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EDUCATION and TRAINING

A: DEGREE PROGRAMS:

GRADUATE:

<u>Dates Attended</u>	<u>Name & Location of Institution</u>	<u>Degree Received/Year</u>	<u>Major Subject</u>
1990-1992	University of Oxford Oxford, UK	D.Phil. 1993	Immunology/Pathology
1987-1989	Boston University Boston, MA USA	MA 1990	Physiology
1975-1983	Dow Medical University Karachi, Pakistan	MD (MBBS) 1983	Medicine, Surgery
1973-1975	Dayaram Jethamal Science College Karachi, Pakistan	HSC 1975	Pre-Med Biology
1971-1973	St. Patrick's School Karachi, Pakistan	SSC 1973	General Studies

B: CERTIFICATION PROGRAMS:

2002	Association of American Medical Colleges (AAMC) Washington, DC, USA	Not Applicable	Future Medical School Dean's Workshop
2000	The Katz Graduate School of Business Administration University of Pittsburgh Pittsburgh, PA, USA	MBA (Essentials)	Executive Management
2000	Corporate Training and Development University of Pittsburgh Medical Center-Health System Pittsburgh, PA, USA	Not Applicable	Management, Law, & Supervision

POST-GRADUATE:

<u>Years</u>	<u>Name & Location of Institution</u>	<u>Title or Position</u>
1990-1992	Nuffield Department of Surgery John Radcliffe Hospital Oxford University Oxford, UK	Post-Doctoral Fellow
1989-1990	Department of Neurology Harvard Medical School Boston, MA USA	Research Fellow
1987-1989	Department of Physiology Boston University, School of Medicine Boston, MA USA	Research Associate
1985-1987	Department of Physiology The Aga Khan University School of Medicine Karachi, Pakistan	Instructor
1984-1985	Department of Physiology Dow Medical University Karachi, Pakistan	Instructor
1983-1984	Department of Orthopedic Surgery Civil Hospital Karachi, Pakistan	Resident

APPOINTMENTS and POSITIONS

NON-ACADEMIC:

<u>Years Inclusive</u>	<u>Name & Location of Institution</u>	<u>Title or Position</u>
Mar 2009 – To date	The Institute of Women's Health of North America Orlando, Florida	CEO & CRO

UNIVERSITY OF SOUTH FLORIDA

August 2008 – Feb 2009	Management Advisory Committee Laboratory for Advanced Molecular Diagnostics <i>A Tampa General Hospital/USF Health Partnership</i> Tampa, FL, USA	Chairman
May 2007 - Feb 2009	Research Cabinet University of South Florida - Health College of Medicine Tampa, FL, USA	Chair
June 2007 - Feb 2009	Financial Oversight Committee University of South Florida - Health College of Medicine Tampa, FL, USA	Member
March 2007 - Feb 2009	Research Management Council University of South Florida System Tampa, FL, USA	Member/Chair
January 2007 - Feb 2009	Strategic Planning Committee University of South Florida System Tampa, FL, USA	Member
January 2007 - Feb 2009	University Discipline Committee Distinguished University Health Professorship University of South Florida Health Tampa, FL, USA	Chair
January 2007 - Feb 2009	Graduate Executive Coordinating Committee University of South Florida System Tampa, FL, USA	Member
October 2006 - Feb 2009	Life Science Subcommittee Greater Tampa Bay Chamber of Commerce Tampa, FL, USA	Member

<u><i>Years Inclusive</i></u>	<u><i>Name & Location of Institution</i></u>	<u><i>Title or Position</i></u>
October 2006 - Feb 2009	Research Committee Tampa General Hospital Tampa, FL, USA	Chair
October 2006 - Feb 2009	Feasibility Committee Tampa General Hospital Tampa, FL, USA	Chair
August 2006 - Feb 2009	Tampa General Hospital Tampa, FL, USA	Medical Director
February 2006 – Feb 2009	Sabbatical Committee University of South Florida - Health Tampa, FL, USA	Chair
February 2006 – Feb 2009	Board – Centers for Advanced Healthcare University of South Florida – Health College of Medicine Tampa, FL, USA	Member
February 2006 - Feb 2009	School of Biomedical Sciences University of South Florida - Health College of Medicine Tampa, FL, USA	Director
January 2006 - Feb 2009	Dean’s Cabinet University of South Florida - Health College of Medicine Tampa, FL, USA	Member

MIDDLE TENNESSEE STATE UNIVERSITY/TENNESSEE BOARD OF REGENTS

March 2005 – December 2005	Research Council Tennessee Board of Regents Nashville, TN, USA	Chair
November 2004 – December 2005	MTSU Research Foundation Middle Tennessee State University Murfreesboro, TN, USA	Executive Director
July 2004 – December 2005	TN Homeland Security Task Force State of Tennessee Nashville, TN, USA	Member

<u><i>Years Inclusive</i></u>	<u><i>Name & Location of Institution</i></u>	<u><i>Title or Position</i></u>
July 2004 – December 2005	Vice Provost's Council Middle Tennessee State University Murfreesboro, TN, USA	Member
July 2004 – December 2005	Dean's Cabinet Middle Tennessee State University Murfreesboro, TN, USA	Member
July 2004 – December 2005	University's Strategic Planning Committee Middle Tennessee State University Murfreesboro, TN, USA	Member
July 2004 – December 2005	Research Council Middle Tennessee State University Murfreesboro, TN, USA	Chair
July 2004 – December 2005	Graduate Council Middle Tennessee State University Murfreesboro, TN, USA	Member
July 2004 – December 2005	Faculty Research and Creative Activity Committee Middle Tennessee State University Murfreesboro, TN, USA	Member
July 2004 – March 2005	Vision for Excellence in Research Committee Tennessee Board of Regents Nashville, TN, USA	Vice Chair
July 2004 – December 2005	College of Graduate Studies Middle Tennessee State University Murfreesboro, TN, USA	Dean
July 2004 – December 2005	Research & Sponsored Programs Middle Tennessee State University Murfreesboro, TN, USA	Vice Provost

<u>Years Inclusive</u>	<u>Name & Location of Institution</u>	<u>Title or Position</u>
MCP HAHNEMANN/DREXEL UNIVERSITY:		
September 2003 – June 2004	Research & Graduate Studies Drexel University Philadelphia, PA USA	Sr. Assoc. Vice Provost
May 2002 – August 2003	Research Administration Drexel University College of Medicine Philadelphia, PA USA	Vice Dean
May 2002 – August 2003	Biomedical Graduate Studies Drexel University College of Medicine Philadelphia, PA USA	Vice Dean
April 2002 – August 2003	Information Technology (Academic) Drexel University College of Medicine Philadelphia, PA USA	Vice Dean
January 2001 – April 2002	Research Administration Drexel University College of Medicine (<i>formerly MCP Hahnemann University</i>) Philadelphia, PA USA	Senior Associate Dean
January 2001 – April 2002	Biomedical Graduate Studies Drexel University College of Medicine (<i>formerly MCP Hahnemann University</i>) Philadelphia, PA USA	Senior Associate Dean
September 2001 – April 2002	Information Technology (Academic) Drexel University College of Medicine (<i>formerly MCP Hahnemann University</i>) Philadelphia, PA USA	Senior Associate Dean

<u>Years Inclusive</u>	<u>Name & Location of Institution</u>	<u>Title or Position</u>
THOMAS E. STARZL TRANSPLANTATION INSTITUTE/UNIVERSITY OF PITTSBURGH		
1998 – 2000	Protocol Review Committee Thomas E. Starzl Transplantation Institute School of Medicine University of Pittsburgh Pittsburgh, PA USA	Vice Chairmen
1997-2000	Executive Management Committee Thomas E. Starzl Transplantation Institute School of Medicine University of Pittsburgh Pittsburgh, PA USA	Executive Secretary
1997-2000	Translational Research Thomas E. Starzl Transplantation Institute University of Pittsburgh Pittsburgh, PA USA	Associate Director
1995-2000	Section of Medical Informatics Thomas E. Starzl Transplantation Institute School of Medicine University of Pittsburgh Pittsburgh, PA USA	Director
1994- 1997	Research Administration Thomas E. Starzl Transplantation Institute University of Pittsburgh Pittsburgh, PA USA	Director
1994-2000	Section of Cellular Transplantation Thomas E. Starzl Transplantation Institute University of Pittsburgh Pittsburgh, PA USA	Director/Chief

