

Jerome G. Saltarrelli Jr., Ph.D., D(ABHI)

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Jerome.G.Saltarrelli@uth.tmc.edu

Education

Doctor of Philosophy in Biomedical Engineering
Louisiana Tech University

March 2007
Ruston, Louisiana

Master of Science in Biomedical Engineering
Louisiana Tech University

March 2007
Ruston, Louisiana

Bachelor of Science in Biological Sciences
Southeastern Louisiana University

May 1998
Hammond, Louisiana

Professional Experience

HLA Lab Director

University of Texas McGovern Medical School/Memorial Hermann Hospital

June 2016 - Present
Houston, Texas

Duties: Perform all operations related to the operation of a Histocompatibility/Immunogenetics laboratory including microlymphocytotoxicity analysis; antibody analysis (single antigen bead); molecular typing and analysis (SSO); MFI analysis; on-call procedures; update standard operating procedures; participation in medical review boards; research studies and analysis; collaborate with surgeons, nephrologists, cardiologists, pulmonologists and other physicians to improve patient quality of care through modification and understanding of laboratory protocol; equipment validation; protocol development; educational lectures

Research Instructor/Director-in-Training

M.D. Anderson Cancer Center

September 2014-May 2016
Houston, Texas

Duties: Establish HLA research protocols and perform HLA research in collaboration with the laboratory director, optimize currently utilized assays, develop and validate a methodology to clone HLA alleles in order to determine exact genotypic sequence, validate and optimize and assay to determine killer immunoglobulin receptor copy number variation using real time polymerase chain reaction assay. Perform and optimize Next Generation Sequencing utilizing the Illumina MiSeq platform and Sirona HLA Assay Kit. Perform HLA Tissue Typing by Sanger Sequencing. Establish HLA research and development lab.

Instructor in Surgery/Director-in-Training

Baylor College of Medicine

September 2011-August 2014
Houston, Texas

Duties: Perform all operations related to the operation of a Histocompatibility/Immunogenetics laboratory including microlymphocytotoxicity testing and analysis; antibody screening and analysis (flow PRA screen, single antigen bead, flow cytometric single antigen beads, and titrations); molecular typing and analysis (SSP and SSO); MFI and MESF analysis; database development; review of on-call procedures; performing on-call duties; review standard operating procedures; participation in medical review boards; research studies and analysis; purchasing; in-house proficiency testing; assist laboratory

director in clinical consultation; applying for laboratory accreditation through CAP, ASHI, and UNOS; applying for laboratory certification from Medicare and CLIA; collaborate with surgeons, nephrologists and other physicians to improve patient quality of care through modification of laboratory protocol; equipment validation organization; protocol development; laboratory test repertoire diversification and laboratory billing

Instructor in Surgery/ Director-in-Training
University of Texas Health Sciences Center

December 2009-September 2011
Houston, Texas

Duties: Perform all operations related to the operation of a Histocompatibility/Immunogenetics laboratory including microlymphocytotoxicity testing and analysis; antibody screening and analysis (flow PRA screen, single antigen bead, flow cytometric single antigen beads, and titrations); molecular typing and analysis (SSP and SSO); MFI and MESF analysis; database development; review of on-call procedures; performing on-call duties; review standard operating procedures; participation in medical review boards; research studies and analysis; purchasing; in-house proficiency testing

Technical Laboratory Manager/Research Scientist
Rice University

August 2008-November 2009
Houston, Texas

Duties: Manage laboratory projects; assist with technical issues regarding research projects; funding distribution; manuscript review; equipment maintenance; conduct grant supported research regarding polyethylene glycol diacrylate hydrogels; histological sectioning of resin embedded polyethylene glycol diacrylate hydrogels; synthesis of PEGDA; development of a synthetic bone putty; development of biodegradable internal orthopedic fixation.

Postdoctoral Research Fellow
Rice University

May 2007-August 2008
Houston, Texas

Project: Characterization of expressed proteoglycans on the fibrosa and ventricularis sides of the aortic valve under laminar and turbulent flow conditions

Techniques: Immunohistochemistry, immunocytochemistry, cell culture, endothelial cell isolation, graduate student supervision, mentoring, aortic valve harvesting, device design and modification, histological techniques, freezing cells and endothelial cell tube assay.

