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ADDRESS

Corewell Health Willam Beaumont University Hospital (East)
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3811 West Thirteen Mile Road
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EDUCATION AND TRAINING

7/2017 – 6/2019	Clinical Chemistry Fellow, Department of Laboratory Medicine National Institute of Health, Bethesda, MD
6/2016 – 7/2017	Fellow, Department of Laboratory Medicine National Institute of Health (NIH), Bethesda, MD
8/2013 – 6/2017	Post-Doctoral Associate / Research Associate, Department of Surgery University of Pittsburgh School of Medicine, Pittsburgh, PA
5/2009 – 8/2013	Surgical Graduate Student University of Pittsburgh School of Medicine, Pittsburgh, PA
8/2008 – 8/2013	Doctorate of Philosophy, Ph.D., Cellular and Molecular Pathology University of Pittsburgh School of Medicine, Pittsburgh, PA
9/2003 – 6/2008	Bachelor of Medicine, Basic Medical Sciences, M.B.B.S. (M.D. equivalent) Shanghai Medical College Fudan University, Shanghai, China

PROFESSIONAL MEMBERSHIPS

Academy of Clinical Laboratory Physicians and Scientists (ACLPS)

Shock Society

American Association for Clinical Chemistry (AACC)

American Board of Clinical Chemistry (ABCC)

PROFESSIONAL, ACADEMIC, ADMINISTRATIVE, AND CLINICAL POSITIONS

Academic Positions

08/2019 – present	Assistant Professor, Department of Pathology and Laboratory Medicine Oakland University William Beaumont School of Medicine, Auburn Hills, MI
2019 – present	Clinical Chemistry Rotation Didactics to Pathology Residents (5 lectures / 6-week rotation), Department of Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI

2019 – present	Mentor, Chemical Pathology Fellow (2 months in automated chemistry), provided didactics (6 lectures / year), Department of Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI
2019 – present	Lecturer to Medical Students (8 lectures / year) Oakland University William Beaumont School of Medicine, Rochester, MI
2017 – 2019	Lecturer, Chemistry Continuing Education (CE) Series Department of Laboratory Medicine, National Institute of Health, Bethesda, MD
2017 – 2019	Speaker, Weekly Case Presentation Department of Laboratory Medicine, National Institute of Health, Bethesda, MD
2016 – 2017	Co-Director, Monthly Departmental Journal Club Department of Surgery, University of Pittsburgh, Pittsburg, PA
2011 – 2017	Mentor, Ph.D.s, medical students and high school students Drs. Billiar and Scott's Laboratories, University of Pittsburgh, Pittsburg, PA
2013 – 2017	Flow Cytometry Trainer Department of Surgery, University of Pittsburgh, Pittsburg, PA

Clinical Positions

08/2019 – present	Technical Director, Automated Chemistry Corewell Health Willam Beaumont University Hospital, Royal Oak, MI
8/2019 – present	Clinical Chemist, Department of Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI
10/2014 – 6/2017	Volunteer, University of Pittsburgh UPMC Presbyterian, Shadyside, and Children's Hospital of Pittsburgh, Automated Testing Laboratories, Pittsburg, PA

Administrative Positions

8/2019 – present	Technical Director of Automated Chemistry, Department of Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI
1/2018 – 6/2019	Acting Director of Immunoassay Section Department of Laboratory Medicine, National Institute of Health (NIH), Bethesda, MD

Clinical Research

10/2014 – 6/2017	Volunteer, University of Pittsburgh, Pittsburgh, PA (advisor: Dr. Octavia Palmer, Clinical Chemist and Medical Director, UPMC Presbyterian, Shadyside, and Children's Hospital of Pittsburgh Automated Testing Laboratories).

PUBLICATIONS

Peer-Reviewed

Sun Q, Welsh KJ, Bruns DE, Sacks DB, Zhao Z. Inadequate reporting of analytical characteristics of biomarker tests used in clinical research: A barrier to reproducible results. Clinical Chemistry. 65;12 (2019), 1554-1562.

Sun Q. Iron overload disorders. Trainee council: Pearls of laboratory medicine online publication. Clinical Chemistry Trainee Council.

Zhao Z*, **Sun Q* (* co-first authors)**, Sokoll LJ, Streiff M, Cheng Z, Grasmeder S, Townsley DM, Young NS, Dunbar CE, Winkler T. Eltrombopag mobilizes iron in patients with aplastic anemia. Blood. 131;21(2018):2399-2402.