ACADEMIC:
Years Inclusive

Name & Location of Institution

Title or Position

October 2009 – To Date	Strayer University Tampa, FL, USA	Professor (Adjunct)
January 2006 - Feb 2009	Department of Surgery University of South Florida - Health College of Medicine Tampa, FL, USA	Professor
January 2006 - Feb 2009	Department of Molecular Medicine School of Biomedical Sciences University of South Florida - Health College of Medicine Tampa, FL, USA	Professor
July 2004 – December 2005	Department of Biology Middle Tennessee State University Murfreesboro, TN, USA	Professor (tenured)
2001-2004	Departments of Surgery Drexel University College of Medicine Philadelphia, PA USA	Professor
2001 – 2004	Department of Microbiology and Immunology Drexel University College of Medicine Philadelphia, PA, USA	Adjunct Professor
1999-2000	Departments of Surgery School of Medicine University of Pittsburgh Pittsburgh, PA USA	Associate Professor
1993-1999	Departments of Surgery & Pathology School of Medicine University of Pittsburgh Pittsburgh, PA USA	Assistant Professor
1990-1992	Nuffield Department of Surgery John Radcliffe Hospital Oxford University Oxford, UK	Instructor

RESEARCH FUNDING

<u>Title</u>	<u>Role in Project & % of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
A: The Institute of Women's Health of North America			
IWHNA HIV Prevention Program in Broward, Hillsborough, Marion & Orange Counties Status: Submitted	PI	2010-2014	CD Atlanta, GA (USA) \$2,499,375
Sister Informing Sisters On Topics About AIDS (SiSTA) Status: Submitted	PI	2010-2011	National AIDS Fund Washington, DC (USA) \$160,000
B: Drexel University			
Promoting Minority Student's Interest in Research Status: Funded (Transferred to Dr. Barry Waterhouse upon departure from Drexel)	PI	2004-2008	NHLBI, NIH Bethesda, MD (USA) \$534,000
Upgrade of Essential Equipment In Animal Facilities – Phase III Status: Funded (Transferred to Dr. Rick Huneke upon departure from Drexel)	PI/Program Director	2004-2006	NCCR, NIH Bethesda, MD (USA) \$213,000
Facilities Renovation to Enhance Biomedical Research - Phase II Status: Scored (196); Funding Decision: Pending	PI/Program Director	2004-2006	NCCR, NIH Bethesda, MD (USA) \$8,300,000
Enhancement of Animal Facility At QL Medical Campus Status: Funded (Transferred to Dr. Rick Huneke upon departure from Drexel)	PI/Program Director	2003-2005	NCCR, NIH Bethesda, MD (USA) \$1,980,000
Human Subject Research Enhancement Program Status: Funded	Co-PI	2003-2004	NIH Bethesda, MD (USA) \$108,000
Health Research Formula Funds Status: Funded	Program Director	2002-2006	Commonwealth of PA \$1,483,061
Health Research Formula Funds Status: Funded	Program Director	2001-2005	Commonwealth of PA \$2,243,051

<u>Title</u>	<u>Role in Project & % of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
C: University of Pittsburgh School of Medicine			
Gene Therapy Approaches to Type I Diabetes	Principal Investigator (Core #2) 10%	1999-2003	JDFI \$580,000
Donor bone marrow augmentation	Principal Investigator 5%	1998-2001	Fujisawa Healthcare, Inc. \$200,000
Development of EDIT [®] database	Principal Investigator 5%	1998-2001	Fujisawa Healthcare, Inc. \$50,000
Development of Transplant Institute website	Principal Investigator 5%	1999-2000	Fujisawa Healthcare, Inc. \$30,000
Generation of Chimeric-Transgenic Pigs for Xenotransplantation Status: Funded	Principal Investigator 10%	1998-2001	McCune Foundation Pittsburgh, PA (USA) \$1,200,000
Autologous LAK cell Immunotherapy for PTLD Status: Funded	Principal Investigator 5%	1996-2001	Cancer Treatment Research Foundation, Arlington Heights, IL \$126,059
Combined bone marrow and organ transplantation in humans Status: Funded	Co-Principal Investigator 25%	1996-2001	NIH (NIAID, JJF-PI/ Rao-Co-PI) Bethesda, MD (USA) \$1,138,440
Orthotopic liver transplantation in mice Status: Funded	Co-Investigator 20%	1996-2000	NIH (NIDDK, TES-PI) Bethesda, MD (USA) \$1,969,329
Dendritic Cell Function in NOD Mice Status: Funded	Consultant	1997-2002	NIH Bethesda, MD (USA) \$653,389
Use of rhIL-10 to prevent isolated pancreatic islet allograft rejection Status: Funded	Principal Investigator 20%	1994-97	Schering-Plough Nutley, NJ (USA). \$61,190

<u>Title</u>	<u>Role in Project & % of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
UREAS: Its role in hepatic encephalopathy Status: Funded	Principal Investigator 10%	1994-98	BenVenue Pharmaceuticals Bedford, OH (USA) \$77,718
D: Other:			
Role of DC in allograft rejection in mice Status: Funded	D.Phil. Thesis 100%	1990-92	British VC Committee (\$33,000)

<u>Title</u>	<u>Role in Project & % of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
FUNDING FOR MENTORED FACULTY:			
CD28 and CD40 T cell Costimulatory Pathways: Therapeutic Targets for Chronic rejection Status: Funded Mentored PI: Woodward, Jennifer	Mentor	2000-02	AST-Roche Investigator Award \$70,000
Islet Cell Transplantation Status: Funded Mentored PI: Woodward, Jennifer	Mentor	2000-04	Shelly Patrick Research Fellowship \$250,000
<i>Ex vivo</i> CTL generation-based immunotherapy for PTLD in pediatric and adult small bowel recipients Status: Funded Mentored PI: Metes, Diana	Mentor	1999-01	Competitive Medical Research Fund Pittsburgh, PA (USA) \$25,000
Pancreatic islet transplantation to treat diabetes: A new strategy in graft immunoisolation Status: Funded Mentored PI: Rastellini, Cristiana	Mentor	1998	Competitive Medical Research Fund Pittsburgh, PA (USA) \$24,043
Effect of Lisofylline on Bacterial Translocation and Mucosal Barrier Function Status: Funded Mentored PI: Cicalese, Luca	Mentor 5%	1997-1998	Cell Therapeutics, Inc. Seattle, WA (USA) \$69,578

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

<u>Organization</u>	<u>Year</u>
The Honor Society of Phi Kappa Phi	2005
Council of Southern Graduate Schools	2004
Tennessee Academy of Sciences	2004
Tennessee Council of Graduate Deans	1004
Group on Research Advancement and Development, AAMC (Steering Group)	2003
Council of Graduate Schools	2001
Association of American Medical Colleges	2001
American Society of Transplantation	1997
American Society of Immunology	1994
American Association for the Advancement of Sciences	1994
Cell Transplant Society	1993
The Transplantation Society	1993
British Transplant Society	1991
British Society of Immunology	1991

PUBLICATIONS:

1. Sun H, Woodward JE, Subbotin VM, Kuddus R, Logar AJ, Schaefer AT, Aitouche A, **Rao AS**. Use of recombinase activation gene-e deficient mice to ascertain the role of cellular and humoral immune responses in the development of chronic rejection. *J Heart Lung Transplant* 21(7): 738-50, 2002.
2. Woodward JE, Salam A, Logar AJ, Schaefer AT, **Rao AS**. Flt3-L augments the engraftment of donor-derived bone marrow cells when combined with sublethal irradiation and co-stimulatory (CD28/B7 and CD40/CD40L) blockade. *Cell Transplant* 11(2): 147-59, 2002.
3. Kuddus R, Patzer JF, Lopez R, Mazariegos GV, Meighen B, Kramer DJ, **Rao AS**. Clinical and laboratory evaluation of the safety of a bioartificial liver assist device for potential transmission of porcine retrovirus. *Transplantation* 73(3): 420-9, 2002.
4. Ahmed M, Venkataraman R, Logar AJ, **Rao AS**, Bartley GP, Robert K, Dodson FS, Shapiro R, Fung JJ, Zeevi A, Quantitation of immunosuppression by tacrolimus using flow cytometric analysis of interleukin-2 and interferon-gamma inhibition in CD8⁻ and CD8⁺ peripheral blood T cells. *Ther Drug Monit* 23(4): 354-62, 2001.
5. Metes D, Gambotto AA, Nellis J, Ruscini A, Stewart-Akers, AM, Morel PA, **Rao AS**. Identification of the CD32/FCγRIIc-Q13/STP13 polymorphism using an allele-specific restriction enzyme digestion assay. *J Immunol Methods* 258(1-2): 85-95, 2001.
6. Tang JL, Subbotin VM, Antomysamy MA, Troutt AB, **Rao AS**, Thomson AW. Interleukin-17 antagonist inhibits acute but not chronic vascular rejection. *Transplantation* 72(2): 348-50, 2001.
7. Woodward JE, Schaefer AT, Zottola LB, Stazer JK, Logar AJ, Peach R, **Rao AS**. Inhibition of in vitro donor-specific proliferative and cytotoxic T cell responses in chimeric CD40 ligand-deficient bone marrow transplant recipients treated perioperatively with CTLA4-Ig. *Transplant Proc* 33(1-2): 113-4, 2001.
8. Woodward JE, Zottola LB, Schaefer AT, Logar AJ, Stazer JK, Daskivich T, Peach R, **Rao AS**. Blockade of the CD28/B7 pathway is required for the establishment of donor cell chimerism in CD40 ligand-deficient recipients. *Transplant Proc* 33(1-2): 115, 2001.
9. Tang JL, Woodward JE, Subbotin V, Logar AJ, Sun H, Valdivia LA, Schaefer AT, Zottola LB, Peach R, Fung JJ, **Rao AS**. Presentation of MHC-disparate donor antigens predominantly by the indirect pathway results in the development of posttransplant vasculopathy: salutary effects of perioperative costimulatory blockade. *Transplant Proc* 33(1-2): 307, 2001.
10. Sun H, Subbotin V, Woodward J, Valdivia L, Fung JJ, **Rao AS**. Role of MHC class I and CD8⁺ T cells in the pathogenesis of chronic rejection. *Transplant Proc* 33(1-2): 319, 2001.

11. Metes D, Morel PA, Nellis J, Fung JJ, **Rao AS**. FcγRIIC-13Q/STP polymorphism influences the antibody-dependent cytotoxic levels triggered by natural killer cells against pig aortic endothelial cells. *Transplant Proc* 33(1-2): 333, 2001.
12. Tang JL, Woodward JE, Subbotin V, Logar AJ, Valdivia LA, Schaefer AT, Zottola LB, Peach R, Fung JJ, **Rao AS**. Blockade of the CD28/B7 and CD40/CD40L costimulatory pathway does not ameliorate chronic rejection in a mouse aortic allograft model of direct antigen presentation. *Transplant Proc* 33(1-2): 382, 2001.
13. Metes D, Storkus WJ, Zeevi A, Watkins S, Patterson K, Nellis J, Logar A, Fung JJ, **Rao AS**. Use of autologous dendritic cells loaded with apoptotic LCL for *ex vivo* generation of EBV-specific CTL from the PBMC of EBV⁺ individuals. *Transplant Proc* 33(1-2): 441, 2001.
14. Shapiro R, **Rao AS**, Corry RJ, Valenti M, Zeevi A, Jordan ML, Scantlebury VP, Vivas CA, Jain A, McCauley J, Randhawa P, Gray EA, Dvorchik I, McMichael J, Fung JJ, Starzl TE. Kidney transplantation with bone marrow augmentation: five-year outcomes. *Transplant Proc* 33(1-2): 1134-5, 2001.
15. Kuddus R, Patzer JF, Lopez R, Mazariegos GV, Meighen B, Kramer DJ, Fung JJ, **Rao AS**. Evaluation of transmission of porcine retrovirus into patients subjected to hemoperfusion using an extracorporeal bioartificial liver support system. *Transplant Proc* 33(1-2): 1976, 2001.
16. Pham SM, **Rao AS**, Zeevi A, Kormos RL, McCurry KR, Hattler BG, Fung JJ, Starzl TE, Griffith BP. A clinical trial combining donor bone marrow infusion and heart transplantation: Intermediate-term results. *Journal of Thoracic and Cardiovascular Surgery* 119(4): 673-81, 2000.
17. Kuddus RH, Nalesnik MA, Subbotin VM, **Rao AS**, Gandhi CR. Enhanced synthesis and reduced metabolism of endothelin-1 (ET-1) by hepatocytes – an important mechanism of increased endogenous levels of ET-1 in liver cirrhosis. *J Hepatology* 33(5): 726-32, 2000.
18. Koike C, Friday RP, Nakashima I, Luppi P, Fung JJ, **Rao AS**, Starzl TE, Trucco M. Isolation of the regulatory regions and genomic organization of the porcine α 1,3-galactosyltransferase gene. *Transplantation* 70(9): 1275-83, 2000.
19. Gandhi CR, Kuddus RH, Uemura T, **Rao AS**. Endothelin stimulates transforming growth factor- β 1 and collagen synthesis in stellate cells from control but not cirrhotic rat liver. *Eur J Pharmacol* 406(3): 311-8, 2000.
20. Nardo B, Valdivia LA, Catena F, Cavallari G, Demetris AJ, **Rao AS**, Fung JJ, Starzl TE, Cavallari A. *Transplant Proc* 32(8): 2710-2, 2000.
21. Metes Diana, Storkus Walter, Zeevi Adriana, Watkins Simon, Patterson Kevin, Logar Allison, Rowe David, Nalesnik Michael A, Fung John J, Starzl Thomas E, **Rao AS**. *Ex vivo*

generation of effective Epstein-Barr virus (EBV) – specific CD8⁺ cytotoxic T lymphocytes from the peripheral blood of immunocompetent EBV-seronegative individuals. *Transplantation* 70(10): 1507-15, 2000.

22. Gabriel A, Kuddus RH, **Rao AS**, Gandhi CR. Down-regulated of endothelin receptors by transforming growth factor β 1 in hepatic stellate cells. *J Hepatology* 30:440-50, 1999.
23. Subbotin V, Sun H, Aitouche A, Salam A, Valdivia LA, Fung JJ, Starzl TE, **Rao AS**. Marked mitigation of transplant vascular sclerosis in FasL^{gld} (CD95L) mutant recipients. 1. The role of alloantibodies in the development of chronic rejection. *Transplantation* 67(10): 1295-1300, 1999.
24. Gandhi CR, Kuddus R, Subbotin VS, Prelich J, Murase N, **Rao AS**, Nalesnik MA, Watkins SC, DeLeo A, Trucco M, Starzl TE. A fresh look at augments of liver regeneration (ALR) in rats. *J Hepatol* 30(3): 440-50, 1999.
25. Salgar S, Shapiro R, Dodson F, Corry R, McCurry K, Zeevi A, Pham S, Abu-Elmagd K, Reyes J, Jordan M, Keenan R, Griffith B, Seskey T, Ostrowski L, Starzl TE, Fung JJ, **Rao AS**. Infusion of donor leukocytes to induce tolerance in organ allograft recipients. *J Leukoc Biol* 66(2):310-14, 1999.
26. Miki T, Subbotin V, Goller AP, Tandin A, **Rao AS**, Fung JJ, Valdivia LA. Role of UW solution and sodium nitroprusside in reperfusion of liver xenografts from guinea pig to rat. *Xenotransplantation* 6(2): 117-22, 1999.
27. Abu-Elmagd, Reyes J, Fung JJ, Mazariegos G, Bueno H, Martin D, Colangelo J, **Rao AS**, Demetris AJ, Starzl TE. Clinical intestinal transplantation in 1998: Pittsburgh experience. *Acta Gastroenterologica Belgica* 62:244-47, 1999.
28. Corry R, **Rao AS**, Shapiro R, Jordan M, Dvorchik I, Scantelbury V, Vivas C, Fung JJ, Starzl TE. Simultaneous administration of adjuvant donor bone marrow in pancreas transplant recipients. *Ann Surg* 230(3): 372-81, 1999.
29. Pham SM, Rao **AS**, Zeevi A, McCurry KR, Kormos RL, Hattler BG, Fung JJ, Starzl TE, Griffith BP. Effects of donor bone marrow infusion in clinical lung transplantation. *Ann Thorac Surg* 69(2): 345-50, 2000, 1999.
30. Cicalese L, Yacoub W, Rogers J, Fung JJ, **Rao AS**, Starzl TE. Translocation of bacteria from the gastrointestinal tract: Protection afforded by lisophylline. *Transplant Proc* 31:575-76, 1999.
31. Cicalese L, Aitouche A, Ploskina TM, Ford HR, **Rao AS**. The role of laparotomy, gut manipulation and immunosuppression on bacterial translocation from the intestinal tract. *Transplant Proc* 31:1922-23, 1999.

32. Cicalese L, Yacoub W, Subbotin V, Kuddus R, Fung JJ, **Rao AS**. Pyruvate inhibits the chronic damage which ensues after ischemia/reperfusion injury of kidneys. *Transplant Proc* 31:1033, 1999.
33. Tang JL, Aitouche A, Subbotin V, Salam A, Sun H, Gandhi C, Valdivia LA, Fung JJ, Starzl, **Rao AS**. Endothelin-1 receptor blockade and its effects on chronic rejection. *Transplant Proc* 31:1249, 1999.
34. Subbotin V, Sun H, Aitouche A, Salam A, Valdivia LA, Fung JJ, Starzl TE, **Rao AS**. The role of Fas/FasL apoptotic pathway in the development of chronic rejection. *Transplant Proc* 31:1397-98, 1999.
35. Rastellini C, Cicalese L, Leach R, Braun M, Fung JJ, Starzl TE, **Rao AS**. Prolonged survival of islet allografts following combined therapy with tacrolimus and Leflunomide. *Transplant Proc* 31:646-47, 1999.
36. **Rao AS**, Shapiro R, Corry R, Dodson F, Abu-Elmagd K, Pham S, Jordan M, Salgar S, Zeevi A, Rastellini C, Ostrowski L, Aitouche A, Keenan R, Reyes J, Griffith B, Starzl TE, Fung JJ. Immune modulation in organ allograft recipients by single or multiple donor bone marrow infusions. *Transplant Proc* 31:700-01, 1999.
37. Salam A, Aitouche A, Kuddus R, Peach R, Fung JJ, **Rao AS**. The combined use of sublethal irradiation and costimulatory blockade to generate mixed bone marrow chimeras. *Transplant Proc* 31:1197-98, 1999.
38. Rastellini C, Salam A, Kuddus R, Aitouche A, Subbotin V, Braun M, Leach R, Peach R, Fung JJ, Starzl TE, **Rao AS**. Prevention of T cell activation by contemporaneously administered rhCTLA4-Ig and anti-CD40L monoclonal antibody results in indefinite islet allograft survival. *Transplant Proc* 31:1242-43, 1999.
39. Rastellini C, Salam A, Kuddus R, Aitouche A, Braun M, Leach R, Peach R, Fung JJ, Starzl TE, **Rao AS**. Mechanisms underlying the development of T cell tolerance following interruption of signaling at the CD28/B7 and CD40/gp39 interface. *Transplant Proc* 31:845, 1999.
40. Starzl TE, Murase N, Demetris AJ, Thomson AW, Trucco M, **Rao AS**. The regulation of immune reactivity and tolerance by antigen migration and localization: With particular reference to allo- and xenotransplantation. *Transplant Proc* (in press), 1999.
41. Starzl TE, Murase N, Demetris AJ, Thomson AW, Trucco M, **Rao AS**. Immunity and tolerance are related, governed by antigen migration and localization. *Transplant Proc* (in press), 1999.
42. Gabriel A, Kuddus RH, **Rao AS**, Watkins WD, Gandhi CR. Superoxide-induced changes in endothelin (ET) receptors in hepatic stellate cells. *J Hepatol* 29:614-627, 1998.

43. Sun H, Valdivia LA, Subbotin V, Aitouche A, Fung JJ, Starzl TE, **Rao AS**. An improved surgical technique for the establishment of a murine model of aortic transplantation. *Microsurgery* 18(6): 368-71, 1998.
44. Randhawa PS, Whiteside TL, Zeevi A, Elder EM, **Rao AS**, Demetris AJ, Weng X, Valdivia LA, Rakela J, Nalesnik MA. Effects of immunotherapy on experimental immunodeficiency-related lymphoproliferative disease. *Transplantation* 65(2):264-8, 1998.
45. Abu-Elmagd K, Reyes J, Todo S, **Rao AS**, Lee R, Irish W, Furukawa H, Bueno J, McMichael J, Fawzy AT, Murase N, Demetris J, Rakela J, Fung JJ, Starzl TE. Clinical intestinal transplantation: New perspectives and immunologic considerations. *J Am Coll Surg* 186(5): 512-25; discussion 525-27, 1998.
46. Cicalese L, Subbotin V, Rastellini C, **Rao AS**, Stanko RT. Preservation injury and acute rejection of small bowel grafts in the rat: Protection afforded by pyruvate. *Journal Gastrointestinal Surgery* 3(5): 549-54, 1999.
47. Starzl TE, **Rao AS**, Murase N, Fung JJ, Demetris AJ. Will xenotransplantation ever be feasible? *J Am Coll Surg* 186(4): 383-37, 1998.
48. White SM, Ball ED, Ehmann C, **Rao AS**, Tweardy DJ. Increased expression of the differentiation-defective granulocyte colony-stimulating factor receptor mRNA isoform in acute myelogenous leukemia. *Leukemia* 12(6): 899-906, 1998.
49. Miki T, Goller A, **Rao AS**, X Wang, Yin WY, Fung JJ, Starzl TE, Valdivia LA, Starzl TE. Tacrolimus (FK) potentiates the immunosuppressive effect of Cyclophosphamide (CyP) but not that of Leflunomide (LEF) or Mycophenolate (MMF) in a model of discordant liver xenotransplantation. *Transplant Proc* 30(4): 1091-92, 1998.
50. Subbotin V, Sun H, Chen C, Aitouche A, Valdivia LA, Fung JJ, Starzl TE, **Rao AS**. Combined blockade of CD28/B7 and CD40/CD40L costimulatory pathways prevents the onset of chronic rejection. *Transplant Proc* 30(4): 941-2, 1998.
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167. Qian S, Fu F, Li Y, Gao L, Lu L, Demetris AJ, **Rao AS**, Thomson AW, Starzl TE, Fung JJ. MHC class I, not class II, play main roles in sensitization. *Hum Immunol* 40(1):119, 1994.
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169. Subbotin VM, Nikolaidis NL, **Rao AS**, Fung JJ. The effect of FK506 on carbon tetrachloride induced acute hepatic injury in rats. *Hepatology* 20(4):404A, 1994.
170. Fontes P, Ricordi C, **Rao AS**, Ukah FO, Mullen E, Vasko C, Kocova M, Trucco M, Demetris AJ, Fung JJ, Starzl TE. Human to baboon bone marrow transplantation after conditioning with non-lethal irradiation. *Cell Transplant* 3(3):225, 1994.
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172. **Rao AS**, Morris PJ, Austyn JM. Identification of dendritic cell precursors in mouse kidneys. First International Congress on Transplantation in Developing Countries, Singapore. April 20 - May 3, 1992.
173. **Rao AS**, Roake JA, Hankins DF, Larsen CP, Morris PJ, Austyn JM. Isolation, characterization and functional properties of dendritic cells isolated from mouse kidneys and hearts. Second International Symposium on Dendritic Cells in Fundamental and Clinical Immunology. Amsterdam, the Netherlands. June 21-25, 1992.
174. Roake JA, **Rao AS**, Hankins DF, Larsen CP, Morris PJ, Austyn JM. Cytokine mediators of non-lymphoid dendritic cell migration. Second International Symposium on Dendritic Cells in Fundamental and Clinical Immunology. Amsterdam, the Netherlands. June 21-25, 1992.
175. **Rao AS**, Roake JA, Larsen CP, Morris PJ, Austyn JM. Functional characterization of dendritic cells in mouse kidneys and hearts. The Transplantation Society, 14th International Congress. Paris, France. August 16-21, 1992.
176. Charness ME, **Rao AS**, Hu G, Hilton-Clarke I, Henteleff M. Ethanol up-regulates G_o in N1E-115 cells. *Alcohol Clin Exp Res* 15:334, 1991.

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PROFESSIONAL ACTIVITIES

A. Teaching

Biology Strayer University	Undergraduate and Graduate Students
Health Services Organization & Management Strayer University	Graduate Students
Health Economics Strayer University	Graduate Students
Immunology/Cancer Biology Middle Tennessee State University	Undergraduate and Graduate Students
Immunology Drexel University College of Medicine	2 nd Year PIL Medical Students
Immunology Drexel University College of Medicine	1 st Year IMF Medical Students
Ethics Drexel University	Undergraduates and Graduates
Transplantation Immunology University of Pittsburgh School of Medicine	Graduate Students
Immunology University of Pittsburgh School of Medicine	1 st Year Medical Students
Patho-Physiology (Problem Based Learning) University of Pittsburgh School of Nursing	1 st and 2 nd Year Nursing Students
Host Defense Mechanism (Immune System) University of Pittsburgh School of Nursing	3 rd Year Nursing Students
Immunology University of Pittsburgh School of Nursing	1 st and 2 nd Year Nursing Students
Surgical Physiology Oxford University	3 rd and 4 th Year Medical Students
Medical Physiology Boston University School of Medicine	1 st and 2 nd Year Medical Students

Medical Physiology
The Aga Khan University School of Medicine

1st Year Medical Students

Medical Physiology
Dow Medical College

1st and 2nd Year Medical Students

B. Supervision/Mentoring

I: Faculty and Fellows

Abdelouahab Aitouche, Ph.D.	Research Associate
Roubik Behboo, M.D.	Research Fellow
Xin Cai, M.D.	Research Fellow
Yong Chen, M.D.	Research Fellow
Luca Cicalese, M.D.	Instructor of Surgery
Paulo Fontes, M.D.	Visiting Assistant Professor
Kalpana Gupta, Ph.D.	Visiting Instructor
Anand Iyengar, Ph.D.	Senior Research Fellow
Mohammed Khan, M.B.B.S.	Research Fellow
Ruhul Kudus, Ph.D.	Research Associate
Cristiana Rastellini, M.D.	Visiting Instructor of Surgery
Diana Metes, M.D.	Research Assistant Professor
Horacio L.R. Rilo, M.D.	Visiting Assistant Professor
Jeffrey Rogers, M.D.	Research Fellow
Abdus Salam, M.D., Ph.D.	Research Fellow
Shashikumar Salgar, Ph.D.	Visiting Assistant Professor
Marco Spada, M.D.	Research Fellow
Vladimir Subbotin, M.D., Ph.D.	Visiting Assistant Professor
Hong Sun, M.D.	Research Assistant Professor
Jianlin Tang, M.D.	Research Instructor
Gero Tenderich, M.D.	Research Fellow
Jennifer Woodward, Ph.D.	Research Assistant Professor
Wael Yacoub, M.D.	Post-doctoral Fellow
Yi-Horng Lee, M.D.	Research Fellow
John McMichael	Research Assistant Professor
Igor Dvorchik, Ph.D.	Research Instructor
William Irish, Ph.D.	Research Instructor

II: Pre-Doctoral/Doctoral Students/Research Assistants

Euan Cameron
Christopher Chen
Timothy Daskivich (currently MD/PhD student at U Penn, Philadelphia, PA, USA)
Mihir Gandhi (currently senior at Duke University, Durham, NC, USA)
April Goller (currently second year student, School of Osteopathy, Erie, PA, USA)
Dinakar Golla (currently second year surgical resident, University of Texas, Houston, TX)
Regina Leach
Chad Mattes
Sanaz Memarzadeh (currently fourth year medical student, University of Pittsburgh)
Manisha Naik
Sarah O'Brien
Amy Ruscin

Roger Sequeira
Hillary Shapiro
Erin Sikora
Julie Stazer
Nicole Trybus
Chad Morris
Troy Seskey (currently ICU Nurse, West Penn Hospital, Pittsburgh, PA, USA)
Mark Braun (currently Research Associate, University of Chicago, IL, USA)
Kevin Patterson (currently second year medical student, University of New York, NY, USA)
Lisa Bench
Adam Schaeffer (accepted Fall 2000, School of Dentistry, University of Pittsburgh, PA)
Joseph Nellis (accepted Fall 2000, School of Osteopathy, Erie, PA, USA)
Benjamin Meighen (currently freshman for PA program, Beaver College, Philadelphia, PA)
Allison Logar
Carol Korbanic
Charlie Vasko
Mary Tarara
Maria T. Rugeles

III: Programmers/Data Entry Specialist/Medical Informatics

Janet Schmeltzer (Senior Programmer, SQL)
Polly Farris (Senior Programmer, Data Ease)
Anna Marie Rabier (Quality Control Manager)
Dolly Martin (Research Associate, Small Bowel Data Management Program)
Cynthia Eubanks (Research Associate, Kidney/Pancreas Data Management Program)
Allyson Harnaha (Research Associate, UNOS Liver and Intestinal Transplant Program)
Annette Creamer (Research Associate, UNOS Kidney/Pancreas Transplant Program)
Maria Valenti (Data Manager, Clinical Trials)
Amy Cheskey (Senior Programmer, SQL)
Edward Gray (Consultant, SQL Programming)
Steven Parker (PC Technician)
Christopher Edwards (Audiovisual Assistant)
Zeeshaw Babar (Audiovisual Assistant)
Arnold Smolen, PhD (Associate Dean for IT)
George Zieset (Director, IT)
Robert Munstermann (Web Master)
Lynette Hammond (Web Master)
Boumik Mamanian (Web Developer)
Mohammed Kamran Anis (Web Developer)

IV: Clinical Research

Lynn Ostrowski, RN, BSN, CCRC
Sheila Fedorek, RN, BSN, CCRC
Julie Shurer, RN, BSN

Diane Mortan, RN, BSN
Cynthia Shelkey, RN, BSN
Melanie Naparitz, RN, BSN
Maria France, RN, BSN
Patricia Parks, RN, BSN
Donna Jones, RN, BSN (Director, Clinical Research Group)
Thomas Parsons, RN, BSN (Manager, Clinical Research Group)

V: Graduate Education

Drexel University:

Barry Waterhouse, PhD (Professor and Associate Dean for Biomedical Graduate Studies)
Julian Mesina, DVM, PhD (Director, Office of Professional Studies Programs)
Laurie Cato, MBA (Executive Director, Professional Studies Programs)
Tara Sarica (Manager, Office of Biomedical Graduate Studies)
Michelle Morales (Program Coordinator, Office of Biomedical Graduate Studies)
Tara Baracle (Program Coordinator, Office of Biomedical Graduate Studies)
Julie Ciciarelli (Marketing Specialist, Office of Biomedical Graduate Studies)
Raheel Siddiqui, MBA (Program Coordinator, Office of Biomedical Graduate Studies)
Farah N. Hassan (Program Intern, Office of Biomedical Graduate Studies)

Middle Tennessee State University:

Peter Cunningham, Ed.D (Interim Associate Dean, College of Graduate Studies)
Pamela Knox, PhD (Associate Dean, College of Graduate Studies)
Michele Luter (Executive Assistant)
Lisa Mitchell (Office Manager, College of Graduate Studies)
Rick Henegar (Marketing and Publications Coordinator, College of Graduate Studies)
Lynn Parker (Program Liaison, College of Graduate Studies)
Anita Hermes (Program Liaison, College of Graduate Studies)
Grace Prater (Program Liaison, College of Graduate Studies)
Glenda Vandygrift (Program Liaison, College of Graduate Studies)
Cecilia Livingston (Program Liaison, College of Graduate Studies)
Melissa Newell (secretary, College of Graduate Studies)
Angela Wells (DocuShare Coordinator, College of Graduate Studies)

VI: Research Administration/Other

University of Pittsburgh:

Paul Descutner (Currently Administrator, University of Virginia, Richmond, VA, USA)
Timothy Burnett (Divisional Administrator)
Art DeMateo (Expense Administrator)
Chris Evangelist (Grants Administrator)
Renee Collington (Billing Administrator)
Elaine Sico (Procurement Coordinator)

Drexel University:

Heather Haberle, MSH (Director, Office of Research and Graduate Studies)
Maya Yiadom (Manager, Office of Research and Graduate Studies)
Jan Schaeffer (Manager, Office of Research and Graduate Studies)
Richard Huneke, DVM, ACLAM (Director, University Laboratory Animal Resources)
Andrea Scarry, MLAS (Manager, University Laboratory Animal Resources)
Rovena Mitchell (Financial Administrator, University Laboratory Animal Resources)
Janet Schulenberg (Vet Technician, University Laboratory Animal Resources)
Mary Victor (Vet Technician, University Laboratory Animal Resources)

Middle Tennessee State University:

Robert Carlton, PhD (Associate VP, Office of Research and Sponsored Projects [ORSP])
Andrienne Friedli, PhD (Interim Director, Special Projects, ORSP)
Myra Norman, PhD (Director, ORSP)
Wasimuddin Qureshi, MD, MSHSM (Assistant Director ORSP)
Christopher Crowell, EdD (Program Specialist, ORSP)
Samantha Cantrell, PhD (Program Specialist, ORSP)
Trish Craft, MA (Program Specialist, ORSP)
Tammy Wiseman (Director, Fiscal Management)
Margie Fanning (Fiscal Manager, ORSP)
Jeannie Paul (Grant Fiscal Clerk, ORSP)
Kim Collins (Secretary, ORSP)

Office of Compliance, MTSU:

Tara Prairie, MS (Compliance Officer)

Tennessee Center for Child Welfare, MTSU:

Stacey Borasky, PhD (Executive Director)
Trish Craft (Associate Executive Director)
Lou Martinez (Pre-Service Director)
Barbara Middleton (In-Service Director)
Sherry Haines (Regional Manager)
Debbie Elijah (Regional Manager)
Steve Saunders (Regional Manager)
Valerie Handy (Program Manager)
Mary Ellen Marks (Program Specialist – Juvenile Justice)
Ronald Bailey (Program Specialist – Child Safety)
David Smith (Video Production Manager)
Susan Lee (In-Service Liaison)
Beverly Quinn (Program Coordinator)
Evelyn Jared (Program Coordinator)
Savitri Matthews (Secretary)

C. Current Extramural Appointments of Previously Supervised/Mentored Faculty/Fellows:

Cristiana Rastellini, MD.	Director, Section of Cellular Transplantation Department of Surgery University of Illinois at Chicago Chicago, IL, USA (Since 1998)
Abdelouahab Aitouche, Ph.D.	Director of Research Division of Cardiothoracic Surgery University of Miami Florida Miami, FL, USA (Since 1998)
Roubik Behboo, M.D.	Assistant Professor Department of Surgery University of Padova Padova, ITALY (Since 1996)
Luca Cicalese, M.D.	Director, Small Bowel Transplantation Department of Surgery University of Illinois at Chicago Chicago, IL, USA (Since 1998)
Anand Iyengar, Ph.D	Research Assistant Professor Department of Medicine Harvard Medical School Boston, MA, USA (Since 1998)
Jeffrey Rogers, M.D.	Assistant Professor Department of Surgery Medical College of South Carolina Charleston, SC, USA (Since 1999)
Shashikumar Salgar, Ph.D	Director of Research Division of Transplantation Surgery University of Miami Florida Miami, FL, USA (Since 1999)

Maria T. Rugeles, Ph.D

Assistant Professor
Department of Immunology
Universidad de Antioquia
Medellin, Columbia

SEMINARS AND INVITED LECTURESHIPS:

1. The Responsive PhD: Innovation in U.S. Doctoral Education. Annual Meeting of the Tennessee Conference of Graduate Deans. 2005. Knoxville, Tennessee.
2. The Vision of Excellence in Research and Graduate Education – Tennessee Board of Regent. Oak Ridge Associated Universities. 2005. Oak Ridge, Tennessee.
3. The Vision of Excellence in Research and Graduate Education – Tennessee Board of Regent. Oak Ridge National Laboratory. 2005. Oak Ridge, Tennessee.
4. The Tennessee Board of Regent’s Vision of Excellence in Research and Graduate Education. Quarterly TBR Board Meeting. 2005. Harriman, Tennessee.
5. Evolving Role of Graduate Deans. Annual Meeting of the Conference of Southern Graduate Schools, 2005. Biloxi, Mississippi.
6. State of Graduate Education in Tennessee. Annual Meeting of the Tennessee Conference of Graduate Deans. 2004. Nashville, Tennessee.
7. The Vision of Excellence in Research and Graduate Education – Tennessee Board of Regent. Annual Meeting of the Tennessee Conference of Graduate Deans. 2004. Nashville, Tennessee.
8. Speaker at the Fourth International Freiburg Symposium on Molecular Hematology: Cells, Genes and Therapy. Topic: Infusion of donor bone marrow to induce tolerance in allograft recipients: is the strategy efficacious? February 24-26, 2000. Freiburg, Germany.
9. Association of American Medical Colleges, Group on Research Advancement and Development Annual Meeting. May 7-8, 2000. Washington, D.C.
10. The incidence of PTLD in bone marrow augmented organ transplant recipients. American Society of Transplantation Surgeons and the American Society of Transplantation, First Joint Annual Meeting. May 13-17, 2000. Chicago, IL.
11. Microchimerism in Organ Transplant Recipients. Speaker at the NICHD-sponsored workshop on The Role of Fetal-maternal Cell Trafficking, Detroit, MI, July 27-29, 2000.
12. Bone Marrow Augmentation in Organ Transplant Recipients: Effect on Acute and Chronic Rejection. Speaker at the Clinical Lectureship Series, Fred Hutchinson Cancer Research Center, Seattle, WA, August 01, 2000.
13. Experimental models of transplantation tolerance. Transplantation Grand Rounds, Division of Transplantation, Health Resources and Services Administration, National Institutes of Health. February 18, 1999. Washington, DC.

14. Clinical trial for induction of transplantation tolerance. Transplantation Grand Rounds, Division of Transplantation, Health Resources and Services Administration, National Institutes of Health. February 18, 1999. Washington, DC.
15. Isolation of bone marrow from vertebral bodies. Transplantation Grand Rounds, Division of Transplantation, Health Resources and Services Administration, National Institutes of Health. February 18, 1999. Washington, DC.
16. UPP Retreat: Corporate Conference. March 18, 1999. Pittsburgh, PA.
17. Contemporaneously administered rhCTLA4-Ig and α -CD40L mAb results in indefinite islet allograft survival. Fourth International Congress the Cell Transplant Society. March 23, 1999. Montreux, Switzerland.
18. Reduced incidence of acute and chronic rejection in bone marrow-augmented organ transplant recipients. Fourth International Congress the Cell Transplant Society. March 22, 1999. Montreux, Switzerland.
19. Combined use of FK506 and Leflunomide (LEF) prolongs islet allograft survival. Fourth International Congress the Cell Transplant Society. March 23, 1999. Montreux, Switzerland.
20. Induction of donor-specific tolerance by bone marrow infusion in organ allograft recipients. Experimental Biology 99. April 21, 1999. Washington, DC.
21. Molecular alteration of porcine tissues to overcome hyperacute rejection following discordant xenotransplantation. Plenary Session: Vth Congress International Liver Transplantation Society. August 27, 1999. Pittsburgh, PA.
22. Organ and tissue presentation: Best practices for managing costs and successful outcomes. Cambridge Health Resources. September 23-24, 1999. Orlando, FL.
23. Successful xenotransplantation: A challenge for the new millennium. Transplantation into the New Millennium. Inova Institute of Research & Education. October 2, 1999. Fairfax, VA.
24. The role of microchimerism after solid organ transplantation. First International Symposium on Microchimerism in Human Diseases. October 8, 1999. Paris, France.
25. Transplantation tolerance: A challenge for the new millennium. The UPMC Shadyside Auxiliary. December 8, 1999. Pittsburgh, PA.
26. New insights into post-transplant vascular sclerosis. January 25-27, 1998. II International Congress on Transplantation, Kidney Diseases & Critical Care. Ahmedabad, India.
27. Immunological tolerance in transplantation: Biologic modulation. January 25-27, 1998. II International Congress on Transplantation, Kidney Diseases & Critical Care. Ahmedabad, India.

28. Transplant vascular sclerosis: Is it immune mediated? March 6, 1998. Annual Meeting of the Belgian Transplantation Society. Brussels, Belgium.
29. Immune modulation by combined donor bone marrow and organ allotransplantation. March 7, 1998. Annual Meeting of the Belgian Transplantation Society. Brussels, Belgium.
30. Chimerism and Donor Specific Tolerance. April 21, 1998. Fujisawa Healthcare, Inc. Grand Rounds. Chicago, IL.
31. Pancreatic Islet Cell Transplantation. April 21, 1998. Fujisawa Healthcare, Inc. Grand Rounds. Chicago, IL.
32. Xenotransplantation. April 21, 1998. Fujisawa Healthcare, Inc. Grand Rounds. Chicago, IL.
33. Chronic Rejection. April 21, 1998. Fujisawa Healthcare, Inc. Grand Rounds. Chicago, IL.
34. New Software for Transplant Database. April 21, 1998. Fujisawa Healthcare, Inc. Grand Rounds. Chicago, IL.
35. Bone marrow augmentation. September 18, 1998. Thomas E. Starzl Transplantation Institute Fourth Annual Conference 1998. Pittsburgh, PA.
36. Augmentation of chimerism in organ allograft recipients. September 24-28, 1998. 5th International Symposium on Dendritic Cells in Fundamental and Clinical Immunology. Pittsburgh, PA.
37. An attempt to wean and/or withdraw immunosuppression in organ transplant recipients. October 28, 1998. Golden Triangle Chapter of the International Transplant Nurses Society. Pittsburgh, PA.
38. Immune modulation in organ transplant recipients. October 31-November 4, 1998. Annual Meeting of the American Association of Blood Banks. Philadelphia, PA.
39. Donor cell chimerism and its role in transplantation tolerance. February 3-5, 1997. 8th Walter Brendel Symposium on Applied Immunology and Microcirculation. Axams, Austria.
40. The use of chimeric donors for xenotransplantation across discordant species. February 20, 1997. Three Rivers Branch of the American Association for Laboratory Animal Science. University of Pittsburgh, Pittsburgh, PA.
41. The generation of chimeric/transgenic porcine donors for xenotransplantation across discordant barriers. March 10, 1997. Transplantation Grand Rounds, University of Pittsburgh Medical Center, Pittsburgh, PA.

42. Microchimerism and its role in the induction of transplantation tolerance. April 10-12, 1997. 5th International Symposium on Recent Advances in Hematopoietic - Stem Cell Transplantation: Clinical progress, new technology and gene therapy. San Diego, CA.
43. Islet cell transplantation. May 24, 1997. Thomas E. Starzl Transplantation Institute Third Annual Conference 1998. Pittsburgh, PA.
44. Evidence for long-term persistence of donor cell chimerism after baboon→neonatal pig bone marrow xenotransplantation. September 7-11, 1997. The 4th International Congress for Xenotransplantation. Nantes, France.
45. Outcome analysis of a clinical trial involving adjuvant bone marrow infusion in clinical organ transplant recipients. October 14-19, 1997. American Society for Histocompatibility and Immunogenetics, 23rd Annual Meeting, Atlanta, GA.
46. Tolerance induced by prior liver transplantation in mice prevents chronic rejection of subsequently transplanted aortic allografts. October 14-19, 1997. American Society for Histocompatibility and Immunogenetics, 23rd Annual Meeting, Atlanta, GA.
47. Reversal of chronic rejection in mouse aortic allografts by combined treatment with CTLA-Ig and anti-CD40L monoclonal antibody. October 14-19, 1997. American Society for Histocompatibility and Immunogenetics, 23rd Annual Meeting, Atlanta, GA.
48. Joint American Society of Transplant Surgeons and American Society of Transplant Physicians Task Force on Transplantation Tolerance. October 23-24, 1997. Chicago, IL.
49. Bone marrow induced chimerism and tolerance: Its relevance to allogeneic and xenogeneic organ transplantation. November 14, 1997. University of Pittsburgh Cancer Institute Hematology BMT Seminar. Pittsburgh, PA.
50. Chronic rejection and indirect antigen presentation: A resolving conundrum. December 5, 1997. Transplant Lecture Series. University of Pittsburgh, Pittsburgh, PA.
51. Emerging Opportunities in Scleroderma Research. December 8-9, 1997. National Institutes of Health. Bethesda, MD.
52. Prevention of chronic rejection in mouse aortic allografts by combined treatment with CTLA4-Ig and anti-CD40L monoclonal antibody. December 11-13, 1997. The International Congress on Immunosuppression, Orlando, FL.
53. Adjuvant bone marrow infusion in clinical organ transplant recipients. December 11-13, 1997. The International Congress on Immunosuppression, Orlando, FL.
54. Xenotransplantation: The Pittsburgh Experience. June 18-19, 1996. 33rd Congress of the European Dialysis and Transplant Association (EDTA), Amsterdam.

55. Islet Cell Transplantation. April 13, 1996. Pittsburgh Transplantation Institute Conference 1995. Pittsburgh, PA.
56. Simultaneous bone marrow and whole organ transplantation: Evidence for augmentation of donor cell chimerism. Tolerance Induction Symposium. Breckenridge, CO. January 22-25, 1995.
57. Transplantation tolerance. Department of Surgery Research Conference, University of Pittsburgh. February 8, 1995
58. Chimerism augmentation in whole organ recipients with perioperative bone marrow infusion. The New York Academy of Sciences. March 15-18, 1995. Orlando, FL.
59. An attempt to augment chimerism by combined donor bone marrow and orthotopic liver transplantation. American Society of Transplant Surgeons. Chicago, IL. May 17-19, 1995.
60. Frontiers in transplantation. Hepatology and Liver Transplantation 1995. April 8, 1995. Pittsburgh, PA.
61. Chimerism and its role in transplantation tolerance. Fifth International Post-graduate Course on Hepato-Pancreato-Biliary Surgery. April 27-28, 1995. Padova, Italy.
62. Chimerism: What role does it have in transplantation tolerance? Critical Care Medicine Training Program, University of Pittsburgh. May 4, 1995. Pittsburgh, PA.
63. Evolution in Transplant Surgery. XXIth Pio Manzu' Conference. October 14-17, 1995. Rimini, Italy.
64. Microchimerism: The Pittsburgh Experience. Sandoz in Transplantation: Now and Beyond 2000. December 5-6, 1995. Basel, Switzerland.
65. Induction of transplantation tolerance: Our friends and foes. December 14, 1995. University of Antioquia, Medellin, Colombia.
66. Clinical application of basic concepts in transplantation immunology. December 15, 1995. University of Antioquia, Medellin, Colombia.
- 67.
68. Endotoxin appears to induce migration of non-lymphoid dendritic cells. Second Basic Sciences Symposium of the Transplantation Society, September 4-6, 1991. Oxford, UK.
69. Identification of dendritic cell precursors in mouse kidneys. First International Congress on Transplantation in Developing Countries. April 29 - May 3, 1992. Singapore.

70. Isolation, characterization and functional properties of dendritic cells isolated from mouse kidneys and hearts. Second International Symposium on Dendritic Cells in Fundamental and Clinical Immunology, June 21-25, 1992. Amsterdam, the Netherlands.
71. Cytokine mediators of non-lymphoid dendritic cell migration. Second International Symposium on Dendritic Cells in Fundamental and Clinical Immunology, June 21-25, 1992. Amsterdam, the Netherlands.
72. Functional characterization of dendritic cells in mouse kidneys and hearts. 14th International Congress of the Transplantation Society, August 16-21, 1992. Paris, France.
73. Simultaneous infusion of bone marrow into recipients of solid organ allografts. Grand Rounds, Department of Surgery, University of Pittsburgh. January 8, 1994. Pittsburgh, PA.
74. Bone marrow and whole organ transplantation from the same donor. Cell Transplant Society, Second International Congress. May 1-4, 1994. Minneapolis, MN.
75. Simultaneous infusion of bone marrow at the time of whole organ transplantation. 12th European Immunology Meeting. June 14-17, 1994. Barcelona, Spain.
76. Microencapsulation of human pancreatic islets. Department of Applied Chemistry and Chemical Engineering, Southwestern Research Institute. July 28, 1994. San Antonio, Texas.
77. Bone marrow augmentation of donor cell chimerism at the time of kidney, liver, heart and pancreas islet transplantation. XVth World Congress of the Transplantation Society. August 28-September 2, 1994. Kyoto, Japan.
78. Chimerism and organ allograft acceptance. Pittsburgh Transplantation Institute's Lecture Series. October 21, 1994. Pittsburgh, PA.
79. Simultaneous infusion of bone marrow at the time of whole organ transplantation. 20th Annual Meeting of the American Society of Histocompatibility and Immunogenetics. October 21-26, 1994. Pittsburgh, PA.
80. Simultaneous infusion of bone marrow with organ transplantation. UNOS Region II Meeting. October 27, 1994. Baltimore, MD.
81. Simultaneous infusion of donor bone marrow at the time of orthotopic liver transplantation: Evidence for the induction of donor-specific non-reactivity and augmentation of chimerism. 45th Annual Meeting of the American Association for the Study of Liver Diseases. November 11-15, 1994. Chicago, IL.
82. Isolation and characterization of dendritic leukocytes in mouse non-lymphoid organs. Department of Surgery, Duke University, January 14, 1993. Durham, NC.

83. The role of dendritic cells in alloantigen recognition. Department of Surgery, University of Wisconsin. January 16, 1993. Madison, WI.
84. Simultaneous bone marrow and whole organ transplantation. International Liver Meeting. October 7, 1993. Toronto, Canada.

OTHER RESEARCH/ACADEMIC RELATED ACTIVITIES:

Reviewer	Immunology, 1993 - present
Reviewer	Transplantation, 1994 - present
Reviewer	Surgery, 1996 - present
Reviewer	Nature Medicine, 1997 - present
Reviewer	Life Sciences, 1997 - present
Reviewer	Liver Transplantation Surgery, 1998 - present
Editor	Textbook of Transplantation Immunology Series; "Methods in Molecular Medicine" Publishers: Humana Press, USA
Editorial Board	Transplantation, 1997 - present
Editorial Board	Graft, 1998 - present
Review Panel	MS1 Immunology Teaching Block University of Pittsburgh School of Medicine
External Reviewer	The Israel Science Foundation Jerusalem, Israel
External Reviewer	International Human Frontier Science Program Strasbourg, France
Member/Reviewer	Special Emphasis Panel (1999) NIAID National Institutes of Health
Member/Reviewer	Special Emphasis Panel (1999) Immunology Program Project Application National Institutes of Health
Panel Member	Agenda for Post-Transplant Lymphoproliferative Disease (PTLD) Conference Organized by: ASTP/ASTS Scientific Studies Ad Hoc PTLD Subcommittee November 11-12, 1998 Bethesda, MD

Member	Advisory Board The V th International Congress for Xenotransplantation October 24-28, 1999 Nagoya, Japan
Member	Membership Committee Cell Transplant Society
Co-Director	Renal Transplantation Seminar Pittsburgh Institute Conference 1995. Pittsburgh, PA. April 11-13, 1996
Co-Chair	Clinical Tolerance (Heart and Lung) XV th Internal Congress of the Transplantation Society. Kyoto, Japan. August 27 - September 3, 1994.
Co-Chair	Xenotransplantation I American Society of Transplant Physicians Chicago, IL. May 10-14, 1997
Co-Chair	Laboratory Medicine Session 2nd International Symposium on Urology, Nephrology & Transplantation of SIUT Karachi, Pakistan. March 20-23, 1996
Co-Chair	Cell Transplantation Based-Clinical Trials Fourth Congress of the Cell Transplant Society March 21-24, 1999 Montreux, Switzerland
Co-Chair	Tissue Injury I American Society of Transplantation May 15-19, 1999
Co-Chair	Organizing Committee Fifth Congress International Liver Transplantation Society August 26-29, 1999 Pittsburgh, PA
Co-Chair	Immunobiology/Basic Sciences/Xenotransplantation Fifth Congress International Liver Transplantation Society August 26-29, 1999 Pittsburgh, PA
Member	AST/ASTS Basic Sciences Award Committee AST 2000 Awards

Member	American Society of Transplantation Awards Committee May, 2000 through May, 2003
Reviewer	Surgery, Anesthesiology and Trauma Study Section National Institutes for Health 2000
Member	Vice President's for Research Group Association of Academic Health Centers January 2008 - present

CURRENT/PAST RESEARCH INTERESTS:

1. The role of chimerism in the induction and maintenance of tolerance.
2. Augmentation of chimerism by simultaneous and multiple bone marrow and whole organ transplantation from the same donor (on-going clinical trial).
3. The use of Thymidine Kinase Obliterative (TKO) transgenic mice to highlight the importance of sustained chimerism and its role in allograft acceptance.
4. Isolation, characterization, and *in vitro* propagation of dendritic cells from mouse liver.
5. Improving culture conditions for human pancreatic islets.
6. Microencapsulation of human and rodent pancreatic islets: Immunoisolation as a means for islet cell acceptance.
7. Xenotransplantation across discordant barriers.
8. UREAS antigen: Its role in hepatic encephalopathy.
9. Augmenter of liver regeneration: A growth factor with pleiotropic effects.
10. Cellular immunotherapy for post-transplant lymphomas in organ transplant recipients.
11. Coronary artery disease after heart transplantation.
12. Post-transplant chronic rejection in lungs, kidneys and liver.
13. Clinical islet cell transplantation for the treatment of type I insulin-dependent diabetes mellitus.

OTHER AWARDS:

The Honor Society of Phi Kappa Phi, 2005, Senior Scholar

Biographical Profile Recognized in Marquis Who's Who in the East, 26th Edition, 1996

Biographical Profile Recognized in Marquis Who's Who in Science & Engineering, 4th Edition, 1997

Biographical Profile Recognized in Marquis Who's Who in America, 52nd Edition, 1997

December 1995-Present Professor Ad Honorem
 Universidad de Antioquia
 Medellin, Columbia

Institute of Kidney Diseases & Research Center; Ahmedabad, India: Distinguished Professorship Award.

Biographical Profile Recognized in Marquis Who's Who in America, 55th Edition, 2001

Biographical Profile Recognized in Marquis Who's Who in the World, 18th Edition, 2001