Certified Histocompatibility Technologist
Louisiana State University Health Sciences Center Transplant Laboratory

2002-2007
Shreveport, Louisiana

Duties: Molecular based tissue typing; Flow cytometric crossmatching; Serological tissue typing

Techniques: Lymphocytotoxicity testing to obtain tissue type and crossmatch results; Reagent preparation; Lymphocyte separation from whole blood, lymph node, and spleen using magnetic microbeads; Determination of cell viability; Operation of inverted source florescent microscope; Interpretation of serological results; Extraction of DNA from fresh and frozen lymphocytes from whole blood, lymph nodes, and spleen using Gentra's DNA isolation kit; Use of spectrophotometer to determine the DNA concentration and purity; Amplification of DNA by SSP/PCR; Gel electrophoresis; Analysis of DNA results; Flow Cytometry for solid organ crossmatch; Pronase procedure for Flow Cytometric crossmatching, Use of hemocytometer to determine cell concentration; Lymphocyte separation from whole blood, lymph node, and spleen using LSM.

Certified Histocompatibility Technologist

Ochsner Clinic Foundation Histocompatibility/Immunogenetics Laboratory

1999-2001

New Orleans, Louisiana

Duties: Serological tissue typing and crossmatching for solid organ transplantation; Antibody detection and PRA determination; Molecular based tissue typing; Flow cytometric crossmatching; Lymphocytotoxic typing tray assembly; Tray serum efficacy analysis; Regional organ procurement tray assembly; Monitoring of laboratory equipment; Installation of in-house Microsoft network; Turn-over result analysis; Installation of various computer hardware.

Techniques: Lymphocytotoxicity testing to obtain tissue type and crossmatch results; Reagent preparation; Lymphocyte separation from whole blood, lymph node, and spleen using magnetic microbeads; Determination of cell viability; Operation of inverted source florescent microscope; Preparation of crossmatch trays; Interpretation of serological results; Use of frozen cell trays for the detection of antibodies; ELISA; Extraction of DNA from fresh and frozen lymphocytes from whole blood, lymph nodes, and spleen using Gentra's DNA isolation kit; Extraction of DNA from fresh and frozen lymphocytes from whole blood, lymph nodes, and spleen using Quigen Spin Columns; Use of spectrophotometer to determine the DNA concentration and purity; Amplification of DNA by SSP/PCR; Gel electrophoresis; Analysis of DNA results; Flow Cytometry for solid organ crossmatch; Use of hemocytometer to determine cell concentration; Lymphocyte separation from whole blood, lymph node, and spleen using Ficoll-Hypaque.

Professional Memberships

American Society for Histocompatibility and Immunogenetics

Texas Transplant Society

American Society of Transplantation

Board Certification

Diplomate, American Board of Histocompatibility and Immunogenetics, Valid through 2017

Awards and Honor Societies

Vincent A. Forte Graduate School Fellowship – Louisiana Tech University, 2006

National Deans' List – 2003-2006

Gamma Bet Phi Honor Society, Louisiana Tech Chapter– Louisiana Tech University, 2003-2007

Poster of Distinction; American Transplant Congress; 2011; Correlation of C1q Binding in Patients with Donor-Specific HLA Antibodies and Post-Transplant Rejection

Poster of Distinction, American Transplant Congress; 2011; The Impact of Pre-Transplant Soluble HLA-G Levels and/or Donor-Specific HLA Antibodies on Renal Allograft Survival

Field Accomplishments

Reviewer – Journal of Heart Valve Disease; Tissue Engineering; Journal of Thoracic and Cardiovascular Surgery; Annuals of Biomedical Engineering; Journal of Molecular and Cellular Cardiology

American Society for Histocompatibility and Immunogenetics Laboratory Inspector

College of American Pathologists Laboratory Inspector (Histocompatibility expert)

Technologists Affairs committee Member; American Society of Histocompatibility and Immunogenetics

Executive Committee, Histocompatibility Councilor; Texas Transplant Society

Planning Committee; Texas Transplant Society

Accreditation

Certificate in Fundamentals of Quality Improvement; M.D. Anderson; 2015

Certificate in Information Technology; University of New Orleans; 2001

Certified Histocompatibility Technologist; 2001

Professional Conferences

Georgetown Teleconference; 1999-2001, 2003-2004, 2005-2006, 2013
ASHI Annual Meeting; 2001, 2010, 2011, 2012, 2014, 2015, 2016
South-East Organ Procurement Foundation Scientific Session; 2002
ASHI Regional Education Workshop; 2002, 2006, 2006, 2011
ASHI Inspector Workshop; 2002 & 2003
SEOPF HLA course for transplant Professionals & Scientific Session; 2003
Houston Society for Engineering in Medicine and Biology; 2007
Felder and Brent, Teaching Engineering Effectively and Efficiently Workshop; 2007
Felder and Brent, Evaluation of Teaching Workshop; 2007
Institute for Biosciences and Bioengineering Symposium; 2008
International Society of Hands & Composite Tissue Allotransplantation; 2011
American Transplant Congress; 2011
Advanced HLA Technical Workshop; 2011
Texas Transplant Society; 2012, 2013, 2014, 2015, 2016
AFDT Histocompatibility Specialist Course; 2012

Publications

1. **Saltarrelli, J. G.**, & Mukherjee, D. P. (2009). In vivo testing of a bone graft containing chitosan, calcium sulfate and osteoblasts in a paste form in a critical size defect model in rats. *Journal of Biomedical Science and Engineering*, 2, 24-29.
2. Stephens, E., **Saltarrelli, J.**, Baggett, L., Nandi, I., Kuo, J., Davis, A., Olmstead-Davis, E., et al. (2011) Differential Proteoglycan and Hyaluronan Distribution in Calcified Aortic Valves. *Cardiovascular Pathology*. Volume 20, Issue 6, November–December 2011, Pages 334-342, ISSN 1054-8807, 10.1016/j.carpath.2010.10.002.
3. Stephens, E., **Saltarrelli, J.**, Balaoing, L., Baggett, L., Nandi, I., Anderson, K., et al. (2012) Hyaluronan Turnover and Hypoxic Brown Adipocytic Differentiation are Co-localized with Ossification in Calcified Aortic Valves. *Pathology Research and Practice*. Volume 208, Issue 15, November 15, Pages 642-650.
4. Kerman R, **Saltarrelli J**, McKissick E, Eaton J, Woolley N, Hoover A, Acorda N, Erice P, Hollingsworth C, Chappelle J, O'Mahoney C, and Van Buren C. Can We Use Dilution-Titration Studies to Identify Clinically Relevant HLA Antibody Specificities? In, Clinical Transplants 2013, Cecka M and Terasaki P (eds) Terasaki Foundation Laboratory, Los Angeles, CA. Page 357 – 360, 2013.
5. **Saltarrelli, J.**, Willis, D., Rezvani, K., & Cao, K. (2015). Copy number variation (CNV) of KIR genes characterized using qRT-PCR technique. *Human Immunology*, 76, 111.
6. Stringaris, K., Marin, D., Barrett, A.J., Hills, R., Sobieski, C., Cao, K., **Saltarrelli, J.**, Daher, M., Shaim, H., Linch, D., Glae, R., Allen, C., Sekine, T., Mehta, R., Burnett, A., Champlin, R., Shpall, E.J., Kantarjian, H., Garcia-Manero, G., & Rezvani, K. (2016) KIR Gene Haplotype: an Independent Predictor of Clinical Outcomes in MDS Patients. *Blood*, 128(24):2819-2823.

Presentations

1. **Saltarrelli, J.**, Mukherjee, D., Robinson, E., & Ogden, A. (2005). *Evaluation of a New Synthetic Bone Graft Paste Made From Crawfish Shells in a Critical Size Defect Model in Rats*. Poster presented at the Louisiana Tech Bio-research Day, Ruston, Louisiana.

2. **Saltarrelli, J.**, Mukherjee, D., Robinson, E., & Ogden, A. (2006). *Evaluation of a New Synthetic Bone Graft Paste Made From Crawfish Shells in a Critical Size Defect Model in Rats*. Poster presented at the Biomedical Engineering Conference, Chicago, Illinois
3. **Saltarrelli, J.** (2007). *Calcification in Bone Grafting and Aortic Valve Disease*. Presented at the Atherosclerosis and Vascular Biology Seminar, Baylor College of Medicine.
4. **Saltarrelli J**, Grande-Allen J. Strategies for Valvular Endothelial Cell Isolation and Phenotyping. Poster presented at: Houston Society for Engineering in Medicine and Biology, 2007; Houston, Texas.
5. **Saltarrelli J**, Grande-Allen J. Valvular Endothelial Cell Isolation and Parallel Plate Flow Loop Fabrication: Towards Investigation of the Role of Hemodynamics of Valvular Endothelial Cell Activation. Poster presented at: Institute of Biosciences and Bioengineering Symposium, 2008; Houston, Texas.
6. **Saltarrelli, Jerome G.**, et al. "Abstract 3401: Hypoxia, Inflammatory Cells, and Hyaluronan Homeostasis in Aortic Valve Calcification." *Circulation* 120.18_MeetingAbstracts (2009): S802-b-.
7. Kerman, R., Lappin, J., Katz, S., **Saltarrelli, J.**, & Van Buren, C. (2010, May 1). *Frequency of Identified Donor Specific HLA Antibody in a Transplant Population, Their Impact on Clinical Outcome*. Presented at the American Transplant Congress.
8. Lappin, J., Abraham, J., Katz, S., **Saltarrelli, J.**, Kerman, R., & Van Buren, C. (2010, May 1). *Transplantation of Donor Specific HLA Antibody Positive, FCXM Negative Renal Allograft Recipients*. Presented at the American Transplant Congress.
9. Kerman R, Radovancevic R, Allison P, McKissick E, **Saltarrelli J**, Bogaev R, Bracey A, Allison S, Gregoric I, Frazier OH: "Positive Flow Cytometry Crossmatches and HLA Antibodies May Not Be Contraindications to Heart Transplantation", 2010 American Transplant Congress (ATC), San Diego, CA, May 4, 2010.
10. Kerman R, Radovancevic R, Allison P, McKissick E, **Saltarrelli J**, Bogaev R, Bracey A, Allison S, Gregoric I, Frazier OH, Acorda N: "Positive Flow Cytometry Crossmatches and HLA Antibodies May Not Be Contraindications to Heart Transplantation", Presented at The International Congress of The Transplantation Society, Vancouver, B.C., Canada, August, 2010
11. Kerman R, Lappin J, Abraham J, Katz SM, **Saltarrelli J**, Van Buren CT, Kelly E, McKissick E, Acorda N: "Transplantation of Donor Specific HLA Antibody Positive, FCXM Negative Recipients", Presented at The International Congress of The Transplantation Society, Vancouver, B.C., Canada, August, 2010
12. Kerman R, Lappin J, Katz S, **Saltarrelli J**, Van Buren CT, Erice P, Rodriguez L, Mitchell J, Woolley N, McKissick E, Acorda N, Miller K, Eaton A, Adkins C, Kelley E: "Frequency of Donor Specific HLA (DSA) Antibody in a Transplant Population and Their Clinical Impact", Presented at The American Society for Histocompatibility and Immunogenetics, Hollywood, FL, September 2010.

13. Kerman R, Radovancevic R, Allison P, McKissick E, **Saltarrelli J**, Bogaev R, Gregoric I, Bracey A, Frazier OH, Acorda N, Miller K, Woolley N, Eaton A, Adkins C, Mitchell J, Erice P, Rodriguez L, Kelley E: "Positive Flow Cytometry Crossmatches and Donor-Specific HLA Antibodies May Not Be Contraindications to Heart Transplantation", Presented at The American Society for Histocompatibility and Immunogenetics, Hollywood, FL, September 2010.
14. Kerman R, Lappin J, Abraham JB, **Saltarrelli J**, Van Buren CT, Kelley E, McKissick E, Acorda N, Miller K, Woolley N, Eaton A, Adkins C, Mitchell J, Erice P, Rodriguez L: "Transplantation of Donor Specific HLA Antibody Positive, FCXM Negative Renal Allograft Recipients", Presented at The American Society for Histocompatibility and Immunogenetics, Hollywood, FL, September 2010.
15. **Saltarrelli, J.**, Bihari, L., et al. (2011). *The Impact of HLA-G and/or Donor Specific HLA Antibodies on Renal Allograft Survival*. American Transplant Congress 2011. Poster of Distinction
16. **Saltarrelli, J.**, Lappin, J., et al. (2011). *Correlation of C1q Binding in Patients with Donor Specific HLA Antibodies and Post Transplant Rejection*. American Transplant Congress 2011. Poster of Distinction
17. Bihari, L., **Saltarrelli, J.**, Lappin, J., Katz, S., Varga, K., Van Buren, C., Cook, D., et al. (2011). *Association of the Non-HLA, AT1R Ab, and Donor Specific HLA Antibodies to Renal Allograft Survival*. American Transplant Congress 2011.
18. Tholpady, A., **Saltarrelli, J.**, Nguyen, J., Kerman, R., Lappin, J., Bai, Y. (2011) *Antibody Mediated Rejection Post Renal Transplantation: Balancing the Adverse Effects of Daily Plasma Exchange with DSA Reduction*. American Society for Apheresis 32nd Annual Meeting.
19. Bihari L.A., **Saltarrelli J.G.**, Lappin J., Katz S.M., Eaton J., Wooley N., McKissick E., Van Buren C.T., Kerman R.H. (2012). *High Immunological Risk Recipients Displaying Persistent and Contiguous DSA*. International Congress of The Transplantation Society.
20. Tseng, H., **Saltarrelli, J.**, et al. (2012). *The development of a 3D co-culture model of the aortic valve for the study of the effect of shear stress on biglycan production and structure*. World Biomaterials Congress
21. Bihari L.A., **Saltarrelli J.G.**, Lappin J., Katz S.M., Eaton J., Wooley N., McKissick E., Van Buren C.T., Kerman R.H. (2012). *Persistent post-transplant DSA identifies immunological high risk recipients*. 38th Meeting of the American Society for Histocompatibility and Immunogenetics.
22. Aamir J, Kerman RH, **Saltarrelli JG**, McKissick E, Eaton AJ, Woolley N, Denfield S, McKenzie ED, Adachi I, Price J, Cabrera AG, Hanna J, Gates C, Khan MS, Dreyer WJ: "Allosensitization in Children Supported with Ventricular Assist Devices" Presented at the 33rd Annual Meeting and Scientific Sessions of the International Society for Heart and Lung Transplantation, Montreal, Canada, April 24-27, 2013.
23. **Saltarrelli, J.**, O'Mahony, C., Van Buren, C., McKissick, E., Acorda, N., Eaton, A., Woolley, N., Erice, P., Hoover, A., Hollingsworth, C., Chappelle, J., Kerman, R. (2014). *Elimination of Unacceptable HLA Antigens when Present in Transplant Patient Sera at an Undiluted or Neat Titer but Not Present at a Low Titer ($\leq 1:16$)*. World Transplant Congress.

24. Pliszczynski, J., Van Buren, C., Eaton, J., Woolley, N., **Saltarrelli, J.**, McKissick, E., Acorda, N., Erice, P., Hoover, A., Hollingsworth, C., Chappelle, J., O'Mahony, C., Frazier, O.H., Mallidi, H., Kerman, R. (2014). *Lack of C1q Reactivity in Post-LVAD Patient Sera*. World Transplant Congress
25. **Saltarrelli, J.**, Chappelle, J., Gaddison, T., Lopa, R., Ling, M. (2017). *Using positive control bead MFI in HLA antibody identification as a quality measure*. Submitted. American Society of Histocompatibility and Immunogenetics Annual Meeting