Sun Q, Gu J, Stolze BR, Soldin SJ. Atmospheric pressure chemical ionization is a suboptimal ionization source for steroids. Clinical Chemistry. 64;6(2018):974-976.

Sheikh SI, Parikh TP, Kushchayeva Y, Stolze B, Masika LS, Ozarda Y, Jonklaas J, Nigussie G, Remaley AT, Sampson M, **Sun Q**, Ling C and Soldin SJ. TSH should not be used as a single marker of thyroid function. Annals of Thyroid Research. 4;2(2018): 151-154.

Lei Z, Deng M, Yi Z, **Sun Q**, Shapiro RA, Xu H, Li T, Loughran PA, Griepentrog JE, Huang H, Scott MJ, Huang F, Billiar TR. cGAS-mediated autophagy protects the liver from ischemia/reperfusion injury independent of STING. American Journal of Physiology-Gastrointestinal and Liver Physiology. 131;6(2018):655-667.

Ling C, **Sun Q**, Khang J, Felipa Lastarria M, Strong J, Stolze B, Yu X, Parikh TP, Waldman MA, Welsh K, Jonklaas J, Masika L, Soldin SJ. Does TSH reliably detect hypothyroid patients? Annals of Thyroid Research. 4;1(2018): 122-125.

Sun Q, Calderon B, Zhao Z. Discrepancies between two immunoassays for the determination of MPO and PR3 autoantibodies. Clinica Chimica Acta. 470 (2017): 93-96

Sun Q, Fan J, Billiar TR, Scott MJ. Inflammasome and autophagy regulation: A two-way street. Molecular Medicine. 23(2017):188-195.

Zhang X, Yuan D, **Sun Q**, Xu L, Lee E, Lewis AJ, Zuckerbraun BS, Rosengart MR. Calcium/calmodulin-dependent protein kinase regulates the PINK1/Parkin and DJ-1 pathways of mitophagy during sepsis. The FASEB Journal. 31;10(2017):4382-4395.

Peck Palmer OM, Carter M, Chang CH, Lucko N, Jackson VM, **Sun Q**, Xie X, Scott MJ, Kellum JA, Venkat A, Yende S. Effects of transport temperature on the stability of inflammatory, hemostasis, endothelial function, and oxidative stress plasma biomarker concentrations. Shock. 47;6(2017):715-719.

Pradhan D, **Sun Q**, Peck Palmer OM. Lipidemia in the setting of hemolysis. Clinical Chemistry. 62;11(2016):1543-1544.

Liu L, **Sun Q**, Peck Palmer OM. Assuming it was there, where did it go? Clinical Chemistry. 62;9(2016):1280.

Sun Q, Loughran P, Shapiro R, Shrivastava IH, Antoine DJ, Li T, Yan Z, Fan J, Billiar TR, Scott MJ. Redox-dependent regulation of hepatocyte AIM2 inflammasome activation in sterile liver injury in mice. Hepatology. 65(2016):253–268.

Sun Q, Scott MJ. Caspase-1 as a multi-functional inflammatory mediator: Non-cytokine maturation roles. Journal of Leukocyte Biology. 100;5(2016):961-967.

Sun Q, Wang Q, Scott MJ, Billiar TR. Immune Activation in the liver by nucleic acids. Journal of Clinical and Translational Hepatology. 4;2(2016):151-157.

Chen C, Deng M, **Sun Q**, Loughran P, Billiar TR, Scott MJ. Lipopolysaccharide stimulates p62-dependent autophagy-like aggregate clearance in hepatocytes. BioMed Research International. 2014;267350 (2014) doi: 10.1155/2014/267350.

Sun Q, Gao W, Loughran P, Shapiro R, Fan J, Billiar TR, Scott MJ. Caspase-1 activation is protective against hepatocyte cell death by up-regulating beclin1 and mitochondrial autophagy in the setting of redox stress. Journal of Biological Chemistry. 288;22(2013):15947-15958

Menzel CL, **Sun Q**, Loughran PA, Pape HC, Billiar TR, Scott MJ. Caspase-1 is hepatoprotective during trauma and hemorrhagic shock by reducing liver injury and inflammation. Molecular Medicine. 17;9-10(2011):1031-1038

Scott MJ, Chen C, **Sun Q**, Billiar TR. Hepatocytes express functional NOD1 and NOD2 receptors: A role for NOD1 in hepatocyte CC and CXC chemokine production. Journal of Hepatology. 53;4(2010):693-701

Book Chapters

Sun Q, Zhao Z. Chapter Three - Peptide hormones as tumor markers in clinical practice. In: Hu TY, Tamanoi F, eds. The Enzymes. 42(2017):65-79.

Marongiu F, Gramignoli R, **Sun Q**, Tahan V, Miki T, Dorko K, Ellis E, Strom SC. Isolation of amniotic mesenchymal stem cells. Current Protocols in Stem Cell Biology. Chapter 1(2010): Unit 1E.5.

Selected Peer-reviewed Abstracts

Sun Q, Sampson M, Remaley A. Establishment of Analytical Performance Goals Based on Total Error of Patient Misclassification. (2018) AACC Abstract: B-209.

Sun Q, Calderon B, Zhao Z. Discrepancies between two immunoassays for the determination of MPO and PR3 autoantibodies. (2017) AACC Abstract: A-334.

Anani WQ, **Sun Q**, Xie X, Palmer OM. Examination of the incidence of excessive blood collection and iatrogenic anemia in hospitalized patients. (2016) AACC Abstract: B-181.

Anani WQ, **Sun Q**, Contis LC, Blair HC, Amin RM, Peck Palmer OM. A Prospective Assessment and Physician Satisfaction Survey of Repeated Chemistry and Hematology Critical Results. (2015) AACC Abstract: B-157.

GRANTS

2017 – 2019	**Role:** Associate Investigator, 11-H-0134 (NIH/NHLBI) Cynthia Dunbar (PI) **Title:** A pilot study of a thrombopoietin-receptor agonist, Eltrombopag, in moderate aplastic anemia patients.
2017 – 2019	**Role:** Associate Investigator, 09-H-0154 (NIH/NHLBI) Cynthia Dunbar (PI) **Title:** A pilot study of a thrombopoietin-receptor agonist, Eltrombopag, in aplastic anemia patients with immunosuppressive-therapy.
2017 – 2019	**Role:** Associate Investigator, 13-H-0133 (NIH/NHLBI) Cynthia Dunbar (PI)

Title: Extended dosing with Eltrombopag in refractory severe aplastic anemia
My role in these three protocols is to evaluate the role of Eltrombopag to chelate iron in patients with aplastic anemia.

2016 – 2017

Role: Principal Investigator (PI), Shock Society Research Investigator Award for Early Scientists

Title: The role of cardiolipin as intracellular DAMP in activating caspase-11 after hemorrhagic shock.

Total Direct Costs: $22,000
This grant proposes to advance our understanding of the function of caspase-11during hemorrhagic shock by (1) assessing the role of caspase-11 in regulating inflammatory response and organ damage, and (2) determining the mechanism of caspase-11 activation by cardiolipin in the liver during hemorrhagic shock and resuscitation.

PRESENTATIONS, NATIONAL AND INTERNATIONAL CONFERENCES

2018 — 70th AACC Annual Scientific Meeting, Brownbag Presentation
Critical test results boot camp.

2018 — 53rd Annual ACLPS Meeting
Inadequate reporting of analytical validation of biomarkers.

2017 — 40th Conference on Shock, Research Fellowship Recipient Presentation
Cardiolipin functions as intracellular DAMP to activate caspase 11 after hemorrhagic shock.

2016 — 68th AACC Annual Scientific Meeting, Brownbag Presentation
Critical test results boot camp.

2016 — 39th Conference on Shock, Plenary Session Presentation
Cytosolic HMGB1 facilitates AIM2 inflammasome activation after hemorrhagic shock.

2015 — 38th Conference on Shock Cytosolic HMGB1 is liver protective by activating caspase-1 after hemorrhagic shock in mice.

2011 — Regional Translational Research in Mitochondria, Aging and Disease Caspase-1 is protective by reducing mitochondrial ROS production in mouse hepatocytes after hypoxia/re-oxygenation.

2010 — 8th World Congress on Trauma, Shock, Inflammation and Sepsis Oxidative stress induces caspase activation and up-regulation of autophagy in mouse hepatocytes.

2010 — 30th Conference on Surgical Infection. Activation of caspase-1 upregulates autophagy in mouse hepatocytes under hypoxia.

2010 — 33rd Conference on Shock. Caspase-1 regulates induction of autophagy after hemorrhagic shock in mice.