

February 12, 2024

LAWRENCE BRIAN AFRIN, M.D.
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Current Professional Position/Address

As of September 5, 2017:

Senior Consultant in Hematology/Oncology
AIM Center for Personalized Medicine
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IDENTIFYING INFORMATION

Education

Degree	Institution	Date Degree Granted
B.S.	Clemson University Computer Science	1984 (Valedictorian)
M.D.	Medical University of South Carolina (MUSC) Medicine	1988
Internship	Medical University of South Carolina Internal Medicine	1989
Residency	Medical University of South Carolina Internal Medicine	1991
Fellowship	Medical University of South Carolina Hematology/Oncology	1994
Research Fellowship	Medical University of South Carolina Hematology/Oncology	1995

Certifications:

American Board of Internal Medicine (ABIM), Certified Diplomate in Hematology	November 1996 - Present
American Board of Internal Medicine (ABIM), Certified Diplomate in Medical Oncology	November 1995 - Present

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American Red Cross, Certified in Basic Cardiac Life Support	August 2014 - Present
American Board of Internal Medicine (ABIM), Previously Certified Diplomate in Internal Medicine	September 1991
National Board of Medical Examiners (NBME), Certified Diplomate	June 1989

Licensure

National Institutes of Health, Investigator	active since 1991
New York State Medical Board	active, without actions, since August 2017
Connecticut State Medical Board	active, without actions, since September 2017
Connecticut State Controlled Substance, Registration Number CSP.0066781	active, without actions, since September 2017
Minnesota State Board of Medical Practice	active, without actions since 2014
Drug Enforcement Administration (DEA)	active, without actions since 2014
New Jersey Board of Medical Practice	active, without actions since 2014
South Carolina Medical Board	1988 - 2015, reactivated as of 2021, without actions
California Medical Board	active, without actions since 2021
Michigan Medical Board	active, without actions since December 2020
Illinois Medical Board	active, without actions since December 2020
Florida Medical Board	active, without actions June 2021
Expired License: Drug Enforcement Administration (DEA)	1988 - 2014, without actions

Academic Appointments

Medical University of South Carolina, Coll. of Medicine, Dept. of Internal Medicine	1995 - 2014
Associate Professor of Medicine (untenured)	2003 - 2014
Associate Professor of Graduate Studies (untenured)	2003 - 2014
Assistant Professor of Graduate Studies (untenured)	2001 - 2003
Hematology/Oncology Fellowship Program Director (10 fel.)	1997 - 2010
Assistant Professor of Medicine (untenured)	1996 - 2003
Instructor of Medicine	1995 - 1996
University of Minnesota, School of Medicine, Dept. of Internal Medicine	2014 - 2017
Associate Professor of Medicine (untenured)	2014 - 2017
Hematology/Oncology Assoc. Fellowship Pgm. Dir. (18 fel.)	2014 - 2017
Medical Student Hematology Course Director	2016 - 2017
Institutional Review Board Member/Reviewer	2016 - 2017

Clinical/Hospital Appointments

Director, Information Technology, Off. of Grad. Med. Educ. (MUSC)	2003 - 2014
Staff Physician, Medical University Hospital (MUSC)	1995 - 2014
Senior Staff Physician, VA Medical Center (Charleston, SC)	1995 - 2014
Member, Hollings Cancer Center (HCC) (MUSC)	1995 - 2014
IT Medical Director, Medical University Hospital (MUSC)	1994 - 2014
Staff Physician, East Cooper Regional Med. Center (Mt. Pleasant, SC)	1998 - 2009
Director, Information Technology & Telemedicine, HCC (MUSC)	2002 - 2006
Chairman, Clinical Information Systems Steering Committee (MUSC)	1997 - 2004

Consulting Positions

Advisory Boards:

Sanofi	2013
Ariad	2013
Incyte	2012
Novartis	2011
BMS	2011

Other Industry Consultation/Boards:

OACIS Quality Council	2000 - 2002
Ariad	2013-2012
FastTrack Systems Scientific Advisory Board	2000 - 2002
Government: Speaker Board, S.C. Area Health Education Consortium	2010 - 2014
Governor's Blue Ribbon Panel on Univ. Research Programs, State of Virginia	2003
National Institute of Mental Health Study Section for Proposals for a National Coordination Office for the National	2003
NeuroAIDS Tissue Consortium	2003
Institute of Medicine National Cancer Policy Board Advisory Panel for the Georgia Cancer Coalition Project	2003
Institute of Medicine Committee on Assessing Improvements in Cancer Care in Georgia	2003-2004
Charleston County Medical Society Website Committee	2003 - 2014
South Carolina Cancer Research Consortium Faculty Advisory Committee	1997 - 2005

Current Membership and Offices in Professional Organizations

South Carolina Cancer Research Consortium Faculty Advisory Committee	1997 - 2005
American Society of Hematology	1995 - present
American Society of Clinical Oncology	1993 - present
Member, Oncology Training Programs Subcommittee	2007 - 2010
Member, Diversity in Oncol. Mentoring Program Task Force	2010
The Mastocytosis Society	2011 - 2016
Member, Medical Advisory Board	2012- 2016

Other professional employment, including military service

Computer Operator, Clemson University, Clemson, SC	2012- 2016
Computer Programmer, Clemson University, Clemson, SC	1981 - 1984
Computer Programmer, Dept. of Fam. Med., MUSC, Charleston, SC	1980 - 1983
Course Instructor, Computer Science, Governor's School of SC, Charleston, SC	1981 - 1982
Computer Operator, College of Charleston, Charleston, SC	1978 - 1981

Honors And Awards For Research Work, Teaching, Public Engagement, And Service

Medical University of South Carolina

Nominee, Excellence in Teaching Award, Dept. of Int. Med., MUSC	2008
Nominee, Excellence in Teaching Award, Dept. of Int. Med., MUSC	2007

External Sources

Medical Advisory Board, The Mastocytosis Society	2012 - 2016
America's Best Doctors	2009 - 2016
MUSC Health Sciences Foundation Linda Summerall Fellowship	2010 - present

Education Fund (established in support of my work in mast cell Disease; fund transferred to UMN in 2014)

MUSC Health Sciences Foundation Kathy Klein Mast Cell Fund (established in support of my work in mast cell disease; fund transferred to UMN in 2014) 2012 - present

America's Top Doctors 2010 - 2012

Third Place, poster presentation, American Association of Medical Colleges Group on Information Resources Annual Meeting, San Antonio, TX 2003

Best Paper Nominee (x 2), American Medical Informatics Association 2003

Clinical Oncology Fellowship Award, Amer. Soc. of Clin. Oncology 1991 - 1994

First Place, SC Amer. Coll. Of Physicians Associates Research Comp. 1993

Research And Scholarship

Grants and Contracts

External Sources (federal {NIH, NSF, DEO, etc.} or state grants, foundation awards, etc.)

Current:

Principal Investigator (investigator-initiated), AB Science 1993
International Phase III Randomized Prospective Placebo-Controlled Trial of Masitinib in Severely Symptomatic Mast Cell Activation Syndrome, in development

Past:

Characterization of Certain Peripheral Blood Cell Abnormalities 2011 - 2014
Potentially Aiding the Diagnosis of Mast Cell Activation Syndrome, The Mastocytosis Society, \$52,516.

Principal Investigator 1994 - 2014
Microsoft, Software for Development of a Comprehensive Cancer Center, \$50,000 annually

Local principal investigator, Incyte 2009 - 2014
A Randomized, Double-blind, Placebo-controlled Study of the JAK Inhibitor INCB018424 Tablets Administered Orally to Subjects with Primary Myelofibrosis (PMF), Post-Polycythemia Vera-Myelofibrosis (PPV-MF) or Post-Essential Thrombocythemia Myelofibrosis (PET-EF) (The COMFORT Trial), \$259,272 total costs

Local principal investigator, Incyte 2010 - 2015

Randomized, open label, multicenter phase III study of Efficacy and Safety in POLycythemia vera subjects who are resistant to or intolerant of hydroxyurea: JAK iNhibitor INC424 tablets verSus bEst available care (The RESPONSE Trial), \$168,068 total costs

Principal investigator, The Mastocytosis Society 2012 - 2014

Characterization of Common Peripheral Blood and Bone Marrow Abnormalities in Mast Cell Activation Syndrome, \$52,516 total costs

Local principal investigator, Incyte 2011 - 2016

Multicenter phase II study of INC424 tablets (ruxolitinib) in patients with myelofibrosis and thrombocytopenia, \$54,571 total costs

Local principal investigator, Incyte 2011 - 2016

Multicenter phase II study of alternative dosing of INC424 tablets (ruxolitinib) in patients with myelofibrosis, \$54,571 total costs

Local principal investigator, Sanofi Aventis 2011 - 2014

EFC12153 - A Phase 3, Randomized, Double-Blinded, Placebo Controlled 3 arm Study of SAR302503 in Patients with Intermediate-2 or High Risk Primary (PMF), Post Polycythemia Vera (Post PV-MF), or Post-Essential Thrombocythemia Myelofibrosis (Post ET-MF) with Splenomegaly, 12,700 total costs

Local principal investigator, Sanofi Aventis 2011 - 2014

ARD12042: A Randomized Phase II, Open-Label Study of the Efficacy and Safety of Orally Administered SAR302503 in Patients with Polycythemia Vera (PV) or Essential Thrombocythemia (ET) who are Resistant or Intolerant to Hydroxyurea, \$15,800 total costs

Local principal investigator, Lilly Oncology 2011 - 2014

I3X-MC-JHTB: A Phase 2 study of LY2784544 in patients with myeloproliferative neoplasms, \$16,625 total cost

Local principal investigator, Incyte 2012 - 2017

RELIEF: Randomized, Multicenter, Double-Blind, Double-Dummy, Phase III Efficacy Study of Patient Reported Outcomes in Subjects with Polycythemia Vera Who Have Symptoms of a Stable Dose of Hydroxurea: Ruxolitinib Versus Hydroxurea, \$51,403 total cost

Local principal investigator, Sanofi Aventis 2013 - 2014

ARD12181: A Phase II, Multicenter, Open Label, Single Arm Study of SAR302503 in Subjects Previously Treated with Ruxolitinib and with a Current Diagnosis of Intermediate-2 or High-Risk Primary Myelofibrosis, Post-Polycythemia Vera Myelofibrosis, or Post-Essential Thrombocythemia Myelofibrosis, \$17,751 total costs

Local principal investigator 2013 - 2016

Gilead Momelotinib vs. Ruxolitinib in Treatment-Naïve Myelofibrosis, ~\$250,000 total cost

Local principal investigator, Gilead 2014 - 2017

Momelotinib vs. Best Available Therapy in Ruxolitinib-Refractory Myelofibrosis, ~\$250,000 total cost

Co-principal investigator, Duke and Fullerton Foundations 2004 - 2006

MUSC Terminus of the South Carolina Videoconferencing Corridor, \$594,000

Principal investigator, Fullerton Foundation 2005

Development of a Multi-Institutional Hematology/Oncology Fellowship Training Program, \$15,000

Principal investigator, Medtronic 2005

Use of the MUSC Hollings Cancer Center Support Group Webcasting Service for the MUSC Implantable Cardiac Defibrillator Support Group, \$5,000

Principal investigator, U.S. Department of Energy (DE-FG02-2002 - 2005

01ER63121), MUSC Hollings Cancer Center Biostatistics and Informatics Core Development Grant, \$969,000 (direct \$682,131), 50% effort

Principal investigator, U.S. Department of Energy (DE-FG02-2002 - 2005

01ER63121), Supplement to MUSC Hollings Cancer Center Biostatistics and Informatics Core Development Grant, \$20,000 direct, 50% effort

Principal investigator, U.S. Department of Energy (DE-FG02-2003 - 2005

01ER63121), Supplement to MUSC Hollings Cancer Center Biostatistics and Informatics Core Development Grant, \$156,000 direct, 50% effort

Principal investigator, U.S. Department of Defense Grant 2002 - 2003

#N000149611298, Extension to Coastal Cancer Control Project, Telemedicine Section, \$400,000 direct

Principal investigator, FastTrack Systems 2000 - 2002

Clinical Repository Data Mining as a Means of Identifying Feasible Clinical Trials and Improving Clinical Trial Accrual, \$161,563 direct, 20% effort

Co-investigator, U.S. Department of Defense Grant 2001 - 2002

#N000149611298, Coastal Cancer Control Project, Telemedicine Section, \$4,014,723 (direct \$3,069,511), 9/1/98-8/31/02 5% support

Co-principal investigator, U.S. Department of Commerce 1995 - 1999

NIST Advanced Technology Program, Healthcare Information Infrastructure Technology (HIIT), \$2,706,512 total cost

Principal investigator, Coleman Research Corporation and the MUSC Environmental Hazards Assessment Program and the MUSC Hollings Cancer Center Clinical Trials Program <i>Phase I of the MUSC PRN (Physicians' Research Network) project, a World Wide Web/Internet-based computerized system for facilitating intra- and extra-institutional access to clinical trials and other research activities, \$350,000 total cost</i>	1995 - 1997
Principal investigator, Ortho Biotech <i>Educating Patients About Clinical Trials via the World-Wide Web: A Pilot, \$4,000 total cost</i>	1996
Principal investigator, Ortho Biotech <i>Educating Patients About Clinical Trials via the World-Wide Web: Production System Development, \$125,000</i>	1997
Principal investigator, South Carolina Department of Mental Health <i>Infrastructure Development for Extranet-Based Coordination of Wide-Area Clinical Trials (continuation), \$20,000 total cost</i>	1999 - 2001
Principal investigator, South Carolina Department of Mental Health <i>Infrastructure Development for Extranet-Based Coordination of Wide-Area Clinical Trials, \$20,000 total cost</i>	1997 - 1999
Principal investigator, Ortho Biotech <i>ACT! — About Clinical Trials: A Web-Based Method for Educating Patients About Clinical Trials via the World-Wide Web: Continued Production System Development, \$125,000 direct cost</i>	1998
Principal investigator, Ortho Biotech <i>ACT! — About Clinical Trials: A Web-Based Method for Educating Patients About Clinical Trials via the World-Wide Web: Continued Production System Development, \$150,000 direct cost</i>	1999
Principal investigator, Sara Lee Corporation <i>Improving Public Awareness of Clinical Trials and Health Matters via Internet Technologies, \$25,000 direct cost</i>	1998
Principal investigator, Ortho Biotech <i>Development of an Internet-Accessible Interface to a Hematopathology Teaching Slide Collection, \$5,600 direct cost</i>	1998
Principal investigator (developed protocol and assembled 25-institution group), Cypress Bioscience <i>Phase IV clinical trial of Prosurba vs. IVIG in adult steroid-refractory chronic severe ITP, \$38,000 direct cost to MUSC</i>	1997

Internal Sources

Past:

Extended Exploratory Characterization of Mast Cell Regulatory Gene Mutations in Mast Cell Activation Syndrome 2016 - 2017
UMN Grant-in-Aid Program, \$43,935.

Exploratory Characterization of Mast Cell Regulatory Gene Mutations in Mast Cell Activation Syndrome 2014 - 2017
UMN Division of Hematology/Oncology, \$30,000.

Publications

Peer-Reviewed Publications

Nagy E, Westaway M, Danieleto S, **Afrin LB**. (2024). Breast Implant Illness May Be Rooted in Mast Cell Activation – A Case-Controlled Retrospective Analysis. *Ann Surg Open*, in press, February 12, 2024. Dr. Afrin participated heavily in study design as well as writing and editing of the manuscript.

Palmer RF, Dempsey TT, **Afrin LB**. (2023). Chemical Intolerance and Mast Cell Activation: A Suspicious Synchronicity. *J Xenobiotics*, 13(4):704-718, DOI: 10.3390/jox13040045. Dr. Afrin led data collection and participated in writing and editing.

Walters AS, Li Y, Koo BB, Ondo WG, Weinstock LB, Champion D, **Afrin LB**, Karroum EG, Bagai K, Spruyt K (2023). Review of the Role of the Endogenous Opioid and Melanocortin Systems in Restless Legs Syndrome. *Brain*, awad283, DOI: 10.1093/brain/awad283. Dr. Afrin participated in the editing of the paper.

Afrin LB, Dempsey TT, Molderings GJ (2023). Learned Cautions Regarding Antibody Testing in Mast Cell Activation Syndrome. *Diagnosis (Berl)* 2023 Aug 14, DOI: 10.1515/dx-2023-0032, online ahead of print. Dr. Afrin initiated development of this invited paper for a special issue of the journal and wrote the paper; the other co-authors contributed data and participated in editing of the paper.

Molderings GJ, **Afrin LB** (2023). A survey of the currently known mast cell mediators with potential relevance for therapy of mast-cell-induced symptoms. *Naunyn-Schmiedeberg's Archives of Pharmacology* 2023, DOI: 10.1007/s00210-023-02545-y. Dr. Molderings initiated development of this paper and wrote the first draft; Dr. Afrin contributed extensively to the writing and editing.

Walters AS, Yuqing L, Karroum EG, Champion D, Weinstock LB, Bagai K, **Afrin LB**, Spruyt K (2022). Exploring the role of the endogenous opiate system in the pathogenesis of anemia in an opiate receptor knock-out model of Restless Legs Syndrome. *Medical Hypotheses* 2022 Oct;167:110941, DOI: 10.1016/j.mehy.2022.110941.

Afrin LB, Dempsey TT, Weinstock LB (2022). Post-HPV-Vaccination Mast Cell Activation Syndrome: Possible Vaccine-Triggered Escalation of Undiagnosed Pre-Existing Mast Cell Disease? *Vaccines* 2022,

10(1), 127, DOI: 10.3390/vaccines10010127, <https://www.mdpi.com/2076-393X/10/1/127>. Dr. Afrin initiated development of the paper and drafted most of the paper and oversaw submission. Drs. Dempsey and Weinstock contributed case reports and contributed to editing.

Zienkiewicz T, Homann J, Mücke M, Seidel H, Hertfelder H-J, Weinstock L, **Afrin LB**, Molderings GJ (2022). Evaluation of a tryptase depletion index for better pathologic identification of mast cell activation syndrome. *Zeitschrift für Gastroenterologie (Journal of Gastroenterology)* 2023 Mar;61(3):268-274, DOI: 10.1055/a-1833-9226. Dr. Molderings conceived the article; Dr. Afrin was heavily involved in the editing of the article.

Miller CS, Palmer RF, Dempsey TT, Ashford NA, **Afrin LB** (2021). Mast cell activation may explain many cases of chemical intolerance. *Environ Sci Eur*, 33:129, DOI: 10.1186/s12302-021-00570-3. Dr. Afrin collected most of, and organized all of, the mast cell data and participated extensively in writing and editing.

Talpaz M, Prchal J, **Afrin L**, Arcasoy M, Hamburg S, Clark J, Kornacki D, Colucci P, Verstovsek S (2021). Safety and Efficacy of Ruxolitinib in Patients With Myelofibrosis and Low Platelet Counts ($50-100 \times 10^9/L$): Final Analysis of an Open-label Phase 2 Study. *Clin Lymphoma Myeloma Leuk*, in press, DOI: 10.1016/j.clml.2021.10.016. Drs. Talpaz and Verstovsek initiated development of the paper and drafted the paper with professional writing assistance from the study sponsor. Dr. Afrin was one of the study's local principal investigators and contributed patients to the study and contributed to editing of the paper.

Afrin LB (2021). Some cases of hypermobile Ehlers-Danlos Syndrome may be rooted in mast cell activation syndrome. *American Journal of Medical Genetics, Part C*;187(4):466-472, DOI: 10.1002/ajmg.c.31944. This was an invited article for a special issue of the journal focusing on Ehlers-Danlos Syndrome. Dr. Afrin conceived the article's topic and solely handled drafting, editing, and submission.

Weinstock LB, Brook JB, Walters AS, Goris A, **Afrin LB**, Molderings GJ (2021). Mast cell activation symptoms are prevalent in Long-COVID. *International Journal of Infectious Diseases*, DOI: 10.1016/j.ijid.2021.09.043, in press. Dr. Weinstock conceived of, and was the principal investigator for, the study reported in this article and drafted the article; Dr. Afrin was heavily involved in the editing of the article.

Seidel H, Hertfelder H-J, Oldenburg J, Kruppenbacher JP, **Afrin LB**, Molderings GJ (2021). Effects of primary mast cell disease on hemostasis and erythropoiesis. *International Journal of Molecular Sciences* 2021, 22(16), 8960, DOI: 10.3390/ijms22168960. Dr. Molderings conceived the article's topic and oversaw drafting, editing, and submission; Dr. Afrin wrote the erythropoiesis section of the paper and contributed substantially to the editing of the entire paper.

Weinstock LB, Brook JB, Kaleem Z, **Afrin LB**, Molderings GJ (2020). Tinnitus in mast cell activation syndrome: a prospective survey of 114 patients. *J Otolaryngol Neurotol* 2021;4(1):92-96. Dr. Weinstock initiated development of the paper and drafted the paper. Dr. Afrin contributed to editing.

Weinstock LB, Pace LA, Rezaie A, Brook JB, Kaleem Z, **Afrin LB**, Molderings GJ (2020). Small intestinal bacterial overgrowth is common in mast cell activation syndrome. *J Med Clin Res Rev* 2020;4(8):1-13. Dr. Weinstock initiated development of the paper and drafted the paper. Dr. Afrin contributed to editing.

Afrin LB, Weinstock LB, Molderings GJ (2020). Covid-19 hyperinflammation and post-Covid-19 illness may be rooted in mast cell activation syndrome. *Int J Infect Dis* 2020 Sep 10;100:327-332, DOI: 10.1016/j.ijid.2020.09.016. Dr. Afrin conceived of the project and was the principal worker and writer on the project; the other co-authors contributed additional work and reviewed the manuscript.

Molderings GJ, Dumoulin FL, Homann J, Sido B, Textor J, Mücke M, Qagish GJ, Barion R, Raithel M, Klingmüller D, Schäfer VS, Hertfelder HJ, Berdel D, Tridente G, Weinstock LB, **Afrin LB** (2020). Adrenal insufficiency is a contra-indication for omalizumab therapy in mast cell activation disease: risk for serum sickness. *Naunyn Schmiedebergs Arch Pharmacol* 2020 Sep;393(9):1573-1580, DOI: 10.1007/s00210-020-01886-2. Sum of times cited: 0. Dr. Afrin was the senior co-author and contributed to writing and editing of the article.

Afrin LB, Ackerley MB, Bluestein LS, Brewer JH, Brook JB, Buchanan AD, Cuni JR, Davey WP, Dempsey TT, Dorff SR, Dubravec MS, Guggenheim AG, Hindman KJ, Hoffman B, Kaufman DL, Kratzer SJ, Lee TM, Marantz MS, Maxwell AJ, McCann KK, McKee DL, Menk Otto L, Pace LA, Perkins DD, Radovsky L, Raleigh MS, Rapaport SA, Reinhold EJ, Renneker ML, Robinson WA, Roland AM, Rosenbloom ES, Rowe PC, Ruhoy IS, Saperstein DS, Schlosser DA, Schofield JR, Settle JE, Weinstock LB, Wengenroth M, Westaway M, Xi SC, Molderings GJ (2020). Diagnosis of mast cell activation syndrome: a global “consensus-2”. *Diagnosis* 2020, in press, DOI: 10.1515/dx-2020-0005. Dr. Afrin initiated and wrote the paper. All other authors contributed to editing.

Weinstock LB, Pace LA, Rezaie A, **Afrin LB**, Molderings GJ (2020). Mast Cell Activation Syndrome: Primer for the Gastroenterologist. *Digestive Diseases & Sciences* 2020, DOI: 10.1007/s10620-020-06264-9, in press. Dr. Weinstock initiated development of the paper and drafted the paper. Dr. Afrin contributed substantially to editing.

Weinstock LB, Walter AS, Kaleem Z, Brook JB, **Afrin LB**, Molderings GJ (2020). Restless legs syndrome is associated with mast cell activation syndrome. *J Clinical Sleep Med* 2020 Mar 15;16(3):401-408, DOI: 10.5664/jcsm.8216. Dr. Weinstock initiated development of the paper and drafted the paper. Dr. Afrin contributed to editing.

Dorff S, **Afrin LB** (2019). Mast Cell Activation Syndrome in Pregnancy, Delivery, Postpartum, and Lactation. *J Obstetrics Gynaecol* 2020;40(7):889-901, DOI: 10.1080/01443615.2019.1674259. Dr. Afrin initiated the project and contributed substantially to writing and editing the manuscript.

Schofield JR, **Afrin LB** (2019). Recognition and management of medication excipient reactivity in patients with mast cell activation syndrome. *Am J Med Sci*, in press, 2019. Dr. Afrin was integrally involved in writing the manuscript.

Afrin LB, Dempsey TT, Rosenthal L, Dorff S (2018). Successful Mast-Cell-Targeted Treatment of Chronic Dyspareunia, Vaginitis, and Dysfunctional Uterine Bleeding. *J Obstetrics Gynaecol* 2019;39(5):664-669, DOI: 10.1080/01443615.2018.1550475. Dr. Afrin conceived of the project and was the principal worker and writer on the project; the other co-authors contributed additional work and reviewed the manuscript.

Weinstock LB, Rezaie A, **Afrin LB** (2018). The significance of mast cell activation in the era of precision medicine. *Am J Gastroenterol* 2018;113:1725-1726 (letter), DOI: 10.1038/s41395-018-0257-7. Dr. Weinstock conceived the project and wrote the initial draft, with substantial editing performed by Dr. Afrin.

Weinstock LB, Kaleem Z, Selby D, **Afrin LB** (2018). Mast cell deposition and activation may be a new explanation for epiploic appendagitis. *BMJ Case Reports* 2018;2018:bcr2018224689, DOI: 10.1136/bcr-2018-224689. Dr. Weinstock conceived the project and wrote the initial draft, with substantial editing performed by Dr. Afrin.

Seneviratne SL, Maitland A, **Afrin L** (2018). Response to letter re: Mast cell disorders in Ehlers-Danlos syndrome. *Am J Med Genet Part C Semin Med Genet* 2018 Jan;176(1):251-252, DOI: 10.1002/ajmg.a.38528.

Molderings GJ, **Afrin LB**, Hertfelder H-J, Brettner S (2017). Treatment of systemic mastocytosis with sunitinib. *F1000Research* 2017, 6:2182, DOI: 10.12688/f1000research.13343.1. Dr. Molderings conceived the project and wrote the initial draft, with substantial editing performed by Dr. Afrin.

Molderings GJ, Zienkiewicz T, Homann J, Menzen M, **Afrin LB** (2017). Risk of solid cancer in patients with mast cell activation syndrome: results from Germany and USA. *F1000Research* 2017, 6:1889, DOI: 10.12688/f1000research.12730.1. Dr. Afrin co-conceived the project with Dr. Molderings, performed analysis of the USA database, and co-wrote the paper with Dr. Molderings.

Afrin LB, Zito SL, Fox RW, Choe L, Glover SC (2017). Successful targeted treatment of mast cell activation syndrome with tofacitinib. *Eur J Haematol* 2017 Aug;99(2):190-193, PMID: 28382662, DOI: 10.1111/ejh.12893. Dr. Afrin initiated development, and is the principal author, of the paper.

Seneviratne SL, Maitland A, **Afrin L** (2017). Mast cell disorders in Ehlers-Danlos syndrome. *Am J Med Genet Part C Semin Med Genet* 2017 9999C:1-11, DOI: 10.1002/ajmg.c.31555.

Afrin LB, Self S, Menk J, Lazarchick J (2017). Characterization of mast cell activation syndrome. *Am J Med Sci* 2017 Mar;353(3):207-215, PMID: 28262205 DOI: 10.1016/j.amjms.2016.12.013. Dr. Afrin conceived of the project and was the principal worker and writer on the project; the other co-authors contributed additional work and reviewed the manuscript.

Lortholary O, Chandesris MO, Bulai Livideanu C, Paul C, Guillet G, Jassem E, Niedoszytko M, Barete S, Verstovsek S, Grattan C, Damaj G, Canioni D, Fraitag S, Lhermitte L, Georgin Laviaille S, Frenzel L, **Afrin LB**, Hanssens K, Agopian J, Gaillard R, Kinet J-P, Auclair C, Mansfield C, Moussy A, Dubreuil P, Hermine O. Masitinib for Treatment of Severely Symptomatic Indolent Systemic Mastocytosis: A Randomized, Placebo-Controlled, Phase 3 Study (2017). *Lancet* 2017 Feb 11;389(10069):612-620, PMID: 28069279, DOI: 10.1016/S0140-6736(16)31403-9. Dr. Afrin worked to open the study at UMN (study was closed globally before it could be opened locally) and assisted with editing of the paper.

Molderings GJ, Haenisch B, Brettner S, Homann J, Dumoulin FL, Panse J, Butterfield J, **Afrin LB** (2016). Pharmacological treatment options of systemic mast cell activation disease. *Naunyn Schmiedebergs Arch Pharmacol* 2016 Jul;389(7):671-94. doi: 10.1007/s00210-016-1247-1. PMID: 27132234. Impact factor: 2.471 as of 2014; Sum of times cited: 0. Dr. Afrin was the senior co-author and contributed to writing and editing of the article.

Afrin LB (2016). A New Era for an Old Cell: Heightened Appreciation of Mast Cell Disease Emerges. *Transl Res* 2016 Aug;174:1-4. doi: 10.1016/j.trsl.2016.03.003 [Epub ahead of print]. PMID: 27016701. Impact factor: 5.030 as of 2014; Sum of times cited: 0. Dr. Afrin was invited to write this lead commentary for the journal's theme issue on mast cell disease.

Afrin LB, Butterfield J, Raithel M, Molderings GJ (2016). Often seen, rarely recognized: mast cell activation disease – a guide to diagnostic and therapeutic options. *Ann Med* 2016 May;48(3):190-201,

doi: 10.3109/07853890.2016.1161231, PMID: 27012973. Impact factor: 3.886 as of 2014; Sum of times cited: 0. Dr. Afrin conceived of the manuscript, organized the authorial team, and was the primary author and editor of the manuscript.

Afrin LB (2016). Mast cell activation disease and the modern epidemic of chronic inflammatory disease. *Transl Res* 2016 Aug;174:33-59, doi: 10.1016/j.trsl.2016.01.003, PMID: 26850903. Impact factor: 5.030 as of 2014; Sum of times cited: 0. Dr. Afrin conceived of and wrote the article.

Aich A, **Afrin LB**, Gupta K (2015). Mast cell-mediated mechanisms of nociception. *Int J Mol Sci* 2015 Dec 4;16(12):29069-92, doi: 10.3390/ijms161226151, PMID: 26690128. Impact factor: 2.862 as of 2014, invited review; Sum of times cited: 0. Dr. Afrin was a key co-author and editor of the manuscript.

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Talpaz M, Paquette R, **Afrin L**, Hamburg SI, Prchal JT, Jamieson K, Terebelo HR, Ortega GL, Lyons RM, Tiu RV, Winton EF, Natrajan K, Odenike O, Claxton D, Peng W, O'Neill P, Erickson-Viitanen S, Leopold L, Sandor V, Levy RS, Kantarjian HM, Verstovsek S (2013). Interim Analysis of Safety and Efficacy of Ruxolitinib in Patients with Myelofibrosis and Low Platelet Counts. *Journal of Hematology and Oncology* 29;6(1):81, pp. 1-10, doi:10.1186/1756-8722-6-81, PMID: 24283202. Impact factor: 4.46 in 2013; Sum of times cited: TBD; Dr. Afrin was a local principal investigator for this trial, provided patient care, assisted in data collection, and reviewed the manuscript.

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intellectual content, conducted literature research, provided patient care, acquired all the data, and wrote the entire manuscript.

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Demiris G, **Afrin LB**, Courtney KL, Goossen W, Lovis C, Lynch C, Sondhi M, Speedie S, Vimarlund V (2008). Patient-centered applications: use of information technology to promote disease management and wellness – a white paper by the AMIA Knowledge in Motion Working Group. *Journal of the American Medical Informatics Association* 15(1):8-13, PMID: 17947617. Impact factor: 3.571 as of 2012; Sum of times cited: TBD; Dr. Afrin participated in concept development and manuscript writing.

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Tagge E, Chandler J, Harris B, Czako M, Marton L, Willingham M, Burbage C, **Afrin L**, Frankel A (1996). Preproricin expressed in *Nicotiana tabacum* cells in vitro is fully processed and bio-logically active. *Protein Expression and Purification* 8(1):109-118, PMID: 8812841. Impact factor: 1.644 as of 2010; Sum of times cited: TBD; Dr. Afrin's roles: laboratory assistance, data acquisition, manuscript review.

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Ornstein S, Johnson A, Markert G, **Afrin L** (1987). Association between family medicine residents' personality and laboratory test-ordering for hypertensive patients. *Journal of Medical Education* 62(7):603-605, PMID: 3110420. Impact factor: N/A (journal end year 1988); Sum of times cited; TBD; Dr. Afrin's role: software developer, data acquisition, manuscript review.

Non-Peer-Reviewed Publications

Afrin LB (2016). Symptoms of Mast Cell Activation Disease. Invited contribution to <http://www.tmsforacure.org>, the website of The Mastocytosis Society.

Afrin LB (2011). What I have learned since fellowship: tips for professional success and happiness. *Oncology Fellows* 3(1):2-6.

Afrin LB (2007). Public Policy and Ethical Issues in Mobile Computing for Disease and Wellness Management. An invited podcast prepared for the series, "IT and Patient Empowerment," developed by the Knowledge-in-Motion Working Group of the American Medical Informatics Association, introduced at <http://www.amia.org/mbrcenter/wg/kim/documents.asp> and accessed directly at http://www.amia.org/podcasts/mp3/kim/kim_3_medinfo2007.mp3, initially placed on-line on October 25, 2007.

Afrin LB, Evans RM, Mitchell K, DeTeresa RM, Ko D, Stahl DC (2007). Improving the Automated Discovery of Clinical Trials via Web Services: Progress on a Standards Initiative of the Association of American Cancer Institutes. http://www.aaci-cancer.org/pdf/2005_informatics.pdf. Dr. Afrin created the concept, led the multi-institutional development team, developed local software, and drafted the manuscript.

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Articles Submitted or in Development for Publication

Afrin LB (2018). Potential Overlooked Reason for Poorer Tolerance of Generic Imatinib Products. Dr. Afrin initiated development of the paper and wrote the paper. Multiple submissions rejected thus far; further publications efforts suspended at this time.

Afrin LB, Reding MT (2017). Bleeding from Gemfibrozil Therapy Without Vitamin K Antagonist Therapy. Dr. Afrin initiated development of the paper and wrote the paper. Multiple submissions rejected thus far; further publications efforts suspended at this time.

Electronic Publications

Afrin LB, Cichocki F, Hoeschen A, Beckman KB, Gupta K, Nguyen J, Silverstein KA, Mills LJ (2016). Mast Cell Regulatory Gene Variants Are Common in Mast Cell Activation Syndrome. *Blood* 2016;128:4878, <http://www.bloodjournal.org/content/128/22/4878>. Dr. Afrin served as guarantor of integrity of entire study, developed the paper's concept, and was the principal subject recruiter and principal manuscript author/preparer/editor.

Afrin LB (2015). Utility of Continuous Diphenhydramine Infusion in Severe Mast Cell Activation Syndrome. *Blood* 2015;126:5194, <http://www.bloodjournal.org/content/126/23/5194>. Dr. Afrin served as guarantor of integrity of entire study, developed the paper's concept, and was principal manuscript author/preparer/editor.

Zenker N, **Afrin LB** (2015). Utilities of Various Mast Cell Mediators in Diagnosing Mast Cell Activation Syndrome. *Blood* 2015 126:5174, <http://www.bloodjournal.org/content/126/23/5174>. Dr. Afrin served as guarantor of integrity of entire study, developed the paper's concept, and was principal manuscript author/preparer/editor.

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<http://bloodjournal.hematologylibrary.org/content/122/21/5240.abstract>. Dr. Afrin served as guarantor of integrity of entire study, developed the study concept, developed the study design, defined intellectual content, conducted literature research, conducted experimental studies, acquired the data, and wrote all of the manuscript except for the statistics components.

Afrin LB, Afrin JB (2012). Preemptive CYP2C19 Genotyping in Acquired Aplastic Anemia Treated with Immunosuppressive Therapy May Help Avoid Confounding Non-Response Due to Pentamidine Myelotoxicity. (e-Letter.) *Blood* 2012 Aug 17, http://bloodjournal.hematologylibrary.org/content/early/2012/06/06/blood-2012-04-421883/reply#bloodjournal_el_7176, published on-line response to Scheinberg P, Young NS. How I Treat Acquired Aplastic Anemia. *Blood* 2012;120:1185-1196. Dr. Afrin served as guarantor of integrity, defined intellectual content, conducted literature research, and wrote the manuscript.

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Afrin LB, Afrin JB (2011). Value of Preemptive CYP2C19 Genotyping in Allogeneic Stem Cell Transplant Patients Considered for Pentamidine Administration. *Clinical Transplantation* 25(3):E271-E275, <http://onlinelibrary.wiley.com/doi/10.1111/j.1399-0012.2011.01399.x/pdf>, doi: 10.1111/j.1399-0012.2011.01399.x, PMID: 21299635. Impact factor: 1.634 as of 2012; Sum of times cited: TBD; Dr. Afrin acted as guarantor of integrity, conceived of the study, designed the study, wrote the protocol, collected some of the data, analyzed the data, and wrote the entire manuscript.

Afrin LB (2007). Public Policy and Ethical Issues in Mobile Computing for Disease and Wellness Management. An invited podcast prepared for the series, "IT and Patient Empowerment," developed by the Knowledge-in-Motion Working Group of the American Medical Informatics Association, introduced at <http://www.amia.org/mbcenter/wg/kim/documents.asp> and accessed directly at http://www.amia.org/podcasts/mp3/kim/kim_3_medinfo2007.mp3, initially placed on-line on October 25, 2007.

Afrin LB, Evans RM, Mitchell K, DeTeresa RM, Ko D, Stahl DC (2007). Improving the Automated Discovery of Clinical Trials via Web Services: Progress on a Standards Initiative of the Association of American Cancer Institutes. http://www.aaci-cancer.org/pdf/2005_informatics.pdf. Dr. Afrin created the concept, led the multi-institutional development team, developed local software, and drafted the manuscript.

Books

Afrin LB. *Listen – More Tales from the Front in the Battle to Recognize Mast Cell Activation Disease, with Lessons for Medicine and Society*. Sisters Media, LLC, 2023, in press. (Further informal review/presentation/discussion of mast cell disease, for both professionals and patients. Conceived and singlehandedly written by Dr. Afrin 2020-2021.)

Afrin LB. *Never Bet Against Occam: Mast Cell Activation Disease and the Modern Epidemics of Chronic Illness and Medical Complexity*. Sisters Media, LLC, 2016, 480 pages, ISBN-13: 978-0997319613. (Mass market hardback/softback/e-book (and audiobook in press), explaining mast cell disease to the lay community. Conceived and singlehandedly written by Dr. Afrin 2013-2015.)

Simone JV, **Afrin LB**, Byers T, et al. (Institute of Medicine Committee on Assessing Improvements in Cancer Care in Georgia) (2005). *Assessing the Quality of Cancer Care: An Approach to Measurement in Georgia*; Eden J, Simone JV, eds., The National Academies Press. (IOM committee member, participated in meetings, helped assess data and make recommendations.)

Chapters in Books

Afrin L.B. (2015). Mast cell activation syndrome: a chameleon that confounds diagnostics and treatment for other disorders. *The Dysautonomia Project: Understanding Autonomic Nervous System Disorders for Physicians and Patients*; Freeman K, Goldstein DS, Thompson CR, eds., Bardolf & Company, Sarasota, FL, ISBN 978-1-938842-24-5, pp. 135-139.

Afrin L.B. (2013). Presentation, Diagnosis, and Management of Mast Cell Activation Syndrome. *Mast Cells: Phenotypic Features, Biological Functions, and Role in Immunity*; Murray, D., ed., Nova Science Publishers, ISBN 1626181667, 9781626181663, pp. 155-231, available on-line at https://www.novapublishers.com/catalog/product_info.php?products_id=42603.

Afrin L.B., Clark F., Waller J., Cawley P., Hartzog T., Daniels M., Campbell D (2010). If It Ain't Broke, Don't Fix It: Replacing an HIS. *H.I.T. or Miss: Lessons Learned from Health Information Technology Implementations*; Leviss J., ed., American Health Information Management Association, ISBN 1584263970, 9781584263975, pp. 47-51. Dr. Afrin was co-director of the project described and for the chapter served as guarantor of integrity, developed the concept, and wrote the manuscript.

Afrin L.B., del Bene V.M. (1995). Physician Workstations. *Health Care Information Management Systems: A Practical Guide, 2nd Edition*; Ball M, Douglas J, Albright J, Simborg D, eds., Springer-Verlag, ISBN 978-1-4757-2404-2, doi: 10.1007/978-1-4757-2402-8, pp. 17-42. Invited review. Dr. Afrin wrote the manuscript.

Software Development

Principal investigator and sole developer, MUSACT system <i>Medical University System for Accelerating Clinical Trials</i>	2011 - 2014
Principal investigator and sole developer, MUSC GME Office "RiDeR" system <i>Report for Identifying Delinquent Residents</i>	2011 - 2014
Principal investigator and sole developer, MUSC/HCC <i>Second Opinion Telemedicine Service</i>	2003 - 2005
Principal investigator and sole developer, MUSC/HCC <i>Support Group Webcasting Service</i>	2003 - 2005
Principal investigator and primary developer, MUSC-USC <i>Virtual Hallway for Promoting Inter-institutional Research Collaboration</i>	2003 - 2005

Principal investigator and primary developer, American Medical Informatics Association Internet Working Group Resource Library	2003 - 2007
Principal investigator and sole developer, MUSC/HCC <i>Coverage Tracking System</i>	2003 - 2014
Principal investigator and sole developer, MUSC/HCC <i>On-Line GME Resource Library</i>	2003 - 2007
Principal investigator and primary developer, MUSC <i>Clinical Protocol Point-of-Care Access System</i>	2003 - 2006
Principal investigator and sole developer, MUSC <i>Hollings Cancer Center Clinical Trial Discovery Web Service</i>	2003 - 2006
Project director, MUSC <i>E*Value (electronic residency management system) enterprise-wide deployment project</i>	2002 - 2014
Principal investigator and sole developer, MUSC <i>Hollings Cancer Center Central Entity Tracking database and associated applications</i>	2002 - 2005
Principal investigator and primary developer, MUSC <i>Hollings Cancer Center Clinical Trials Office database and associated applications</i>	2002 - 2005
Principal investigator and sole developer, MUSC <i>Graduate Medical Education Conference Attendance Tracking System</i>	2001 - 2014
Principal investigator and principal developer, MUSC <i>Hollings Cancer Center ConstructionCam</i>	2001 - 2004
Principal investigator and sole developer, MUSC <i>Hollings Cancer Center On-Line Tumor Board system</i>	2001 - 2014
Principal investigator and primary developer, MUSC <i>Hollings Cancer Center Breast Cancer Program database and associated applications</i>	2001 - 2006
Principal investigator and sole developer, MUSC <i>Tissue Bank database and associated applications</i>	2001 - 2006
Principal investigator and sole developer, "PalmOacis" <i>Tool for accessing the "Oacis" core MUSC clinical information system from handheld computing devices</i>	2000 - 2004
Principal investigator and sole developer, "PalmOversite"	2001 - 2004

Tool for accessing MUSC's "Oversite" ambulatory appointment scheduling system from handheld computing devices

Websites

MUSC Regimen-Specific Chemotherapy Consent Form Generator <i>Used for generation of all chemotherapy consent forms at MUSC (sole concept creator, sole software developer and maintainer)</i>	1993 - 2014
MUSC Physicians' Research Network (PRN) <i>Provided web-based access to all Hollings Cancer Center clinical trial protocols and related documents, (sole concept creator, lead software developer).</i>	1994 - 2004
ACT! – About Clinical Trials <i>sole concept creator and lead software developer</i>	1995 - 2000
Web-based Access to the ASH Teaching Images CD Library <i>Sole concept creator and software developer</i>	1996
MUSC Tumor Board Agenda Management System <i>Used for management of all MUSC tumor boards, sole concept creator, sole software developer and maintainer.</i>	1996 - 2014
MUSC Coverage Tracking System <i>Used by MUSC Hematology/Oncology for tracking coverage arrangements for physicians on leave, sole concept creator, sole software developer and maintainer.</i>	2000 - 2014
Medical University System for Accelerating Clinical Trials (MUSACT) <i>Used to manage the MUSC enterprise-wide trial-accrual-enhancement system, sole concept creator, sole software developer and maintainer.</i>	2011 - 2014
MUSC Hollings Cancer Center website <i>1st and 2nd iterations, concept creator, primary developer, project leader.</i>	1994 - 2005
MUSC Tissue Bank Management System <i>Used for management of the MUSC Hollings Cancer Center Tissue Bank, primary designer, sole programmer and maintainer.</i>	2001 - 2006
MUSC Conference Attendance Management System <i>Used for tracking attendance at conferences in selected (seven total) GME training programs, sole concept creator, sole developer and maintainer.</i>	2002 - 2014
MUSC GME Resource Library	2003 - 2007

Used for storage and organization of teaching papers and related documents by the MUSC Hematology/Oncology Fellowship Program, sole concept creator, sole developer and maintainer.

American Medical Informatics Association Internet Working Group Resource Library 2003 - 2007

Used for storage and organization of AMIA IWG documents

MUSC Support Group Webcasting System 2003 - 2005

Used for on-line video-based worldwide support groups, sole concept creator, principal designer, programmer, and maintainer.

MUSC Second Opinion Telemedicine Service 2003 - 2005

Used for facilitating second opinions with MUSC specialists, sole concept creator, sole developer and maintainer.

University of Minnesota Mast Cell Disease Program 2015 - present

<http://mastcell.umn.edu>.

Presentations

Invited Oral Presentations at International Professional Meetings, Conferences, etc.

“Mast Cell Activation Disease: Current Concepts.” June 15, 2024
(Online/virtual presentation.) DysCourse 2024, The Dysautonomia Project.

“Mast Cell Activation Disease: Current Concepts.” May 11, 2024
(Recorded presentation given virtually, followed by live Q&A.) Ehlers-Danlos Initiative e. V. of Germany.

“Mast Cell Activation Disease: Current Concepts.” February 10, 2024
Alpha-Gal Syndrome Virtual Symposium, organized by Tick-Borne Conditions United.

“Mast Cell Activation Disease: Current Concepts.” December 2, 2023
Lymphedema Seminars 2023 Workshop (virtual/online-only conference), organized by Lymphedema Seminars.

“Mast Cell Activation Disease: Current Concepts.” October 14, 2023
Lyme & Tick-Borne Diseases: Research & Clinical Advances 2023 (virtual/online-only conference), organized by the Lyme Disease Association and Columbia University.

“Mast Cell Activation Syndrome: Current Concepts.” April 5, 2023
Presentation to Sydney-area practitioners, Centred Function Centre, Sydney, New South Wales, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” April 5, 2023

Presentation to Royal North Shore Hospital, Sydney, New South Wales, Australia.

“Treatment of Mast Cell Activation Syndrome.” April 2, 2023

Presentation to Brisbane-area patients, Rydges Hotel, Brisbane, Queensland, Australia.

“Diagnosis of Mast Cell Activation Syndrome.” April 2, 2023

Presentation to Brisbane-area patients, Rydges Hotel, Brisbane, Queensland, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” April 2, 2023

Presentation to Brisbane-area patients, Rydges Hotel, Brisbane, Queensland, Australia.

“Treatment of Mast Cell Activation Syndrome.” April 1, 2023

Presentation to Brisbane-area practitioners, Rydges Hotel, Brisbane, Queensland, Australia.

“Diagnosis of Mast Cell Activation Syndrome.” April 1, 2023

Presentation to Brisbane-area practitioners, Rydges Hotel, Brisbane, Queensland, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” April 1, 2023

Presentation to Brisbane-area practitioners, Rydges Hotel, Brisbane, Queensland, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” March 31, 2023

Presentation to National Centre for Neuroimmunology and Emerging Diseases, Griffith University, Gold Coast, Queensland, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” March 30, 2023

Presentation to Adelaide-area practitioners, Marryatville Function Centre, Adelaide, South Australia, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” March 30, 2023

Presentation to Royal Adelaide Hospital, Adelaide, South Australia, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” March 29, 2023

Presentation to Australian Dysautonomia and Arrhythmia Research Collaborative, Integral Healthcare Adelaide, Adelaide, South Australia, Australia.

“Mast Cell Activation Syndrome: Current Concepts.” March 27, 2023

Presentation to Melbourne-area practitioners, Mercure Hotel North Melbourne, Melbourne, Victoria, Australia.

“Mast Cell Activation Syndrome: Introductory Concepts and Clinical Presentation.” November 13, 2022

*2022 Annual Meeting of the Medical Royal Colleges Association –
Cyprus, Amathus Beach Hotel, Limassol, Cyprus, – deferred to 2024.*

“Mast Cell Activation Syndrome: Diagnosis and Treatment.” November 13, 2022

*2022 Annual Meeting of the Medical Royal Colleges Association –
Cyprus, Amathus Beach Hotel, Limassol, Cyprus – deferred to 2024.*

“Mast Cell Activation Syndrome: Current Concepts.” July 11, 2022

*International Virtual Long-Covid Summit, hosted in Charleston, South
Carolina.*

**“Mast Cell Activation Syndrome: Introduction & Overlying
Concepts.”** June 23, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

“Mast Cell Activation Syndrome: Diagnosis.” June 23, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

**“Mast Cell Activation Syndrome: Overview of Treatment
Approaches.”** June 23, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

**“Causes and Management of Non-Hypermobility Growth Anomalies
in Mast Cell Activation and Related Disorders.”** June 24, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

“Mimics of Mast Cell Activation Syndrome.” June 25, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

**“Mast Cell Activation Syndrome: Use of Tyrosine Kinase
Inhibitors.”** June 25, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

“Mast Cell Activation Syndrome: History-Taking Techniques.” June 26, 2022

*Third Annual Workshop on Mast Cell Activation Syndrome, Briarcliff
Manor, New York.*

“Mast Cell Activation Disease: Current Concepts.” May 21, 2022

*Invited Presentation. International Society for Environmentally
Acquired Illness (ISEAI) Annual Meeting, Westminster, Colorado,
United States*

“Mast Cell Activation Disease: Current Concepts.” April 23, 2022

*Invited Presentation. Fat Disorders Resource Society (FDRS) Annual
Meeting, Cleveland, Ohio, United States*

- “Mast Cell Activation Disease: Current Concepts.”** February 7, 2022
Invited Virtual Presentation. Regional Centre for Asthma, Allergy and Hypersensitivity, University of North Norway, Tromsø, Norway.
- “Mast Cells in Modern Life: Physiology and Pathophysiology.”** October 23, 2021
Keynote Presentation, Annual Virtual Meeting of the Association for Promotion of Allergy and Endoscopy Research on Humans (<http://vaem.eu/>), hosted in Erlangen, Germany.
- “Mast Cell Activation Disease: Current Concepts.”** November 12, 2022
Invited Virtual Presentation. Australian Chronic Infectious and Inflammatory Disease Society (ACIIDS) Inaugural Meeting.
- “Mast Cell Activation Disease: Current Concepts.”** October 29, 2022
Invited Virtual Presentation. Annual Scientific Meeting (“POTS Unmasked”) of the Australia POTS Foundation.
- “Mast Cell Activation Disease: Current Concepts.”** August 21, 2021
Invited Clinical Workshop for Professionals at the Annual Virtual Meeting of the International Association for Chronic Fatigue Syndrome/Myalgic Encephalitis.
- “Mast Cell Activation Disease: Current Concepts.”** August 19, 2021
Invited Presentation for Patients’ Participation Day, Annual Virtual Meeting of the International Association for Chronic Fatigue Syndrome/Myalgic Encephalitis.
- “Mast Cell Activation Disease: Current Concepts.”** June 19-20, 2021
Virtual International Conference on Long Covid: Where Are We Now?, hosted in London, U.K.
- “Mast Cell Activation Disease: Current Concepts.”** November 7, 2020
Hypermobility Special Interest Group of Australia, virtual conference.
- “Might Some Cases of Hypermobility Ehlers-Danlos Syndrome Be Rooted in Mast Cell Activation Disease?”** October 3, 2020
The Ehlers-Danlos Society ECHO Summit 2020, virtual conference.
- “Mast Cell Activation Disease: Case Discussions and Practical Applications.”** November 28, 2019
Symposium on Mast Cell Activation Disease, Lübeck, Germany.
- “Diagnosis and Treatment of Mast Cell Activation Syndrome.”** November 28, 2019
Symposium on Mast Cell Activation Disease, Lübeck, Germany.
- “Mast Cell Activation Disease: Current Concepts.”** November 28, 2019
Symposium on Mast Cell Activation Disease, Lübeck, Germany.

- “Diagnosis and Treatment of Mast Cell Activation Disease.”** November 25, 2019
Myeloproliferative Neoplasms Conference Series, Division of Hematology/Oncology, University of Aachen, Aachen, Germany.
- “Mast Cell Activation Disease: Current Concepts.”** November 25, 2019
Grand Rounds, Division of Hematology/Oncology, University of Aachen, Aachen, Germany.
- “Mast Cell Activation Disease: Current Concepts.”** November 22, 2019
Grand Rounds, University of Ulster, Ulster, Northern Ireland.
- “Mast Cell Activation Disease: Current Concepts.”** November 20, 2019
Grand Rounds, Trinity College, Dublin, Ireland.
- “Mast Cell Activation Disease: Current Concepts.”** November 18, 2019
Grand Rounds, National University of Ireland Maynooth, Maynooth, Ireland.
- “Mast Cell Activation Disease: Current Concepts.”** November 17, 2019
2019 Annual Meeting of the Academy of Nutritional Medicine, London, U.K.
- “Mast Cell Activation Disease: Current Concepts.”** July 28, 2019
Webinar for the Australasian Chronic Infectious & Inflammatory Diseases Society (ACIIDS).
- “Mast Cell Activation Disease: Diagnosis and Treatment.”** November 5, 2017
ILC 5th Annual Ehlers Danlos & Chronic Pain Conference, Toronto, Canada.
- “Mast Cell Activation Disease: Basic Concepts.”** November 4, 2017
ILC 5th Annual Ehlers Danlos & Chronic Pain Conference, Toronto, Canada.
- “Mast Cell Activation Disease: Current Concepts.”** June 21, 2016
Webinar for EDS Awareness.
- “The Bulk of the Iceberg Revealed: Mast Cell Activation Syndrome.”** October 17, 2015
Presentation to patients, Wellcome Collection, London, UK.
- “The Bulk of the Iceberg Revealed: Mast Cell Activation Syndrome.”** October 17, 2015
Presentation to physicians, Wellcome Collection, London, UK.
- “Mast Cell Activation Disease: The Most Underconsidered Cause of Idiopathic Neurologic and Psychiatric Illness.”** October 14, 2015
Invited grand rounds at Department of Neurodegenerative Diseases, University Hospitals Bonn, Bonn, Germany.

- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** September 10, 2015
Invited grand rounds at Middlemore Hospital, Counties Manukau Health, Auckland, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** September 9, 2015
Invited grand rounds at Auckland City Hospital, Auckland District Health Board, Auckland, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** September 8, 2015
Invited grand rounds at Tauranga Hospital, Bay of Plenty District Health Board, Tauranga Hospital, Tauranga, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** September 4, 2015
Invited presentation at Waikato District Health Board, Waikato Hospital, Waikato, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** September 1, 2015
Invited presentation at Southern District Health Board, Invercargill Hospital, Invercargill, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 31, 2015
Department of Haematology, Dunedin Hospital, Dunedin, New Zealand.
- “Mast Cell Activation Disease: Case Discussions.”** August 30, 2015
Oamaru Medical Center, Oamaru, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 28, 2015
Invited grand rounds at Christchurch Hospital, Christchurch, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 26, 2015
Invited presentation at Capital and Coast District Health Board, Division of Hematology/Oncology, Wellington, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 25, 2015
Invited presentation at University of Otago – Wellington, Pathology Seminar, Wellington, New Zealand.
- “Systemic Mast Cell Disease: Challenging Cases.”** August 10, 2014
Invited discussant, 2014 Annual Congress, The Allergy Society of South Africa, Durban, South Africa.

- “Systemic Mast Cell Disease: An Update.”** August 9, 2014
Invited presentation at the 2014 Annual Congress, The Allergy Society of South Africa, Durban, South Africa.
- “Systemic Mast Cell Disease: An Update.”** August 6, 2014
Grand rounds, Division of Allergy and Immunology, University of Cape Town, Cape Town, South Africa.
- “Systemic Mast Cell Disease: An Update.”** June 6, 2011
Invited presentation at the University of Toronto Women’s College Hospital, sponsored by The Mastocytosis Society of Canada, Toronto, Ontario, Canada.
- “Linking Data to Knowledge at the Point of Care.”** June 6, 2011
2011 Oacis Users Group Meeting, Toronto, Ontario, Canada.
- “Noah, Redux: Preparing Clinicians for the Twin Information Tsunamis of the 21st Century.”** May 9, 2011
Keynote presentation, 2011 Canadian Conference on Medical Education, Toronto, Ontario, Canada.
- “Mast Cell Activation Disorder.”** December 8, 2010
5th International Workshop on Chronic Myelogenous Leukemia and Myeloproliferative Neoplasms, Orland, FL.
- “The Path to Progress Is Not Always a Straight Line: A Review of MUSC’s EMR Work (ca. 1970 - Present).”** June 4, 2008
Oacis User Group 2008 Annual Meeting, Montreal, Quebec.
- “Public Policy and Ethical Issues in Patient-Centered Applications and Mobile Health: Use of Information Technology to Promote Disease Management and Wellness.”** August 19, 2007
MedInfo 2007 (triennial meeting of the International Medical Informatics Association), Brisbane, Australia.
- “Carts and Horses: Questing for Interoperability Among U.S. Electronic Medical Record Systems While Still Struggling for Operability.”** August 14, 2007
Oacis User Group 2007 Annual Meeting, Adelaide, Australia.
- “Improved Patient Support through Support Group Webcasting: A Feasibility Assessment.”** January 5, 2005
Thirty-Eighth Annual Hawaii International Conference on Systems Sciences, Waikoloa, Hawaii.
- “How to Implement an Electronic Residency Management System: from Soup to Nuts.”** April 18, 2004
2004 Annual Meeting of the Association of American Medical Colleges’ Group on Resident Affairs, Vancouver, BC.

Invited Oral Presentations at National Professional Meetings, Conferences, etc.

- “Mast Cell Activation Disease: Current Concepts.”** August 22, 2020
A4M/Metabolic Medical Institute Symposium on Longevity, Aging, and Immunocompetency 2020, virtual conference.
- “Mast Cell Activation Disease: Current Concepts.”** April 4, 2020
Environmental Health Symposium 2020, virtual conference.
- “Update in Mast Cell Activation Disease Vis-à-vis Tick-Borne Diseases.”** November 2, 2019
2019 Annual Meeting of the International Lyme and Associated Diseases Society (ILADS), Boston, MA.
- “Mast Cell Activation Disease: Foundation and Application in Tick-Borne Disease Management.”** September 21, 2019
2019 LivLyme Summit, Westminster, CO.
- “Mast Cell Activation Syndrome: Current Concepts and Key Diagnostic Laboratory Issues.”** April 26, 2019
Robert Wood Johnson University Hospital, New Brunswick, NJ.
- “Mast Cell Activation Syndrome: Severe, Complex, and Life-Threatening Manifestations.”** April 13, 2019
Session Moderator, 2019 Mast Cell Activation Syndrome and Comorbidities Workshop, Broomfield, CO.
- “Mast Cell Activation Syndrome: Treatment Pearls.”** April 13, 2019
2019 Mast Cell Activation Syndrome and Comorbidities Workshop, Broomfield, CO.
- “Mast Cell Activation Syndrome: First Class vs. Economy Approach in Diagnosis and Treatment.”** April 13, 2019
2019 Mast Cell Activation Syndrome and Comorbidities Workshop, Broomfield, CO.
- “Mast Cell Activation Syndrome: Laboratory and Pathology Pearls.”** April 11, 2019
2019 Mast Cell Activation Syndrome and Comorbidities Workshop, Broomfield, CO.
- “Review of MCAS-Related Research, 2018.”** April 11, 2019
2019 Mast Cell Activation Syndrome and Comorbidities Workshop, Broomfield, CO.
- “Mast Cell Activation Disease: Foundation and Application in Tick-Borne Disease Management.”** November 2, 2018
2018 Annual Meeting of the International Lyme and Associated Diseases Society (ILADS), Chicago, I.
- “Mast Cell Activation Syndrome: Illustrative Cases.”** October 6, 2018

*2018 Annual Meeting of the American Academy of Environmental
Medicine, Westminster, CO.*

**“Mast Cell Activation Disease: Current Concepts (including some
notes on environmental sensitivities).”** October 6, 2018

*2018 Annual Meeting of the American Academy of Environmental
Medicine, Westminster, CO.*

“Endotypes of Mast Cell Activation Syndrome.” September 7, 2018
*Mast Cell Activation Disease Workshop, National Institutes of Health,
Rockville, MD.*

“Development of a Multisystem Diseases Network.” February 4, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Light Bulb Moments in MCAS Management.” February 3, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Especially Challenging MCAS Patients – Part 2.” February 3, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Especially Challenging MCAS Patients – Part 1.” February 3, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Unique Aspects of Clinical Workups for MCAS.” February 3, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Clinical Evaluation of a Suspected MCAS Patient.” February 3, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“The Nuts and Bolts of an MCAS Clinical Practice.” February 2, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“MCAS 102: Diagnosis and Treatment.” February 2, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“Mast Cell Biology in Health and Disease.” February 2, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

“MCAS 101: Basic Principles.” February 2, 2018
*Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas,
CA.*

- “Never Bet Against Occam: My Mast Cell Odyssey.”** February 1, 2018
Mast Cell Activation Syndrome Workshop, The Commonweal, Bolinas, CA.
- “MCAS 102: Diagnosis and Treatment.”** September 15, 2017
Often Seen, Rarely Recognized: Ehlers Danlos Syndrome, Complex Regional Pain Syndrome, and Mast Cell Activation Syndrome, St. Cloud, MN.
- “MCAS 101: Basic Principles.”** September 15, 2017
Often Seen, Rarely Recognized: Ehlers Danlos Syndrome, Complex Regional Pain Syndrome, and Mast Cell Activation Syndrome, St. Cloud, MN.
- “Mast Cell Activation Disease: Current Concepts and Progress.”** June 10, 2017
Physicians learning session, EDS Awareness 2017, Middleburg, VA.
- “Mast Cell Activation Disease: Current Concepts.”** April 30, 2017
Invited talk to patients, Wellpalooza 2017, Middleburg, Virginia.
- “Mast Cell Activation Disease: Current Concepts.”** July 16, 2016
Dysautonomia International, 2016 Annual Meeting, Washington, DC.
- “Mast Cell Activation Disease: Current Concepts and Progress.”** June 12, 2016
Physicians learning session, Wellpalooza 2016, Columbia, Maryland.
- “Mast Cell Activation Disease: Current Concepts.”** June 11, 2016
Invited talk to patients, Wellpalooza 2016, Columbia, Maryland.
- “The Bulk of the Iceberg Revealed: Mast Cell Activation Syndrome.”** December 3, 2015
Invited grand rounds, Department of Pediatrics, Florida Hospital for Children, Orlando, Florida.
- “Mast Cell Activation Syndrome: 2014 Update.”** September 19, 2014
The Mastocytosis Society, 2014 Annual Meeting, Rochester, MN.
- “Automated Assistance to Less Compliant Duty-Hour Loggers - 2013 Update.”** October 11, 2013
*Annual E*Value Users Conference, Minneapolis, MN.*
- “Mast Cell Activation Syndrome.”** October 30, 2013
Grand Rounds, Division of Hematology/Oncology, Vanderbilt University, Nashville, TN.
- “Mast Cell Activation Syndrome.”** October 2, 2013
Grand Rounds, Division of Hematology/Oncology, University of Miami, Miami, FL.
- “Mast Cell Activation Syndrome: Characterization of 298 Patients.”** September 27, 2013
The Mastocytosis Society, 2013 Annual Meeting, Greenville, SC.

- “Mast Cell Activation Syndrome: Approach to Diagnosis.”** September 27, 2013
The Mastocytosis Society, 2013 Annual Meeting, Greenville, SC.
- “Update in Chronic Myeloproliferative Neoplasms.”** August 2013
Invited presentation to the South Carolina Oncology Society, 2013 Annual Meeting, Charleston, SC.
- “Mast Cell Activation Syndrome.”** October 12, 2012
The Mastocytosis Society, 2012 Annual Meeting, Seattle, WA.
- “Mast Cell Activation Syndrome.”** October 27, 2011
Invited panel discussant, 2011 Annual Meeting of The Mastocytosis Society, Boston, MA.
- “An Enhanced Resident Duty Hour Logging Warning System.”** October 14, 2011
*2011 E*Value Users Group Meeting, Minneapolis, MN.*
- “Improved GME Enterprise Management Using E*Value Dashboard Reports.”** October 7, 2010
*E*Value Annual User Conference, Minneapolis, MN.*
- “Interfacing Third-Party Conference Attendance Tracking Systems to E*Value.”** October 7, 2010
*E*Value Annual User Conference, Minneapolis, MN.*
- “Not a Common Drug Overdose: Severe GI Toxicity from Aripiprazole due to a Cytochrome p450 2D6 Polymorphism.”** October 16, 2009
(presented by Aravapalli A), Southern Hospital Medicine Conference, New Orleans, LA.
- “The Bane of the Modern Clinician: Bridging the Data-Knowledge Divide.”** April 27, 2009
Invited keynote address, Oacis User Group 2009 Annual Meeting, Charleston, SC.
- “Using a Support Group Webcasting Service: Experiences of Patients and Caregivers with Implantable Defibrillators.”** October 21, 2005
(Finch N (presenting), Afrin LB.) Proceedings of the Florida International University School of Nursing’s Annual Research Conference: Improving Health Care Quality Through Research, Miami, FL.
- “Improved Inter-Institutional Research Collaboration via a Virtual Hallway.”** April 19, 2005
2005 Annual Symposium of the American Telemedicine Association, Denver, CO.
- “Improved Patient Support through Support Group Webcasting: A Feasibility Assessment.”** April 20, 2005
2005 Annual Symposium of the American Telemedicine Association, Denver, CO.

- “Electronic Residency Management System Implementation from Soup to Nuts.”** October 16, 2004
2004 Annual Meeting of the Alliance for Academic Internal Medicine, , Nashville, TN.
- “Rapid Development of Mobile Applications: Theory and Practice.”** September 7, 2004
American Medical Informatics Association 2004 Annual Symposium (tutorial), San Francisco, CA.
- “Open EMR Architecture Advantages for Clinical Trial Accrual.”** May 25, 2004
Oacis User Group 2004 Annual Meeting, San Francisco, CA,
- “Electronic Residency Management System Implementation from Soup to Nuts.”** May 3, 2004
2004 Annual Meeting of the Association of American Medical Colleges’ Group on Information Resources, Salt Lake City, UT.
- “Open Electronic Medical Record Architecture Running on the Sun Platform: A Case Study.”** February 25, 2004
Health Information Management Systems Society 2004 Annual Symposium, Orlando, FL.
- “Web Services-Based Access to Local Clinical Trial Databases: A Standards Initiative of the Association of American Cancer Institutes.”** November 10, 2003
(Stahl DC (presenting), Evans Jr. RM, Afrin LB, DeTeresa RM, Ko D, Mitchell K.) Annual Symposium of the American Medical Informatics Association, Proc Amer Med Info Assoc, Washington, D.C.
- “Open EMR Architecture Advantages for Clinical Trial Accrual.”** November 10, 2003
American Medical Informatics Association 2003 Annual Symposium, Washington, DC.
- “Rapid Development of Mobile Applications: Theory and Practice.”** November 9, 2003
American Medical Informatics Association 2003 Annual Symposium (tutorial), Washington, DC.
- “Open EMR Architecture Advantages for Clinical Trial Accrual.”** May 13, 2003
Toward an Electronic Patient Record (TEPR) 2003 Annual Meeting, San Antonio, TX.
- “Open Architecture Advantages for EMR-PACS Integration.”** May 12, 2003
Toward an Electronic Patient Record (TEPR) 2003 Annual Meeting, San Antonio, TX.
- “Building Dynamic, Enterprise Resource-Integrated Web Applications: Theory and Practice with ColdFusion,”** November 9, 2002
Medical Informatics Association 2002 Annual Symposium (tutorial), San Antonio, TX.
- “Rapid Development of Mobile Applications: Theory and Practice,”** November 10, 2002

American Medical Informatics Association 2002 Annual Symposium (tutorial), San Antonio, TX.

“Automation-Based Methods of Finding Patients for Clinical Trials,” May 20 - 22, 2002

American Medical Informatics Association 2002 Spring Symposium, Invited Expert/Facilitator on Clinical Trials Informatics, Scottsdale, AZ.

“Using eTechnologies to Add Value for the Clinical Trial Investigator,” September 10-12, 2001

Second Annual Conference on Web-Based Clinical Trials: Apply Wireless and Internet Technologies to Improve Trial Efficiency, Philadelphia, PA.

“Rapid Development of Mobile Applications: Theory and Practice,” November 4, 2001

American Medical Informatics Association 2001 Annual Symposium (tutorial), Washington, DC.

“Oacis at MUSC: Our Emerald Centerstone,” April 13, 1999

Keynote presentation, Oacis Healthcare User Group 1999 Annual Meeting, Kiawah Island, SC.

“Open Architecture EMR Technologies.” March 16, 1999

PACS: A “How To” Conference. Charleston, SC.

“Information Technology and Doctors.” March 11, 1999

Maryland Society of Healthcare Information Systems Management, Baltimore, MD.

“Using Cold Fusion as an Application Development Tool in Healthcare.” November 10, 1998

Internet Working Group, American Medical Informatics Association 1998 Annual Symposium, Orlando, FL.

“Protein A Column.” August 18 - 19, 1997

Workshop on Autoimmune (Idiopathic) Thrombocytopenic Purpura: Pathogenesis and New Approaches to Therapy, sponsored by the National Heart, Lung, and Blood Institute of the National Institutes of Health, Bethesda, Maryland.

“Healthcare Information Security and Confidentiality.” March 21, 1996

Panelist, Offsite Conference of the Healthcare Information Infrastructure Technology program, Jekyll Island, GA.

“Physicians Research Network (PRN) Security.” March 21, 1996

Presentation at Offsite Conference of the Healthcare Information Infrastructure Technology program, Jekyll Island, GA.

“Research Uses of Clinical Data Repositories: Panning for Gold in Them Thar Terabytes.” March 9, 1996

Oacis Healthcare Systems, Inc.-sponsored Conference on Academic Uses of Clinical Data Repositories, Greenbrae, CA.

“The Physicians Research Network: A World-Wide Web Interface to the OACIS Clinical Data Repository.” May 4, 1996
OACIS Quality Council Spring 1996 meeting, Pasadena, CA.

Invited Oral Presentations at Local and Regional Professional Meetings, Conferences, etc.

“Mast Cell Activation Syndrome in Pregnancy.” February 22, 2022
Invited Discussant at Maternal-Fetal Medicine Case Conference, Columbia University, New York, NY.

“Mast Cell Activation Disease: Current Concepts.” February 3, 2022
Invited Virtual Grand Rounds Presentation. SSM Neurosciences Institute, Fenton, Missouri, United States.

“Mast Cell Activation Disease: Current Concepts.” June 10, 2021
Johns Hopkins Interdisciplinary POTS Clinic Conference Series, by video.

“Mast Cell Activation Disease: Current Concepts.” October 14, 2019
Jupiter Medical Center Continuing Medical Education Conference Series, Jupiter, FL.

“Mast Cell Activation Disease: Current Concepts.” October 13, 2019
Florida Atlantic University, Jupiter, FL.

“Mast Cell Activation Disease: Current Concepts.” December 4, 2018
Provider/patient education event organized by Dr. Sunny Raleigh of Restoration Healthcare, Ayers Hotel, Costa Mesa, CA.

“Mast Cell Activation Disease: Current Concepts.” October 26, 2018
2018 Annual Meeting of the Michigan State Medical Society, Novi, MI.

“Mast Cell Activation Disease: Current Concepts.” January 5, 2018
Grand Rounds, Department of Psychiatry, University of Vermont, Burlington, VT.

“Mast Cell Disease: Current Concepts and Progress.” July 7, 2017
Department of Orthopedic Surgery Grand Rounds, University of Minnesota, Minneapolis, MN.

“Mast Cell Disease: Current Concepts and Progress.” Apr 13, 2017
St. Cloud Hospital Grand Rounds, St. Cloud, MN.

“Mast Cell Disease: Current Concepts and Progress.” April 18, 2016

Department of Medicine Research Conference Series, University of Minnesota, Minneapolis, MN.

- “Mast Cell Activation Disease: Concepts and Progress.”** January 22, 2016
Garibaldi Lecture Series, Division of Hematology, Oncology & Transplantation, University of Minnesota, Minneapolis, MN.
- “The New Kid on the Mast Cell Disease Block: Mast Cell Activation Syndrome and its Emergency Management.”** June 6, 2013
Emergency Medicine Grand Rounds, Medical University of South Carolina, Charleston, SC.
- “Anemia: Basic Considerations.”** September 18, 2012
Grand Rounds, Department of Obstetrics & Gynecology, Medical University of South Carolina, Charleston, SC.
- “Systemic Mast Cell Disease: An Update.”** January 18, 2012
Nephrology Research Group, Medical University of South Carolina, Charleston, SC.
- “Systemic Mast Cell Disease: An Update.”** April 15, 2011
Division of Hematology/Oncology Grand Rounds, Medical University of South Carolina.
- “Mast Cell Activation Disorder.”** August 6, 2010
Division of Rheumatology Grand Rounds, Medical University of South Carolina, Charleston, SC.
- “Hot Topics in Medical Informatics: 2005.”** May 17, 2005
Internal Medicine Grand Rounds, Medical University of South Carolina, Charleston, SC.
- “Electronic Systems for Tumor Board Management and Tumor Registry Data Mining at MUSC,”** April 3, 2003
South Carolina Cancer Registrars Association Spring 2003 Educational Conference, Charleston, SC.
- “Use of PDAs in Learning and Teaching,”** March 5, 2003
MUSC Apple Tree Society, Charleston, SC.
- “Medical Informatics Update 2001: Pleasure, Pain, and Promises,”** September 18, 2001
Medical University of South Carolina Department of Internal Medicine Grand Rounds, Charleston, SC.
- “Management of Hormone-Refractory Prostate Cancer: 2001,”** January 4, 2001.
University of South Carolina Department of Internal Medicine Grand Rounds, Richland Memorial Hospital, Columbia, SC.
- “Computer and Internet Skills for Physicians.”** March 26, 1999
Twenty-First Annual Carolina Cup Symposium: Update ‘99 in Clinical Pediatrics and Family Medicine, Columbia, SC.

- “Management of Androgen-Independent Prostate Cancer,”** August 21, 1999
Speaker and panelist, Prostate Cancer Forum, Carolina Urological Association Meeting, Charleston, SC.
- “The Search for Signs of Intelligent Data on the Net: Tips for Clinicians on Locating Useful On-Line Biomedical Information.”** June 24, 1998
The South Carolina Cancer Center, Columbia, SC.
- “Web-Based Clinical Trials Information for Patients and the Public.”** June 19, 1998
Hollings Cancer Center Citizens Advisory Council, Hollings Cancer Center, Medical University of South Carolina, Charleston, SC.
- “Web-Based Clinical Trials Information for Patients and the Public.”** June 16, 1998
Research Committee, Institute of Psychiatry, Medical University of South Carolina, Charleston, SC.
- “Web-Based Clinical Trials Information for Patients and the Public.”** June 12, 1998
Hollings Cancer Center Board of Directors, Hollings Cancer Center, Medical University of South Carolina, Charleston, SC.
- “Tumor Boards on the Intranet: Decreasing Administration, Increasing Education.”** March 26, 1998
South Carolina Cancer Registrars Association, Spring Educational Conference, Shaw Air Force Base, Columbia, SC.
- “The Search for Signs of Intelligent Data on the Net: Tips for Clinicians on Locating Useful On-Line Biomedical Information.”** October 14, 1997
Research Grand Rounds, Medical University of South Carolina, Charleston, SC.
- “Medicine and the Net: 1997.”** August 28, 1997
Montgomery Cancer Center Lecture Series, Capital City Club, Montgomery, AL.
- “ACT! — About Clinical Trials!”** June 26, 1997
Presentation and Interview on the Midday Show, WCSC-TV (Channel 5), Charleston, SC.
- “Information Systems at the Hollings Cancer Center.”** June 13, 1997
Presentation to the Hollings Cancer Center’s Board of Directors and Citizens Advisory Committee, Hollings Cancer Center, Charleston, SC.
- “Internet-Based Access to Clinical Data.”** April 30, 1997

Spring 1997 Conference of the South Carolina Health Information Management Association, Ralph H. Johnson Veterans Affairs Medical Center, Charleston, SC.

“Improving Access to Clinical Data: Applications of Internet Technology in Intranet Environments.” January 24, 1997

Hematology/Oncology Grand Rounds, University of Alabama at Birmingham Comprehensive Cancer Center, Birmingham, AL.

“Medicine and the Net: 1996.” September 27, 1996

Second Annual Symposium of the Diabetes Initiative of South Carolina. Presentation at the Mills House Hotel, Charleston, SC.

“Electronic Systems for Medical Records and Clinical Trials: Integration Possibilities and Realities.” August 8, 1996

Presentation at City of Hope National Medical Center, Duarte, CA.

Interesting Times Ahead: Integrating Technology into the Oncologist’s Day-to-Day Practice.” August 8, 1996

Presentation at City of Hope National Medical Center, Duarte, CA.

“The Physicians Research Network: Potential Applications in Psychiatry.” July 8, 1996

Medical University of South Carolina Institute of Psychiatry, Charleston, SC.

“The Physicians Research Network.” June 24, 1996

Hollings Cancer Center External Scientific Advisory Board, Charleston, SC.

“Medicine and the Net: 1996.” April 9, 1996

Medical University of South Carolina Department of Internal Medicine Grand Rounds presentation, Charleston, SC.

“The Physicians Research Network in the Multi-Center Clinical Trial Environment.” March 23, 1996

Presentation at the Carolinas Childrens Cancer Consortium Spring Meeting, Charleston, SC.

“Advanced Use of the Internet for Clinical Purposes” March 3-5, 1995

Panelist, 1995 South Carolina AHEC (Area Health Education Consortium) Annual Meeting/Family Practice Residents Meeting, North Myrtle Beach, SC.

“Engineering, Expression, and Characterization of Oligohistidine-Tagged Ricin B Chain,” September 25, 1994

Annual Meeting of the South Carolina Chapter of the American College of Physicians, Kiawah Island, SC.

“Engineering, Expression, and Characterization of Oligohistidine-Tagged Ricin B Chain,” May 13, 1994

February 12, 2024

Associates Research Competition of the South Carolina Chapter of the American College of Physicians, Charleston, SC. (First prize.)

“Clinical Points: Male Breast Cancer.”

October 24, 1989

Department of Medicine Grand Rounds, Medical University of South Carolina, Charleston, SC.

Peer-reviewed Oral Presentations at Professional Meetings, Conferences, etc.

Masitinib for the Treatment of Severely Symptomatic Indolent and Smoldering Systemic Mastocytosis: A Randomized, Placebo-Controlled, International Phase 3 Study

December 8, 2016

Hermine O, Bulai Livideanu C, Paul C, Guillet G, Jassem E, Nidoszytko M, Barete S, Verstovsek S, Grattan C, Damaj G, Canioni D, Fraitag S, Lhermitte L, Georgin Laviaille S, Afrin LB, Agopian J, Hanssens K, Kinet J-P, Auclair C, Mansfield C, Moussy A, Dubreuil P, Lortholary O. Journees Dermatologiques de Paris 2016, to be orally presented in Paris, France, December 8, 2016. Dr. Afrin’s roles: Co-investigator, edited/reviewed manuscript.

Masitinib for the Treatment of Severely Symptomatic Indolent and Smoldering Systemic Mastocytosis: A Randomized, Placebo-Controlled, International Phase 3 Study

June 12, 2016

Hermine O, Bulai Livideanu C, Paul C, Guillet G, Jassem E, Nidoszytko M, Barete S, Verstovsek S, Grattan C, Damaj G, Canioni D, Fraitag S, Lhermitte L, Georgin Laviaille S, Afrin LB, Agopian J, Hanssens K, Kinet J-P, Auclair C, Mansfield C, Moussy A, Dubreuil P, Lortholary O. Eur Hematol Assoc 2016, Abstract S828, orally presented in Copenhagen, Denmark. Dr. Afrin’s roles: Co-investigator, edited/reviewed manuscript.

Phase 2 Trial of Intracycle Sequential Ofatumumab and Lenalidomide for the Treatment of Relapsed and Refractory Chronic Lymphocytic Leukemia

December 2012

Costa LJ, Fanning SR, Stephenson JJ, Afrin LB, Stuart RK, Bentz TA, Salzer S, Whirley R, Sanders C. Blood 2012 Dec;120:3933a (Am Soc Hematol 2012 Annu Mtg, orally presented abstract). Dr. Afrin’s roles: Co-investigator, provided care for patient in trial, reviewed manuscript.

Efficacy, Hematologic Effects, and Dose of Ruxolitinib in Myelofibrosis Patients with Low Starting Platelet Counts (50–100 x 10⁹/L): A Comparison to Patients With Normal or High Starting Platelet Counts

December 2012

Talpaz M, Paquette R, Afrin L, Hamburg S, Jamieson K, Terebelo H, Ortega G, Lyons R, Tiu R, Winton E, Natarajan K, Odenike O, Peng W, O’Neill P, Erickson-Viitanen S, Leopold L, Sandor V, Levy R, Kantarjian H, and Verstovsek S. . Blood 2012 Dec;120:176a (Am Soc Hematol

2012 Annu Mtg, orally presented abstract). Dr. Afrin's roles: Local trial principal investigator, reviewed manuscript.

Preliminary safety and efficacy from a Phase II study of ruxolitinib in patients with primary and secondary myelofibrosis with platelet counts of 50-100x10⁹/L

June 2012

Talpaz M, Hamburg SI, Jamieson K, Terebelo HR, **Afrin L**, Winton EF, Scola MA, Lyons RM, Harvey JH, Holmes CE, Ortega GL, Prchal JT, Silver RT, Baer MR, Erickson-Viitanen S, O'Neill P, Peng W, Leopold L, Kantarjian H, Verstovsek S. *Haematologica* ;97(s1):245 (abstract 0597, Eur Hematol Assoc 2012 Annu Meeting). Dr. Afrin's roles: Local trial principal investigator, reviewed manuscript.

Not a Common Drug Overdose: Severe GI Toxicity from Aripiprazole due to a Cytochrome p450 2D6 Polymorphism

October 16, 2009

Aravapalli A, Meyers K, **Afrin L**, Comerford L. Southern Hospital Medicine Conference, New Orleans, LA. Dr. Afrin's roles: Identifying the diagnosis, reviewing the manuscript.

Clinical phase II trial for the treatment of recurrent head and neck cancers with gemcitabine and doxorubicin combination: from the sphingolipid-signaling bench to the bedside.

November 16, 2007

Shirai, K, O'Brien P, **Afrin L**, Day TA, Gillespie B, Sharma A, Wilhoit C, Saddoughi S, Senkal CE, Hannun YA, Ogretmen B, Chaudhary U. Presented at the 2007 Annual Hollings Cancer Center Research Retreat, Charleston, SC. Dr. Afrin's roles: Trial co-investigator, provided care for patient in trial, manuscript review.

Patient-centered applications and mobile health: use of information technology to promote disease management and wellness – a white paper by the American Medical Informatics Association's Knowledge in Motion Working Group.

August 19-24, 2007

Demiris G, **Afrin LB**, Courtney KL, Goossen W, Lovis C, Lynch C, Sondhi M, Speedie S, Vimarlund V. Proc Intl Med Info Assoc 2007, workshop presentation (Aug 19) at MedInfo 2007, Brisbane, Australia. Dr. Afrin's roles: Preparation of a portion of the manuscript and presenter at workshop.

Using a Support Group Webcasting Service: Experiences of Patients and Caregivers with Implantable Defibrillators.

November 14, 2005

Finch N, **Afrin LB**. Sigma Theta Tau Honor Society of Nursing 38th Biennial Convention, Indianapolis, IN. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, preparation of a portion of the manuscript.

Using a Support Group Webcasting Service: Experiences of Patients and Caregivers with Implantable Defibrillators

October 21, 2005

Finch N, **Afrin LB**. Proceedings of the Florida International University School of Nursing's Annual Research Conference: Improving Health

Care Quality Through Research, Miami, FL. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, preparation of a portion of the manuscript.

Support Group Webcasting: A Feasibility Assessment

2005

Afrin LB, Greenland J, Finch N. 2005 Annual Symposium of the American Medical Informatics Association. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, manuscript preparation.

Improved Inter-Institutional Research Collaboration via a Virtual Hallway

April 19, 2005

Afrin LB, Fowler S. 2005 Annual Symposium of the American Telemedicine Association, Denver, CO. Dr. Afrin's roles: Sole concept creator, software/hardware developer and maintainer, data acquisition, manuscript preparation.

Improved Patient Support through Support Group Webcasting: A Feasibility Assessment

April 20, 2005

Afrin LB, Greenland J, Finch N. 2005 Annual Symposium of the American Telemedicine Association, Denver, CO. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, manuscript preparation.

Telemedicine-Based Access to Second Opinions for the Elderly.

April 18-19, 2005

Afrin L, Greenland J, Brown A, Frankis M, Strange C. 2005 Annual Symposium of the American Telemedicine Association, Denver, CO. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, manuscript preparation.

Using a Support Group Webcasting Service: Experiences of Patients and Caregivers with Implantable Defibrillators

February 26, 2005

Finch N, Afrin LB. Sigma Theta Tau Honor Society of Nursing, Annual South Carolina Chapter Meeting, Columbia, SC. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, preparation of a portion of the manuscript.

Improved Patient Support through Support Group Webcasting: A Feasibility Assessment

January 5, 2005

Afrin LB, Greenland J, Finch N (2005). Proceedings of the Thirty-Eighth Annual Hawaii International Conference on Systems Sciences, 2005:138, Waikoloa, HI.

Telemedicine-Based Access to Second Opinions for the Elderly

September 2004

Afrin L, Greenland J, Brown A, Frankis M, Strange C. 2004 Annual Symposium of the American Medical Informatics Association, San Francisco, CA. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, manuscript preparation.

Web Services-Based Access to Local Clinical Trial Databases: A Standards Initiative of the Association of American Cancer Institutes.
Stahl DC, Evans Jr. RM, Afrin LB, DeTeresa RM, Ko D, Mitchell K. Annual Symposium of the American Medical Informatics Association, Proc Amer Med Info Assoc, Washington, D.C., (nominated for “Best Paper – Applied Informatics” award). Dr. Afrin’s role: concept creator, project co-director, local software developer, manuscript preparation.

November 10, 2003

Open EMR Architecture Advantages for Clinical Trial Accrual
Afrin LB, Oates JC, Daniels MS. Annual Symposium of the American Medical Informatics Association, Proc Amer Med Info Assoc, Washington, D.C. (nominated for “Best Paper – Applied Informatics” award). Dr. Afrin’s roles: Concept creator, project director, data acquisition, manuscript preparation.

November 10, 2003

Open Architecture Advantages for EMR-PACS Integration
Afrin LB, Daniels MS. Toward an Electronic Patient Record (TEPR) 2003 Annual Meeting, San Antonio, TX. Dr. Afrin’s role: Enterprise project facilitator, manuscript preparation.

May 12, 2003

Open EMR Architecture Advantages for Clinical Trial Accrual
Afrin LB, Oates JC, Daniels MS. Toward an Electronic Patient Record (TEPR) 2003 Annual Meeting, San Antonio, TX. Dr. Afrin’s role: Concept creator, project director, data acquisition, manuscript preparation.

May 13, 2003

Feasibility of Direct Patient Use of PDA-Based Surveys.
Afrin LB. American Medical Informatics Association 2001 Annual Symposium, Washington, DC (invited for re-presentation at Healthcare Information Systems Society 2002 Annual Symposium, January 2002, Atlanta, GA).

November 5, 2001

How Useful is the Web for Clinical Trial Accrual? Three Years of Experience with ACT!
Afrin LB, Shaban S (doctoral student), Adelman C, et al. American Medical Informatics Association 2000 Annual Symposium, Los Angeles, CA. Dr. Afrin’s roles: Sole concept creator, principal software developer and maintainer, data acquisition, manuscript preparation.

2000

Tumor Boards on the Intranet: Streamlining Administrative Tasks and Improving Tumor Board Educational Value
Afrin LB. American Medical Informatics Association, Spring 1997 Congress, slide presentation, San Jose, California.

May 30, 1997

Improving Care for Cancer Patients: Customized Chemotherapy Consent Forms On-The-Fly.
Afrin LB. American Medical Informatics Association, Spring 1997 Congress, slide presentation, San Jose, California.

May 30, 1997

The Physicians Research Network (PRN): Paperless Protocol Distribution for Clinical Trials

June 7, 1996

Afrin L, Kuppaswamy V, Slater B, Stuart R. American Medical Informatics Association, Spring 1996 Congress, slide presentation, Kansas City, Missouri. Dr. Afrin's roles: Sole concept creator, sole software developer and maintainer, data acquisition, manuscript preparation.

Poster Abstract Presentations at Professional Meetings, Conferences, etc.

Small intestinal bacterial overgrowth in mast cell activation syndrome.

October 28, 2019

Weinstock L, Brook J, Kaleem Z, Afrin L, Molderings G. Amer Coll Gastroenterol Annual Meeting, San Antonio, TX. Am J Gastroenterol 2019 Oct;114:S670 (abs. 1194), DOI: 10.14309/01.ajg.0000594304.61014.c5. Dr. Weinstock conceived of the project and was the principal worker and writer on the project; the authors contributed additional work and reviewed the abstract and the poster.

Characterization of Mast Cell Activation Syndrome

December 5, 2016

Afrin LB, Self S, Menk J, Lazarchick J. Amer Soc Hematol Annual Meeting, San Diego, CA. Blood 2016;128:3683. Dr. Afrin conceived of the project and was the principal worker and writer on the project; the other co-authors contributed additional work and reviewed the abstract and poster.

Preliminary safety and efficacy of ruxolitinib in myelofibrosis patients with thrombocytopenia

June, 2012

Talpaz M, Hamburg SI, Jamieson K, Terebelo HR, Afrin L, Winton EF, Scola MA, