organs: Not Only A Technical Challenge. *Technology Review* 97(8):9, 1994.
5. Cox CS Jr., **Zwischenberger JB**, Traber DL, Traber DL, Traber LD, Haque AK, Herndon DN: Heparin Improves Oxygenation and Minimizes Barotrauma After Severe Smoke Inhalation in an Ovine Model. *Yearbook of Surgery* pp. 56-57, 1994.
6. **Zwischenberger JB**, et al: Complications of Neonatal Extracorporeal Membrane Oxygenation: Collective Experience from the Extracorporeal Life Support Organization. *Yearbook of Thoracic Surgery*, Mosby Year Book Inc, 1995.
7. Kurusz M, **Zwischenberger JB**. Pediatric and adult ECMO. *Jubilee Journal, Proceedings of the Symposium for the 20th Anniversary of the Dutch Society for Extracorporeal Circulation*, 9-10 Feb 1996, Domburg, The Netherlands, pp 10-14.
8. **Zwischenberger JB**, Bartlett RH eds 1995: *ECMO, extracorporeal support in critical care*. Ann Arbor, MIP: Extracorporeal Life Support Organization. Sussmane J. *Perfusion* 1997;12:75-76.
9. **Zwischenberger JB**: Variable Response to Inhaled Nitric Oxide Following Cardiac Surgery. Fullerton D et al. *Ann Thorac Surg* 1997;63:1251-6.
10. **Zwischenberger JB**: Distribution of Pulmonary Blood Flow and Total Lung Water during Partial Liquid Ventilation in Acute Lung Injury. Gauger PG. et al. *Surgery* 1997;122:313-23.
11. **Zwischenberger JB**. Renal Effects of α -Ketoglutarate Early After Coronary Operations. Jeppsson et al. *Ann Thorac Surg* 1998;65:690
12. **Zwischenberger JB**, Alpard SK. Minimally Invasive Versus Conventional Staging of Lung Cancer. *Southern Thoracic Surgical Association 1998 Postgraduate Course Syllabus*.
13. **Zwischenberger JB**. Inhaled Nitric Oxide for Adult Respiratory Distress Syndrome Following Pulmonary Resection. Mathisen et al. *Ann Thorac Surg* 1998;66(6):1894-902.
14. Kurusz M, McRea JC, Tao W, Vertrees RA, **Zwischenberger JB**. Heparin removal device: An alternative therapy. *Proceedings of the Amer. Academy of Cardiovascular Perfusion* 19:21-23, 1998.
15. Vertrees RA, **Zwischenberger JB**. Perfusion-induced hyperthermia: Potential impact on the profession. *Proceedings of the Amer. Academy of Cardiovascular Perfusion* 19: 19-21, 1998.

16. **Zwischenberger JB.** Reduced Ischemia-Reperfusion Injury with Rolipram in Rat Cadaver Lung Donors: Effect of Cyclic Adenosine Monophosphate. Bleiweis et al. *Ann Thorac Surg* 1998. *Ann Thorac Surg* 1999;67(1):194-199.
17. **Zwischenberger JB.** Transhiatal Esophagectomy (THE) Clinical Experience and Refinements. Orringer et al. *Ann Surg* 1999;230:401.
18. **Zwischenberger JB.** Extracorporeal membrane oxygenation in pregnancy. King et al. *Lancet* 2000; July 356(9223):45.
19. **Zwischenberger JB,** Alpard SK, Tao W, Deyo DJ, Bidani A. Percutaneous Arteriovenous Carbon Dioxide Removal Improves Survival in Acute Respiratory Distress Syndrome: A Prospective Randomized Outcomes Study in Adult Sheep. *American Association for Thoracic Surgery*, 5/01/2000.
20. Vertrees RA, **Zwischenberger JB,** Woodson LC, Bedell EA, Deyo DJ, Chernin JM. Veno-venous perfusion-induced system hyperthermia: Case report with perfusion considerations. *Proceedings of the American Academy of Cardiovascular Perfusion* 21:119-121, 2000.
21. **Zwischenberger JB.** Mechanical Circulatory Support. Richenbacher WE, ed. *Ann Thoracic Surg* 2001;71:1072.
22. **Zwischenberger JB.** CALGB 9380: A Prospective Trial of the Feasibility of Thoracoscopy/Laparoscopy in Staging Esophageal Cancer. Krasna et al. *Ann Thorac Surg* 2001;71:1079.
23. **Zwischenberger JB.** The Association of Respiratory Symptoms, Pulmonary Function Test, and Radiographic Findings in Smoke Inhalation Injuries. Shin et al. *Boldface Editors* 4/12/01.
24. **Zwischenberger JB,** Steinhort RH, Bartlett RH. ECMO: Extracorporeal Cardiopulmonary Support in Critical Care. *Perfusion* 2001;16:175-176.
25. **Zwischenberger JB,** Cocanour CS, Hirschl RB, Woda RP. Moderator, *The Journal of Debates, Peer Exchange, and Insights in Medicine. Medical Crossfire* 2001;2(4):15-23.
26. **Zwischenberger JB** and Woodside K. *Surgical Issues in Reflux Treatment. 2nd International Course and Workshop on Gastrointestinal Motility/Functional Disorders. Galveston, TX. November 10, 2001.*
27. Lick SD, **Zwischenberger JB.** Extracorporeal Life Support. *Ann Thorac Surg* 2002;73(6):1816.
28. **Zwischenberger JB,** Clemson LA, Hyde B. Mechanical Ventilation and Inotropes. *Cardiothoracic Surgery Board Review. 2005;85-90.*
29. **Zwischenberger JB.** Trimodality Treatment in Pancoast Tumor: Is It A Better Approach? Krasna et al. *J American College of Surgeons (In Press)*
30. **Zwischenberger JB.** Mechanical Support for Cardiac and Respiratory Failure in Pediatric Patients. *Ann Thorac Surg (In Press)*

Invited Editorial:

1. Skolnick AA: Development and Current Status of a New Intravascular Oxygenator (IVOX): Interview with **J.B. Zwischenberger**. JAMA 266:1332, 1991.
2. Balinski C: ECMO's Future: Interview with **J.B. Zwischenberger**. Advances for Respiratory Care Practitioners p. 18, 11/7/94.
3. Swain JA: Arteriovenous Carbon Dioxide Removal: Development and Impact on Ventilator Management and Survival During Severe Respiratory Failure. CTdigest.com 1999;1:8.
4. Inman MA: New ARDS Treatment Focuses on Carbon Dioxide Removal. Interview with **J.B. Zwischenberger**. Pulmonary Reviews 1999, 4(9); 11-12.
5. **Zwischenberger JB**, Alpard SK, Vertrees RA, Tao W, Brown, Jr. PS. Application of a heparin removal device in patients with known protamine hypersensitivity. Review Series Cardiology 2000, 1:7-9.
6. **Zwischenberger JB**. Extracorporeal Membrane Oxygenation Support for Adult Post-Cardiotomy Cardiogenic Shock, Annals of Thoracic Surgery 2002;73:545.
7. **Zwischenberger JB**. Post-Op ARDS. American College of Surgeons Post-Graduate Course: General Thoracic Surgery. 2003
8. "Acute Respiratory Distress Syndrome: New Techniques Bring New Challenges", Medical Crossfire (Live Event), General Surgery Edition; 2003; 2(4) 15-24.
9. **Zwischenberger JB**. Artificial Lung. Proceedings of the American Academy of Cardiovascular Perfusion 2003;24:76-81.

Invited Commentary:

1. **Zwischenberger JB**, Vertrees RA: Shigemura N, Akashi A, Nakagiri T, Hazama, K, Ohta M, Matsuda H. Pleural perfusion thermo-chemotherapy under VATS: A new less invasive modality for advanced lung cancer with pleural spread. Ann Thorac Surg 2004;77:1016-1022.
2. Vertrees RA, **Zwischenberger JB**. Comment on: Intrapleural hyperthermic perfusion with chemotherapy increases apoptosis in malignant pleuritis. Ann Thorac Surg 2004;78:1772-1723,

IN PRESS

1. Traber DL, Herndon DN, Schmalstieg FC, Hawkins HK, **Zwischenberger JB**, Enkhbaatar P, Oliveras G, Jacob S: Acute bronchial obstruction: histopathology and gland cytokine expression has been accepted for publication. Experimental Lung Research Journal, 2006.
2. Doss AE, Dunn SS, Kucera KA, Clemson LA, **Zwischenberger JB**. Tracheal replacements (part 1). ASAIO J, 2007.
3. Doss AE, Dunn SS, Kucera KA, Clemson LA, **Zwischenberger JB**. Tracheal replacements (part 2). ASAIO J, 2007.
4. **Zwischenberger JB**, Parker DW, Cheek JM, Kucera K, Parker BC. Esophagus. In: Poston GJ, Beauchamp D (eds), Textbook of Surgical Oncology. Taylor and Francis, 2007.

C) ABSTRACTS

1. Ferrans VJ, Ishihara T, Jones M, Boyce SW, **Zwischenberger JB**, Kawanami O, Roberts WC: Ultrastructure of Normal Human and Canine Pericardium. Journal of Molecular and Cellular Cardiology. Volume 12, Supplement 1, August 1980, p. 40.

2. Hanowell ST, **Zwischenberger JB**, Siwek LG, Jones M, Kim YD, Macnamara TE: The Effect of Ketamine in the Lamb with Left to Right Shunt. *Anesthesiology*, Vol. 55, p. A-15, 1981.
3. Valdez-Cruz LM, **Zwischenberger JB**, Siwek LG, Reinecke C, Kuentz VA, Jones M: Influence of Age on Lamb Left Ventricle Posterior Wall Weight, Echo Thickness, and Contraction Relaxation Sequence. *Pediatric Research*, Vol. 54, p. 461, 1981.
4. **Zwischenberger JB**, Cilley RE, Dechert RE, Kirsh MM, Bartlett RH: Is Oxygen Consumption Dependent Upon Oxygen Delivery During Postoperative Rewarming in Cardiac Surgery Patients? *Chest*, Vol. 88, No. 1, July, 1985, p. 53.
5. **Zwischenberger JB**, Dechert RE, Kirsh MM, Bartlett RH: Does Mixed Venous Oxygen Saturation Accurately Reflect Oxygen Delivery and Oxygen Consumption During Postoperative Rewarming in Cardiac Surgery Patients? *Chest*, Vol. 88, No. 1, July, 1985, p. 54.
6. Cilley RE, Polley TZ, **Zwischenberger JB**, Toomasian JM, Bartlett, RH: Does Supply Dependency of Oxygen Consumption Exist in Anesthetized Dogs? *Chest*, Vol. 88, No. 1, July, 1985, p. 18.
7. Cilley RE, **Zwischenberger JB**, Wesley JR, Bartlett RH: Characteristics of Pulmonary Injury In Neonates Treated With ECMO Using a Miniature Spirometer. *Trans Am Soc Artif Intern Organs Abstracts*, Vol. 15, p. 61, 1986.
8. Stothert J Jr, **Zwischenberger JB**, Allison PL et al: Severe Neutropenia During the Early Phase of Long Term Venovenous ECMO in Sheep. *Crit Care Medicine* p. 394, 1987.
9. **Zwischenberger JB**, Kurusz M and Conti VR: Survey of Mechanical Circulatory Support Following Cardiopulmonary Bypass in the USA and Canada 1982-1985. *Chest* 92(2):102S, August 1987.
10. **Zwischenberger JB**, Cilley RE, Hirschl RB, Heiss KF, Conti VR and Bartlett RH: Life-Threatening Intrathoracic Complications During Treatment with Extracorporeal Membrane Oxygenation (ECMO). *J Pediatr Surg* 1987.
11. Allison PL, **Zwischenberger JB**, Conti VR and Bartlett RH: Recognition of Intrathoracic Complications During Extracorporeal Membrane Oxygenation. *Abstracts Cardiology and Cardiovascular Surgery: Interventions*, Texas Heart Institute, p. 178, 1987.
12. Allison PL, **Zwischenberger JB**: Oxygenation Index: Oxygenation Index; a reliable predictor for Extracorporeal Membrane Oxygenation (ECMO) Two Great Debates in Neonatology - Ross Laboratories Special Conference, p. 123, 1987.
13. Faulkner SC, Allison PL, Conti VR, **Zwischenberger JB**: Membrane Isolation Technique for Quick Priming of an Extracorporeal Membrane Oxygenation (ECMO) Circuit. 4th Annual CHNMC ECMO Symposium Proceedings p. 2, 1988.
14. Faulkner SC, Kurusz M, Allison PL, Pickens JG, Bowers RM, Conti VR, **Zwischenberger JB**: Doppler Monitoring of Venous Flow During Extracorporeal Membrane Oxygenation (ECMO): An Inexpensive, Readily Available Monitoring Device. 4th Annual CHNMC ECMO Symposium Proceedings p. 12, 1988.
15. Bowers RM, Pickens GJ, **Zwischenberger JB**, Allison PL, Faulkner SC, Conti VR: Life-Threatening Tension Pneumothorax During Extracorporeal Membrane Oxygenation (ECMO). *Crit Care Med* 16(4):378, 1988.
16. Griffin MP, **Zwischenberger JB**, Minifee PK, Allison PL, Lobe TE: Extracorporeal Membrane Oxygenation for Cardiopulmonary Support in an Infant Swine Model of Intra-abdominal Sepsis. *Pediatric Research* Vol. 25, p. 38A, 1989.
17. Griffin MP, Gore D., **Zwischenberger JB**, Lobe TE, Traber DL, Herndon DN: Does Heparin Improve Survival in Gram Negative Septic Shock? *Pediatric Research* Vol. 25, p. 38A, 1989.

18. Minifee PK, **Zwischenberger JB**, Flick GR, Navaratnam N, Allison PL, Herndon DN: Does Low Flow Venoarterial Extracorporeal Membrane Oxygenation Improve Survival After Severe Smoke Inhalation Injury in Sheep. CHNMC ECMO Symposium Vol. 5, p. 56, 1989.
19. Minifee PK, **Zwischenberger JB**, Flick GR, Navaratnam N, Brown M, Traber DL and Herndon DN: Immediate Mechanical Ventilation and Pleural Drainage Improve Survival in Severe Smoke Inhalation Injury. Proceedings of the American Burn Association Vol. 21, p. 190, 1989.
20. Minifee PK, **Zwischenberger JB**, Flick GR, Navaratnam N, Allison P, Linares H, Herndon DN: Postmortem Lung Edema in Sheep after Severe Inhalation Injury Treated with Extracorporeal Membrane Oxygenation (ECMO). ASAIO 1989 Abstracts Vol. 18, p.62.
21. Flick GR, **Zwischenberger JB**, Minifee PK, Golden J, Navaratnam N, Johnson WG: Does Low Flow Extracorporeal Membrane Oxygenation (ECMO) Improve Lung Function after Smoke Inhalation Injury in Sheep? American Review of Respiratory Disease Vol. 139, p. A224, 1989.
22. Minifee PK, Griffin MP, **Zwischenberger JB**, Landry SH, Allison PL, Swischuck, LE: Do Findings on Magnetic Resonance Imaging and Ultrasonography Correlate with Neurodevelopmental Outcome in Neonates after Extracorporeal Membrane Oxygenation? Critical Care Medicine Vol. 17, p.S121, 1989.
23. Morvant EM, Griffin MP, Landry S, **Zwischenberger JB**: Should ECMO Criteria be Liberalized? Proceedings Extracorporeal Life Support Organization Vol. 1, p 62, 1989.
24. Hanson MN, Minifee PK, **Zwischenberger JB**: Ovine Pleural Fluid Formation in Severe Smoke Inhalation Injury. Proceedings Extracorporeal Life Support Organization Vol. 1, p. 53, 1989.
25. Minifee PK, **Zwischenberger JB**, Flick GR, Navaratnam N, Linares HA, Allison PL, Herndon DN: Pulmonary Leukosequestration and Lung Edema After Severe Smoke Inhalation Injury - not Improved with Extracorporeal Membrane Oxygenation (ECMO). Proceedings Extracorporeal Life Support Organization Vol. 1, p. 52, 1989.
26. Allison PL, Kurusz M, Graves DF, **Zwischenberger JB**: ECMO Safety Survey - 1989. Proceedings Extracorporeal Life Support Organization Vol. 1, p. 59, 1989.
27. Raymond GA, Minifee PK, Daeschner III CW, **Zwischenberger JB**: How Long can you Store Activated Clotting Time (ACT) Reagents? Proceedings Extracorporeal Life Support Organization Vol. 1, p. 30, 1989.
28. **Zwischenberger JB**, Asimakis GK, Conti VR: Loss of Whole-Tissue and Mitochondrial Adenine Nucleotides Without Loss of Mitochondrial Respiration Following Repetitive, Regional Ischemia in the Pig Heart American Heart Association: Scientific Conference on Myocardial Cell Viability. Proceedings, 1990.
29. Griffin MP, Minifee PK, Daeschner CW III, **Zwischenberger JB**: What Hematocrit is Optimal for Neonates Receiving ECMO? Clinical Research Vol. 38, p 63 a, 1990.
30. Daeschner CW, **Zwischenberger JB**, Minifee PK, Griffin, MP: Decreasing Blood Donor Exposure in Neonates on Extracorporeal Membrane Oxygenation. APSA Abstracts 1990.
31. Minifee PK, **Zwischenberger JB**, Flick GR, Nevelle N, Herndon DN: Leukopenia and Eicosanoid Release Parallel Hypoxemia During ECCO₂R Independent of Smoke Inhalation Injury. APSA Abstracts 1990.
32. Landry SH, Frost-Westin M, Chernin J, Griffin P, Allison P, **Zwischenberger JB**: Outcome across the first two years for neonates receiving ECMO and for the caretakers. CNMC ECMO Symposium Vol 6 p.43, 1990.
33. **Zwischenberger JB**, Asimakis GK, Sordahl LA, Geshi E, Conti VR: Postischemic Recovery of Mitochondrial and Whole Tissue Adenine Nucleotides in the Heart. The FASEB Journal: Abstracts Vol. 5, No. 5, Part II, p A1104, 1991.

34. Cox CS, **Zwischenberger JB**, Traber LD, Traber DL, Herndon DN: Use of an Intravascular Membrane Oxygenator (IVOX) in an Ovine Model. ASAIO Abstracts p. 63, 1991.
35. **Zwischenberger JB**, Cox CS, Graves DF: Initial Clinical Experience with an Intravascular Oxygenator and Carbon Dioxide Removal Device (IVOX). Thorac Cardiovasc Surgeon Supp I p. 132, 1992.
36. Cox CS, **Zwischenberger JB**, Graves DF, Cardenas V: Permissive Hypercapnia with IVOX: A Ventilation Technique to Reduce Barotrauma. ASAIO Abstracts Vol. 21, p. 65, 1992.
37. Cox CS, **Zwischenberger JB**, Traber DL, Traber LD, Haque AK, Herndon DN: Beneficial Effects of Heparin After Smoke Inhalation Injury not due to Decreased Oxygen Free Radical Activity. Am Rev Resp Dis. 145: A-80, 1992.
38. Cox CS, **Zwischenberger JB**, Graves D, Raymond G: Mortality from Severe Adult Respiratory Distress Syndrome (ARDS) Remains Unchanged. Am Rev Resp Dis. 145: A-83, 1992.
39. Cox CS, Fleming RYD, **Zwischenberger JB**, et al: Ileal Mucosal Hypoperfusion during Cardiopulmonary Bypass. Crit Care Med 20: S64, 1992.
40. Cox CS, **Zwischenberger JB**, Traber DL, et al: Intravascular Oxygenation/Carbon Dioxide Removal Allows Reduction of Ventilator Support in an Ovine Model of Acute Lung Injury. Crit Care Med 20: S60, 1992.
41. **Zwischenberger JB**: Extracorporeal and Intracorporeal Membrane Gas Exchange for Severe Respiratory Failure. Conf on Biomed Engineering Abstracts, 1993.
42. Matheis EJ, Nguyen TT, Tao W, Tzouanakis AE, Traber DT, **Zwischenberger JB**, Bidani A: Effect of Permissive Hypercapnia on IVOX CO₂ Removal in an Ovine Model of Acute Lung Injury. Amer Review Resp Disease 147(4) A891 April 1993.
43. Nguyen T, **Zwischenberger JB**, Cox C, Tao W, Bidani A, Traber D, Bush P, Herndon D: Second Generation IVOX Achieves Significant Enhancement of CO₂ Removal. Conf on Biomed Engineering Abstracts, 1993.
44. Tzouanakis AE, Nguyen T, Tao W, Matheis EJ, Traber DT, **Zwischenberger JB**, Bidani A: Effect of Permissive Hypercapnia on Regional Blood Flow in an Ovine Model. Conf on Biomed Engineering Abstracts, 1993.
45. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Mathematical Analysis of CO₂ Transfer in an Intravascular Blood-Gas Exchanger (IVOX). Amer Review Resp Disease 147(4) A972 April 1993.
46. Nguyen TT, **Zwischenberger JB**, Traber DL, Prough D, Herndon D, Bush P, Kramer G: Hypertonic Sodium Acetate Dextran Normalizes Acid Base Balance After Resuscitation of Hemorrhagic Shock. FASEB J 7(3) A320, 1993.
47. Bidani A, Niranjana SC, Clark JW, San KY, **Zwischenberger JB**: Model Analysis of the Effects of Permissive Hypercapnia on CO₂ Removal by IVOX, An Intracorporeal Gas Exchange Device. Crit Care Med 21(4) S125, 1993.
48. Nguyen TT, Cox CS, Tzouanakis A, Bush PE, Traber D, Herndon D, Bidani A, **Zwischenberger JB**: Carotid Blood Flow During Permissive Hypercapnia in an Ovine Model. Crit Care Med 21(4) S190, 1993.
49. Nguyen TT, **Zwischenberger JB**, Cox CS, Tao W, Bidani A, Traber D, Bush PE, Herndon D: Marked Enhancement of CO₂ Removal by Second Generation IVOX. ASAIO Abstracts 1993.
50. Tzouanakis AE, Nguyen T, Tao W, Matheis EJ, Traber DT, **Zwischenberger JB**, Bidani A: Effect of Permissive Hypercapnia on Renal and Mesenteric Blood Flow in an Ovine Model. Amer Review Resp Disease 147(4) A891 April 1993.

51. Vertrees RA, **Zwischenberger JB**, Kramer GC, Nguyen TT, Tao W, McDaniel LB: Hypertonic Saline/Dextran Solution Significantly Reduces Volume Requirements During Cardiopulmonary Bypass. *J. Invest Surg* 6:385, 1993.
52. Vertrees RA, McDaniel LB, **Zwischenberger JB**, DeVine S, Tao W, Nguyen TT, Kramer GC: Tumor Necrosis Factor Monoclonal Antibody Prevents Sagittal Sinus Oxygen Desaturation and Neutrophil Margination During Cardiopulmonary Bypass. *Cardiac Anesthesia, Abstracts 1993*.
53. Vertrees RA, Tao W, **Zwischenberger JB**, Nutt LK, McDaniel LB, Devine S, Nguyen TT, Jesmok GJ, Kramer GC, During Cardiopulmonary Bypass. *ASAIO Abstracts 1994*, p 57.
54. Vertrees RA, **Zwischenberger JB**, McRea JC, Kurusz M, Conti VR: Reversal of Anticoagulation Without Protamine. *ASAIO Abstracts 1994*, p 58.
55. Tao W, Schroeder T, Nguyen PJ, Bradford DW, Bidani A, Traber DL, **Zwischenberger JB**: Trans-Radial Pulsation of Blood Improves CO₂ Removal by IVOX. *ASAIO Abstracts 1994*, p.63.
56. Nguyen TT, Herndon DN, McDaniel L, **Zwischenberger JB**, Tao W, Kramer GC: Gut Mucosal Ischemia During Normothermic Cardiopulmonary Bypass Results from Intra-organ Redistribution and Increased Oxygen Demand. *Surgical Infection Society Program 1994*, p 21.
57. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Simulation of Gas Transport in an Intravenacaval Blood-Gas Exchange Device (IVOX). *IFAC Biomedical Symposium, 1994*.
58. Chung DC, Clark JW, Vinten-Johansen J, Bidani A, **Zwischenberger JB**, Traber DL: A Mathematical Model of the Canine Circulation. *IFAC Biomedical Symposium, 1994*.
59. Liu CH, Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Analysis of Airway Mechanics in a Ventilated Lumped Alveolar Model Coupled with Pulmonary Gas Exchange. *IFAC Biomedical Symposium, 1994*.
60. Schroeder T, Tao W, **Zwischenberger JB**, Nguyen PJ, Cardenas V, Traber DL, Bidani A: Mechanical Agitation Significantly Enhances IVOX O₂ Transfer in a Venovenous Circuit. *Am. J. Resp. Crit. Care Med.* 149: A792, 1994.
61. Nguyen PJ, Tao W, **Zwischenberger JB**, Schroeder T, Cardenas V, Traber DL, Bidani A: Effect of Rapid Permissive Hypercapnia on Carotid, Renal and Mesenteric Blood Flows in an Ovine Model. *Am. J. Resp. Crit. Care Med.* 149:A792, 1994.
62. Chung DC, Clark JW, Vinten-Johansen J, Bidani A, **Zwischenberger JB**, Traber DL: Mathematical Model of the Canine Circulation. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 56, 1994.
63. Liu CH, Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Mathematical Analysis of a Coupled Model of Airway Mechanics and Gas Exchange in the Pulmonary System. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 108, 1994.
64. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Analysis of Gas Exchange in an intravascular Blood Gas Exchanger for Clinical Use. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 129, 1994.
65. Tao W, **Zwischenberger JB**, Nguyen TT, Tzouanakis AE, Matheis EJ, Traber DL, Bidani A: Quantitative Performance of an Intravenous Gas Exchanger (IVOX) in a Venovenous Bypass Circuit. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 146, 1994.
66. Schroeder T, Tao W, **Zwischenberger JB**, Nguyen PJ, Cardenas V, Traber DL, Bidani A: Mechanical Agitation Significantly Enhances IVOX O₂ Transfer in a Venovenous Circuit. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 147, 1994.
67. Nguyen PJ, Tao W, **Zwischenberger JB**, Schroeder T, Cardenas V, Traber DL, Bidani A: Effect of Rapid Permissive Hypercapnia on Carotid, Renal and Mesenteric Blood Flows in an Ovine Model. *Twelfth Annual Houston Conference on Biomedical Engineering Research*, 148, 1994.

68. Conrad SA, Heming TA, Brown EG, Bidani A, **Zwischenberger JB**: Performance Evaluation of an Extracorporeal CO₂ Removal Device. Twelfth Annual Houston Conference on Biomedical Engineering Research, 127, 1994.
69. Tao W, **Zwischenberger JB**, Cardenas VJ, Jr., Nguyen PJ, Schroeder T, Traber DL and Bidani A: Control of Blood pH Attenuates Changes in Cardiac Output and Organ Blood Flow During Permissive Hypercapnia. *Critical Care Medicine* 22, A17, 1994.
70. El Zein R, Abdel-Rahman SZ, **Zwischenberger JB**, and Au WW: Genetic Polymorphism in Cytochrome P450 2E1 and Glutathione S-Transferase M-1 Genes: Factors Implicated in Lung Cancer Risk. *Environment Mutagen Society Proceedings* 1995.
71. Liu CH, Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Mathematical Model of Coupled Respiratory Mechanics and Gas Exchange. Thirteenth Annual Houston Conference on Biomedical Engineering Research, 12, 1995.
72. Niranjana SC, Liu CH, Clark JW, Tobin M, Jubran A, **Zwischenberger JB**, Bidani A: Mathematical Modeling of Mechanical Ventilation in Patients with Acute Respiratory Failure. Thirteenth Annual Houston Conference on Biomedical Engineering Research, 31, 1995.
73. Niranjana SC, Clark JW, San KY, **Zwischenberger JB**, Bidani A: Analysis of Surface Area Requirements for CO₂ Transfer in an Intravascular Blood Gas Exchanger. Annual Houston Conference on Biomedical Engineering Research, 33, 1995.
74. Chung DC, Niranjana SC, Clark JW, Bidani A, **Zwischenberger JB**, Johnston WE, Traber DL: Mathematical Analysis of Systolic and Diastolic Ventricular Interaction. Annual Houston Conference on Biomedical Engineering Research, 49, 1995.
75. Tao W, **Zwischenberger JB**, Cardenas VJ, Nguyen PDJ, Schroeder T, Traber DL, Bidani A: Correction of Blood Attenuates Changes in Hemodynamics and Intracranial Pressure During Permissive Hypercapnia. Annual Houston Conference on Biomedical Engineering Research, 53, 1995.
76. Vertrees RA, Pencil SD, Tao W, Sites JP, Kinsky MP, Kramer GC, **Zwischenberger JB**: The Pathology of Whole Body Hyperthermia Induced by Venovenous Blood Perfusion. Annual Houston Conference on Biomedical Engineering Research, 54, 1995.
77. Pirtle PL, Tao W, Cardenas VJ, Traber DL, Bidani A, **Zwischenberger JB**: Tonometric Estimates of Mucosal pH During Acute Hypercapnia in a Porcine Model. Annual Houston Conference on Biomedical Engineering Research, 55, 1995.
78. Dy J, Tao W, Pirtle P, Cardenas V, **Zwischenberger JB**, Traber DL, Bidani A: Renal Blood Flow and Metabolism During Acute Hypercapnia in a Porcine Model. Annual Houston Conference on Biomedical Engineering Research, 56, 1995.
79. **Zwischenberger JB**: The Importance of Excellence in Research and Testing. Annual Houston Conference on Biomedical Engineering Research, 155, 1995.
80. Vertrees RA, Sites JP, Tao W, Kinsky M, Waterson W, **Zwischenberger JB**: Induction of Whole Body Hyperthermia with Venovenous Perfusion. *ASAIO J* 41:62, 1995.
81. Sites JP, Vertrees RA, Tao W, Althoff D, **Zwischenberger JB**: A Computer Assisted Hyperthermia Perfusion System. *ASAIO J* 41:94, 1995.
82. Tao W, Cardenas VJ, Bidani A, Niranjana JW, Clark JW, **Zwischenberger JB**: Strategies to Maximize CO₂ Transfer of an Intra-venacaval Gas Exchange Device (IVOX). *ASAIO J* 41:68, 1995.
83. Vertrees RA, Pencil SD, Tao W, Sites JP, Bonner MD, Kramer GC, **Zwischenberger JB**: Pathology of Perfusion-Induced Whole Body Hyperthermia in Acute Swine. *J Investigative Surg* 8(4):288, 1995.

84. Tao W, **Zwischenberger JB**, Cardenas V, Nguyen P, Schroeder T, Traber D, Bidani A: Control of Blood pH Attenuates Changes in Cardiac Output and Organ Blood Flow During Permissive Hypercapnia Crit Care Med 1995; 23 (Suppl.) A265.
85. Vertrees RA, Tao W, Brunston RL, Jr., Deyo DJ, **Zwischenberger JB**: Effect of venovenous perfusion on organ blood flow. Southern Medical Journal 11: S149, 1995
86. Tao W, Brunston R, Bidani A, Pirtle P, Dy J, Cardenas V, Traber D, **Zwischenberger JB**: Significant Reduction in Minute Ventilation and Peak Airway Pressure With Arteriovenous Carbon Dioxide Removal During Acute Respiratory Failure. Crit Care Med 24:A28, 1996.
87. Cardenas, VJ, Bidani A, **Zwischenberger JB**: Partial Liquid Ventilation: A New Approach to Management of the Acute Respiratory Distress Syndrome. Thoracic and Cardiovasc Surgeon 44 (Supp I):190, 1996.
88. Vertrees RA, Tao W, Deyo D, Brunston R, Jr, **Zwischenberger JF**. Veno-venous perfusion-induced hyperthermia: effect on hemodynamics. FASEB J, A1016, 1996.
89. Tao W, Callahan JD, Vertrees RA, Brunston RL, Deyo DJ, McRea JC, Grochoske TL, **Zwischenberger JB**: Heparin Clearance Profiles Following Systemic Anticoagulation Using a Heparin Removal Device. ASAIO J, 42(2):63, 1996.
90. Vertrees R, Tao W, Deyo D, Brunston R, Sites J, Bidani A, **Zwischenberger JB**: Effects of Blood Flow Rates on Heat Distribution Heterogeneity During Perfusion-Induced Hyperthermia. ASAIO J 42 (2):63, 1996.
91. Brunston RL, Tao W, Cardenas VJ, Bidani A, Traber DL, **Zwischenberger JB**: Determination of Low Blood Flow Limits for Arteriovenous Carbon Dioxide Removal (AVCO₂R). ASAIO J 42(2):71, 1996.
92. Vertrees RA, Tao W, Brunston RL, Sites JP, Pencil SD, Ehrenfried J, Evers MB, **Zwischenberger JB**: Perfusion Hyperthermia: The Pathophysiological Response. Southern Medical Journal 10:S143, 1995.
93. Atkinson JB, Gomperts ED, Kang R, Lee M, Arensmen RM, Bartlett RH, Rais-Bharami K, Breaux CW, Cornish JD, Haase GM, Roden J, **Zwischenberger JB**. Prospective, randomized evaluation of the efficacy of fibrin sealant as a topical hemostatic agent at the cannulation site in neonates undergoing ECMO. Fibrinolysis 10:S(4)25, 1996.
94. Bartlett RH, Croce M, Hirschl R, Gore D, Wiedemann H, Davis K, **Zwischenberger JB**. A phase II randomized, controlled trial of partial liquid ventilation (PLV) in adult patients with acute hypoxemic respiratory failure (AHRF). Crit Care Med 1997; 25: A35.
95. Tao W, Vertrees RA, Brunston RL, Jr., Deyo DJ, Grochoske TL, **Zwischenberger JB**. Extracorporeal heparin removal following cardiopulmonary bypass with a heparin removal device - An alternative to protamine. Crit Care Med 1997; 25: A49.
96. Brunston RL, Jr., Bidani A, Tao W, Cardenas VJ, Jr., Traber DL, **Zwischenberger JB**. Arteriovenous carbon dioxide removal (AVCO₂R): Ovine modeling to predict membrane surface area requirements for total extracorporeal CO₂ removal during severe respiratory failure. Crit Care Med 1997; 25: A36.
97. Frank BR, Tao W, Brunston RL Jr., Grochoske TL, **Zwischenberger JB**. Percutaneous Cannulas to Achieve Maximum Flow for Optimized Gas Transfer During Arteriovenous Carbon Dioxide Removal. ASAIO J 1997;43:32.
98. Vertrees RA, Brunston RL Jr., Tao W, Deyo DJ, **Zwischenberger JB**. Parallel Dialysis Normalizes Serum Chemistries During Veno-venous Perfusion-Induced Hyperthermia. ASAIO J 1997;43:32.

99. Tao W, Deyo DJ, Brunston RL Jr., Vertrees RA, Grochoske TL, **Zwischenberger JB**. Efficacy of a Heparin Removal Device in Comparison with Protamine After Hypothermic Cardiopulmonary Bypass. *ASAIO J* 1997; 43:32.
100. Brunston RL Jr., Tao W, Bidani A, Traber DL, **Zwischenberger JB**. Organ Blood Flow During Arteriovenous Carbon Dioxide Removal (AVCO₂R). *ASAIO J* 1997;43:33.
101. Brunston RL Jr., Tao W, Bidani A, Cardenas VJ Jr., Traber DL, **Zwischenberger JB**. Hemodynamic Effects of Prolonged Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure. *J Burn Care and Rehab* 1997;18:S73.
102. Niranjana SC, Liu CH, Clark JW Jr., **Zwischenberger JB**, Bidani A. Effects of Mechanical Ventilation on Perfusion and Gas Exchange - A Modeling Study. *Cardiopul Resp* 1997;S10:60.
103. Liu CH, Niranjana SC, Clark JW Jr., San KY, **Zwischenberger JB**, Bidani A. Study of Airway Mechanics, Blood Flow and Gas Exchange During the FVC Maneuver Using a Nonlinear Model. *Cardiopul Resp* 1997;S13:73.
104. Vertrees RA, Pencil SD, Evers BM, **Zwischenberger JB**. Overexpression of Ras renders cancer cells resistant to heating. *FASEB J*, A1970, 1997.
105. Athanasiades A, Ghorbel F, Clark JW Jr., Niranjana SC, Liu CH, **Zwischenberger JB**, Bidani A. Identifying Work of Breathing Functions in Nonlinear Human Lung Model. *Cardiopul Resp* 1997;S13:74.
106. Vertrees RA, Tao W, Brunston RL Jr., Deyo DJ, Grochoske TL, **Zwischenberger JB**. Extracorporeal heparin removal following cardiopulmonary bypass with a heparin removal device – An alternative to protamine. *Crit Care Med* 25: A49, 1997.
107. Alpard SK, **Zwischenberger JB**, Tao W, Deyo DJ, Sakuri H, Traber DL, Bidani A. Dose Dependent Development of Severe Respiratory Failure in an Ovine Model of Smoke Inhalation and Cutaneous Burn Injury. *Crit Care Med* 1998;26:S111.
108. Alpard SK, Tao W, Bidani A, Deyo DJ, Traber DL, **Zwischenberger JB**. Severe Respiratory Failure Secondary to Smoke Inhalation and Cutaneous Flame Burn Injury: Initial Experience with Percutaneous Arteriovenous Carbon Dioxide Removal. *J Burn Care Rehab* 1998;19:S193.
109. Alpard SK, **Zwischenberger JB**, Tao W, Deyo DJ, Bidani A. Percutaneous Access for Arteriovenous Carbon Dioxide Removal (AVCO₂R). *ASAIO J* 1998;44:26A.
110. Tao W, Deyo DJ, Alpard SK, **Zwischenberger JB**. Significant Reduction in Circuit Pressure with Modified Plasma Separation Chamber for Heparin Removal Device. *ASAIO J* 1998;44:25A.
111. 108. Deyo DJ, Tao W, Vertrees RA, **Zwischenberger JB**. An Iterative Computer Model for a Heparin Removal Device with Reinfused Heparinized Pump and Shed Blood. *ASAIO J* 1998;44:25A.
112. 109. Vertrees RA, Tao W, Deyo DJ, **Zwischenberger JB**. Venovenous Perfusion-Induced Systemic Hyperthermia Blood Flow Redistribution Determines End-Organ Temperature. *ASAIO J* 1998;44:25A.
113. 110. **Zwischenberger JB**, Alpard SK, Tao W, Brunston RL Jr., Traber DL, Bidani A. Arteriovenous Carbon Dioxide Removal (AVCO₂R) Reduces Ventilator Dependence During Acute Lung Injury. *Am Rev Resp Dis* 1998;157:A346.
114. Alpard SK, Tao W, Bidani A, Deyo DJ, Traber DL, **Zwischenberger JB**. Percutaneous Arteriovenous Carbon Dioxide Removal (AVCO₂R) for Adult Respiratory Distress Syndrome (ARDS): A Prospective Randomized Preclinical Outcomes Study. *Houston Society for Engineering in Medicine and Biology* 1998:54.

115. Tao W, Deyo DJ, Alpard SK, **Zwischenberger JB**. Significant Reduction in Circuit Pressure with Modified Plasma Separation Chamber for Heparin Removal Device. Houston Society for Engineering in Medicine and Biology 1998:55.
116. Niranjana SC, Bidani A, Ghorbel F, **Zwischenberger JB**. Analysis of Inspiratory Waveforms on Pulmonary Blood Flow and Gas Exchange During Mechanical Ventilation. Houston Society for Engineering in Medicine and Biology 1998:158.
117. Athanasiades A, Olansen J, Ghorbel F, Clark JW Jr., Niranjana SC, **Zwischenberger JB**, Bidani A. Nonlinear Modeling of Human Lung Tissue. Houston Society for Engineering in Medicine and Biology 1998:159.
118. Tao, W, Deyo DJ, Alpard SK, Vertrees RA, Hoang V, **Zwischenberger JB**. Significant reduction in circuit pressure with modified plasma separation chamber for a heparin removal device. ASAIOJ: 1:50-52, 1999.
119. **Zwischenberger JB**. Advanced Techniques in the Management of Severe Respiratory Failure. Society of Thoracic Surgeons Postgraduate Program. 1999:2.
120. Lynch J, Chung D, Chernin J, Graves D, **Zwischenberger J**. Sedations practices in pediatric respiratory failure requiring ECMO. Presented at 17th Annual CNMC Symposium. 1999, Keystone, Colorado.
121. Alpard SK, **Zwischenberger JB**, Tao W, Deyo DJ, Traber DL, Bidani A. Dose Dependent Development of Severe Respiratory Failure in an Ovine Model of Smoke Inhalation and Cutaneous Flame Burn Injury. 17th Annual Houston Conference on Biomedical Engineering Research 1999:29.
122. Conrad SA, Alpard SK, Tao W, Deyo DJ, **Zwischenberger JB**, Bidani A. A Phase I Clinical Evaluation of Pumpless Extracorporeal Arteriovenous Carbon Dioxide Removal in Acute Respiratory Failure. 17th Annual Houston Conference on Biomedical Engineering Research 1999:30.
123. Tao W, Alpard SK, Deyo DJ, Bidani A, **Zwischenberger JB**. Percutaneous Access for Arteriovenous CO₂ Removal (AVCO₂R). 17th Annual Houston Conference on Biomedical Engineering Research 1999:31.
124. **Zwischenberger JB**, Woodson L, Vertrees RA, Bedell E, Deyo DJ, Chernin J, Graves D, Bidani A. Perfusion-induced systemic hyperthermia for advanced non-small cell lung cancer: initial clinical experience. AACR J 1249, 1999.
125. Deyo DJ, Two W, Vertrees R, **Zwischenberger JB**. An Iterative Computer Model for a Heparin Removal Device with Reinfused Heparinized Pump and Shed Blood. 17th Annual Houston Conference on Biomedical Engineering Research 1999:32.
126. Vertrees RA, Deyo DJ, Tao W, Alpard S, **Zwischenberger JB**. A study comparing the kinetics for thermosensitivity between malignant and normal lung tissue culture cells. 17th Annual Meeting of Houston Biomedical Engineering Society. 62, 1999.
127. Alpard SK, Tao W, Bidani A, Deyo DJ, Traber DL, **Zwischenberger JB**. Entry Criteria-Driven Management of Severe Respiratory Failure in Sheep with Smoke Inhalation and Cutaneous Burn Injury. 31st Annual Meeting of the American Burn Association, J. Burn Care Rehabil, 1999;20:1, Part 2;S140.
128. Baker J, **Zwischenberger J**, Breckenridge J, Stronck K, Bimbela A. Psychological Assessment in Perfusion-Induced Hyperthermia for Lung Carcinoma. Arch of Clin Neuropsych 1999;14:(1);148.
129. Percutaneous Veno-venous Perfusion Induced Systemic Hyperthermia (VV-PISH): Initial Clinical Experience AACR Proceedings 1999;40:185.
130. Cajas-Salazar N, **Zwischenberger JB**, Alpard S, Au WW. Interaction of Susceptibility Factors for Development of Lung Cancer. Environ Mol Mutagen 1999;33:30;16.

131. Vertrees RA, Deyo DJ, Quast M, Wei G, Lightfoot KM, **Zwischenberger JB**. An Orthotopic Xenotransplanted Murine Model of Lung Cancer. *J Invest Surg* 1999;12:4;226.
132. Vertrees RJ, Boor PJ, **Zwischenberger JB**. Oncogenic ras Results In Increased Cell Kill Due to Defective Thermoprotection in Lung Cancer Cells Subjected To Heat Stress. *Ann Thorac Surg*.
133. Witt SA, Alpard SK, Lick SD, Deyo DJ, Montoya P, **Zwischenberger JB**. Total Artificial Lungs: A 7-Day survival study in sheep. *Crit Care Med* 1999;27(12 Suppl.): 22.
134. Savage C, Alpard SK, Murphy J, Deyo DJ, Jayroe JB, **Zwischenberger JB**. Extracorporeal arteriovenous CO₂ removal for severe respiratory failure: high versus low dose heparin. *Crit Care Med* 1999 Vol. 27, No. 12 (Suppl.), A127.
135. Savage C, **Zwischenberger JB**, Alpard SK, Hemming T, Traber LD, Bidani A. Modified bronchoalveolar lavage for macrophage harvest in sheep. *Crit Care Med* 1999; 27(12 Suppl.): 129.
136. Vertrees RA, Hold MD, Alpard SK, **Zwischenberger JB**. Smoke and burn injury causes apoptotic and necrotic cell death that is ameliorated with AVCO₂R. *J Burn Care Rehabil* 2000; 21, S157.
137. Lick SD, Alpard SK, Montoya P, Deyo DJ, Witt SA, **Zwischenberger JB**. A prototype low-resistance total artificial lung in series with the pulmonary circulation. *ASAIO J* 46:1818, 2000.
138. Schmalstieg FC, Chow JT, Alpard SK, Traber DL, Murphy J, **Zwischenberger JB**. Aquaporin-1 and inducible nitric oxide synthase mRNA in injured ovine lung tissue after treatment with arteriovenous CO₂ removal. *ASAIO J* 46:184, 2000.
139. Diba R, Haque A, Alpard SK, Deyo DJ, Bidani A, **Zwischenberger JB**. Histopathological correlation with P/F ratios during ARDS in an ovine model treated with extracorporeal arteriovenous carbon dioxide removal (AVCO₂R). *ASAIO J* 46:186, 2000.
140. Witt SA, Alpard SK, Deyo DJ, Harper DD, Savage C, **Zwischenberger JB**. AVCO₂R Perioperative Management: Rapid Recovery and Enhanced Survival. *ASAIO J* 46:181, 2000.
141. Harper DD, Alpard SK, Deyo DJ, Lick SD, Traber DL, **Zwischenberger JB**. Anatomic Study of the Pulmonary Artery As A Conduit For An Artificial Lung. *ASAIO J* 46:184, 2000.
142. Lick SD, Alpard SK, Montoya P, Deyo DJ, Jayroe JB, **Zwischenberger JB**. Artificial Lung Prototype Development. *ASAIO J* 46:230, 2000.
143. Savage C, **Zwischenberger JB**, Deyo DJ, Wang D, Heming TA, Schmalstieg FC, Bidani A. Modified Bronchoalveolar Lavage Improves Macrophage Harvest in Acute Respiratory Distress Syndrome. *Chest (Suppl)*2000; 118(4):157S.
144. Chan R, Haque A, He Y, **Zwischenberger JB**. CT-Pathologic Correlation of Gross Tumor Volume (GTV) and Clinical Target Volume (CTV) in Non-small Cell Lung Cancer: A Pilot Experience. 7th Hong Kong International Cancer Congress, 12/2000.
145. Baker J, **Zwischenberger JB**, Schlimmer E. Increasing compassionate care by addressing coping skills in general thoracic surgical patients and the relationship of quality of life in the patients psychological profile. *Society of Critical Care Medicine, Proceedings*, February, 2001.
146. Vertrees RA, Nason R, Hold BA, Hernandez A, **Zwischenberger JB**. Smoke and Burn Injury Induces Apoptosis Through Tumor Necrosis Factor (TNF- α) Pathways Ameliorated With Arteriovenous CO₂ Removal (AVCO₂R). *J Burn Care Rehabil* 2001;22(2) S55.
147. Vertrees RA, **Zwischenberger JB**, Boor PJ. Optimized Synergistic Effect When Hyperthermia Precedes 2', 2' Difluorodeoxycytidine 9DFDC, GEMCITABINE) By 24 Hours. *American Association for Cancer Research Annual Meeting*, 3/26/01.
148. Vertrees RA, **Zwischenberger JB**, Pencil S, Boor P. Hyperthermia Attenuates Expression of RAF-1 Inducing Apoptosis in *RAS* – Transferred Lung Cells. *FASEB*

149. Haque AK, Chan R, He Y, **Zwischenberger JB**. Comparison of CT and Pathologic Measurements of Gross Tumor Volume in Non-Small Cell Cancer. United States and Canadian Academy of Pathology, Inc. Annual Meeting, 3/01
150. Baker J, **Zwischenberger JB**, Baumgartel A. Neuropsychological Assessment in Patients Evaluated for Hyperthermia for Metastatic Non-Small Lung Carcinoma (Phase 1 and Phase 2). Archives of Clinical Neuropsychology, 15(8): November, 2000.
151. Lick SD, **Zwischenberger JB**, Alpard SK, Deyo DJ, Wang D, Merz SI. Improved Right Heart Function with a Compliant In Flow Artificial Lung In-Series with the Pulmonary Circulation. STS Abstracts p. 230.
152. 144. Baker J, **Zwischenberger JB**, Schlimmer E. Increasing Compassionate Care by Addressing Coping Skills in General Thoracic Surgical Patients and the Relationship of Quality of Life in the Patients Psychological Profile. Crit Care Med 2000; 28, No. 12(Suppl).
153. Jayroe Jason, Wang Dongfang, Deyo DJ, Alpard SK, **Zwischenberger JB**. The Effect of Augmented Hemodynamics on Blood Flow During Arteriovenous Carbon Dioxide Removal (AVCO₂R). ASAIO J 2001;47(2):114.
154. Wang D, Lick SD, Alpard SK, Deyo DJ, Hamani I, Merz S, **Zwischenberger JB**. Management Complications During Development Of An Ambulatory Paracorporeal Artificial Lung. ASAIO J 2001;47(2):114.
155. Vertrees RA, **Zwischenberger JB**, Boor PJ. Optimized synergistic effect when hyperthermia precedes 2', 2' difluorodeoxycytidine (dFdC, Gemcitabine) by 24 hours. AACR J #1973, 2001.
156. Vertrees RA, **Zwischenberger JB**, Pencil SD, Boor PJ. Hyperthermia attenuates expression of Raf-1 inducing apoptosis in Ras-transformed lung cells. FASEB J #15131, 2001.
157. Schmalstieg F, Wang D, Savage C, Rudloff H, Palkowetz K, Masters L, **Zwischenberger JB**. Comparison of IL-8 and iNOS mRNA in Injured Sheep Lungs Treated with Extracorporeal CO₂Removal. Am J Resp Crit Care Med 2001;163(5):A139.
158. Wang D, Kirby J, Deyo DJ, Harper D, Alpard SK, **Zwischenberger JB**. Gas Exchange Performance During Arteriovenous CO₂ Removal (AVCO₂R) in Smoke/Burn Induced ARDS. Am J Resp Crit Care Med 2001;163(5):A687.
159. Wang D, Tao W, Savage C, **Zwischenberger JB**. St. Thomas Hospital Cardioplegia #2 Fails to Suppress the Electrical Activity in the Heart Slow Reaction Pacemaker Cell – The Possible Etiology of Post-CPB Supraventricular Arrhythmia. Chest 2001;120(4):3075.
160. Heming TA, Wang D, Savage C, Alpard S, Haque A, **Zwischenberger JB**, Bidani A. Alveolar Macrophage pH in An Ovine Model of Adult Respiratory Distress Syndrome. Chest 2001;120(4):149S.
161. **Zwischenberger JB**, Wang D, Lick SD, Alpard S, Deyo DI, Chambers S. The Paracorporeal Artificial Lung (PAL) Improves Outcomes from Lethal Smoke/Burn Induced ARDS in Sheep. Society of Thoracic Surgeons 2002; 104.
162. Kurusz M, McRea JC, Tao W, Vertrees RA, **Zwischenberger JB**. Heparin Removal Device: An Alternative Therapy? American Academy of Cardiovascular Perfusion 2001.
163. Wang D, **Zwischenberger JB**, Deyo DJ, Alpard SK, Smolarz JR, Traber DL. High Frequency Percussive Ventilation with Systemic Heparin Improves Short Term Survival in an LD₁₀₀ Sheep Model of ARDS. J. Burn Care Rehabil 2002;23:S52.
164. Schmalstieg F, Wang D, Palkowetz K, Traber D, **Zwischenberger JB**. Arteriovenous CO₂Removal and Mitogen Activated Protein Kinases. J. Burn Care Rehabil 2002;23:S105.
165. Schmalstieg FC, Katahiro J, **Zwischenberger JB**, Rudloff HE, Palkowetz KH, Traber DL. Interleukin-8 in Smoke Inhalation and Burn Injury. J. Burn Care Rehabil 2002;23:S105.

166. Wang D, Lick SD, Alpard S, Deyo DJ, Chamber S, Duarte A, **Zwischenberger JB**. Development of Ambulatory Arteriovenous Carbon Dioxide Removal (AVCO₂R). ASAIO 2002; 48(2):153.
167. He N, Zhang X, Roth WB, Haque A, Wang Q, Logrono R, Orihuela E, **Zwischenberger JB**, Gatalica Z, Xie J. Involvement of the Protein Ubiquitin System In Lung and Prostate Cancers. AACR 2002
168. Wang D, Yamani HN, Alpard SK, Deyo DJ, Lamba N, Savage C, **Zwischenberger JB**. Short Term Performance Evaluation of a Perfluoropolymer Coated Gas Exchanger for Arterio Venous CO₂Removal (AVCO₂R). ASAIO 2002; 48 (2):147.
169. Wang D, Lick SD, Alpard SK, Deyo D, Chambers S, **Zwischenberger JB**. Staged Development of the Paracorporeal Artificial Lung (PAL). ASAIO 2002; 48 (2):160.
170. Leeth AM, Vertrees RA, Logrono R, Boor PJ, **Zwischenberger JB**. Evaluation of combination hyperthermia and gemcitabine therapy in treating ectopic human lung cancer. Am Assoc Cancer Research 2002.
171. Vertrees RA, Leeth AM, **Zwischenberger JB**, Chumley CR, Martinez JA, Boor PJ. Hyperthermia-induced death receptor-mediated apoptosis by suppression of RAF-1 activation in non-small cell lung cancer cells. Am Assoc of Cancer Research 2002.
172. **Zwischenberger JB**, Wang D., Lick SD, Alpard SK, Savage C, Deyo D, Bidani A, Chambers S. Paracorporeal Artificial Lung as a Bridge to Recovery or Lung Transplant. EMBS-BMES, 2002; 275.
173. **Zwischenberger JB**, Wang D, Alpard SK, Savage C, Deyo DJ, Schmalstieg FC, Bidani A. Arterio Venous Carbon Dioxide Removal (AVCO₂R) for Severe Respiratory Failure. EMBS-BMES, 2002; 274.
174. Walser E, Savage C, Oskhan O, **Zwischenberger JB**. CT-Guided FNA of Benign Nodules. Society of Thoracic Surgery.
175. Qian J, Clark JW, Lu K, Ghorbel F, **Zwischenberger JB**, Bidani A. A Closed-Loop Model of the Cardiovascular System in Sheep. EMBS-BMES 2002; 275.
176. Savage C, **Zwischenberger JB**, Walser EM, Ozkan O, E Edmund, Wong F. Upper Extremity Central Venous Access: Which Imaging Study is Best? Society of Critical Care Medicine 2002; A63 (Supple.)
177. Cozart JR, Chernin JM, Woodside KJ, **Zwischenberger JB**. Acute Respiratory Distress Syndrome (ARDS) Clinical Trial Entry Criteria: Are we Really Investigating ARDS? Society of Critical Care Medicine 2003; A86 (Supple.).
178. Vertrees RA, Leeth AM, Chumley CR, **Zwischenberger JB**, Boor PJ. Role of tumor necrosis factor- α family in hyperthermia-induced apoptosis in transformed human lung cancer cells. Am Assoc for Cancer Research 2003.
179. **Zwischenberger JB**, Vertrees RA, Bedell EA, McQuitty C, Chernin JM, Woodson LC. Percutaneous Veno-Venous Perfusion-Induced Systemic Hyperthermia: A Phase I Safety Study. AACP Proceeds 24: 60, 2003.
180. Vertrees RA, **Zwischenberger JB**, Bedell EA, McQuitty C, Chernin JM, Woodson LC. Percutaneous Veno-Venous Perfusion-Induced Systemic Hyperthermia: Basic Science and Perfusion Considerations AACP Proceeds 24: 58, 2003.
181. Amini B, Clark JW, Bidani A, **Zwischenberger JB**. A Model of the Rat Phrenic Motor Neuron. 24th Annual Meeting of Biomedical Engineering Society 2002; 267.
182. Lu K, Clark JW, Ghorbel FH, Ware DL, **Zwischenberger JB**, Bidani A. A Closed Loop Model of Human Gas Exchange. 24th Annual Meeting of Biomedical Engineering Society 2002; 269.

183. Qian J, Clark JW, Wang D, Kun L, Ghorbel F, **Zwischenberger JB**. Testing the Para-Corporeal Artificial Lung Using Computer Models. *ASAIO* 2003; 49(2): 167.
184. Wang D, Campbell K, Lick SD, Cardenas, Jr. VJ, **Zwischenberger JB**. Development of Ambulatory Arteriovenous CO₂ (AAVCO₂ R). *ASAIO* 2003; 49(2): 182.
185. Wang D, Deyo DJ, Alpard SK, Chambers S, Lick SD, **Zwischenberger JB**. An Assisted Compliance Chamber in an Artificial Lung in Series with The Pulmonary Circulation. *ASAIO* 2003; 49(2):182.
186. Jacob S, **Zwischenberger JB**, Wang D, Topaz S, Nix C, Kolff WJ. Development of Transapical to Aorta MI-LVAD with Impella Pump. *ASAIO* 2003; 49(2): 183.
187. Savage C, **Zwischenberger JB**, Walser EM, Ozkan OS, Woodside KJ, Schnadig VJ. Transthoracic Image-Guided Biopsy of Lung Nodules: “What Is Really Benign?” *Am J Res and Crit Care Med* 2003; 167 (7): A534.
188. Schmalstieg FC, Chandra A, Shimoda K, Murakami K, **Zwischenberger JB**. Elevated Myeloperoxidase and Gelatinase in Ovine Lung Injured by Smoke Inhalation and Burn After Anti-P-Selectin Treatment. *Am J Res and Crit Care Med* 2003; 167 (7):A778.
189. **Zwischenberger JB**, Wang D, Lick S, Deyo D, Clark JW, Bidani A. Extracorporeal Gas Exchange: Development of the Paracorporeal Artificial Lung and Ambulatory Arterial Venous Carbon Dioxide Removal. *HSEMB 20th Annual Meeting*, April 3, 2003; 65.
190. Wang D, **Zwischenberger JB**, Jacob S, Topaz S, Nix C, Kolff WJ. Fast Deployed Temporary LVAD for Cardiopulmonary Resuscitation – From Apex to Aorta. *HSEMB 20th Annual Meeting*, April 3, 2003;129.
191. Lu K, Clark JW, Ghorbel FH, Robertson CS, **Zwischenberger JB**, Bidani A. Cerebral Autoregulation and Gas Exchange Studied Using a Human Cardiopulmonary Model. *HSEMB* 2003;166.
192. Wang D, **Zwischenberger JB**, Jacob S, Topaz S, Nix C, Kolff WJ. Development of Pumped Wearable Artificial Lung By Transapical to Aorta Access – A Preliminary Report. *ASAIO* 2003; 184.
193. Miller L, Cardenas V, Lynch J, Anderson M, **Zwischenberger J**. Percutaneous Veno-Venous CO₂ Removal with Regional Anticoagulation in an Ovine Model. *Crit Care Med* 30(12S):A97, 2003.
194. Miller L, Awad O, Farha S, Anderson M, Lynch J, Cardenas V, **Zwischenberger J**. Comparison of f/Vt Ratios Generated by Handheld Spirometer vs. Ventilator Digital Display. *Am J Respir Crit Care Med* 167: A99, 2003.
195. Leeth AM, Vertrees RA, Goluszko E, Boor PJ, **Zwischenberger JB**. Oncogenic Ras increases Bax expression in human lung cells in a p53 dependent mechanism via the JNK pathway. *American Association for Cancer Research (AACR)*, November 7, 2003.
196. Vertrees RA, **Zwischenberger JB**, Leeth AM, Boor PJ, Vselovod P, McCarthy M, Goodwin T. Development of a three-dimensional model of normal and malignant lung cells. *American Association for Cancer Research (AACR)*, November 7, 2003. Qian KX, Wang DF, Topaz S, Yuan HY, Ru WM, Zeng P, Kolff WJ, **Zwischenberger JB**: First prototype development of aortic valvo-pump. *ASAIO J* 2004; 50(2): 113.
197. Loran DB, Wang D, Lick SD, Alpard SK, Deyo DJ, **Zwischenberger JB**: A less traumatic surgical technique for paracorporeal RVAD attachment in sheep. *ASAIO J* 2004; 50(2): 133.
198. Liu L, Wang D, Topaz S, Qian KX, Kolff WJ, **Zwischenberger JB**: Echocardiography of distance from LV apex to aorta valve in 199 humans for development of transapical to aorta intracardiac LVAD. *ASAIO J* 2004; 50(2): 139.

199. Wang D, **Zwischenberger JB**, Loran D, Topaz S, Qian KX, Christoph N, Kolff WJ: Steady flow transapical to aorta cannula pump completely unloads left ventricle (LV) and generate pulsatile flow in sheep. *ASAIO J* 2004; 50(2): 145.
200. Wang D, Qian KX, Loran DB, Lick SD, Alpard SK, Campbell KM, Deyo DJ, Chambers SD, **Zwischenberger JB**: Development of compact paracorporeal right heart and lung assist device. *ASAIO J* 2004; 50(2): 154.
201. De Berry B, Lynch J, Chernin J, Graves D, Chung D, **Zwischenberger J**. Bordella Pertussis with Severe Leukocytosis Treated with ECLS: A Case Report and Review of ELSO Registry. Presented at 20th Annual CNMC Symposium. 2004, Keystone, Colorado.
202. Schmalstieg FC, Morita N, Hawkins HK, **Zwischenberger J**, Traber LD. Poly (ADP-Ribose) polymerase controls interleukin-8 in smoke and burn injured sheep. American Burn Assoc. 2004, Vancouver, BC, S94.
203. Schmalstieg FC, Wang D, Campbell K, Alpard S, Traber DL, **Zwischenberger J**. Confocal laser scanning microscopy of polymorphonuclear leukocytes in ovine lung tissue after AVCO₂R. American Burn Assoc. 2004, Vancouver, BC, S130.
204. Schmalstieg FC, Morita N, **Zwischenberger JB**, Hawkins HK, Traber DL. Neutrophils containing F-actin are present in pulmonary capillaries of smoke and burn injured sheep. American Thoracic Society, 2004, Orlando, FL, A806.
205. Qian K, Wang D, Topaz S, **Zwischenberger JB**. The prototype of trans-ventricular LVAD with rolling bearings and a purge system: toward durability and performance. Presented at the 51st ASAIO Annual Conference, Washington, DC, 2005. *ASAIO J* 2005; 51(2):45A.
206. Qian K, Wang D, Topaz S, **Zwischenberger JB**. Implantable aortic valve annular pump with sufficient hemodynamic capacity for total left ventricular support. Presented at the 51st ASAIO Annual Conference, Washington, DC, 2005. *ASAIO J* 2005; 51(2):46A.
207. Zhou X, Hamani I, Wang D, **Zwischenberger JB**. Embolic pulmonary hypertension sheep model by continuous venous air infusion. Presented at the 51st ASAIO Annual Conference, Washington, DC, 2005. *ASAIO J* 2005; 51(2):55A.
208. Wang D, Zhou X, Qian K, Lick SD, Deyo DJ, Chambers S, **Zwischenberger JB**. Compact paracorporeal right heart and lung assist device (RH&LAD) for total right heart and respiratory support in awake sheep. Presented at the 51st ASAIO Annual Conference, Washington, DC, 2005. *ASAIO J* 2005; 51(2):56A.
209. Clemson C, Lynch J, Walser E, **Zwischenberger JB**. Minimally invasive closure techniques for recalcitrant bronchopleural fistulas. *Chest* 10/29-11/3, 2005, Montreal, Quebec, Canada. *Chest* 2005; 128(4 Suppl):310S.
210. Black T, Lynch JE, **Zwischenberger JB**. Tissue Sealants: The role of albumin/glutaraldehyde in thoracic surgery. *Chest* 10/29-11/3, 2005, Montreal, Quebec, Canada. *Chest* 2005; 128(4 Suppl):311S.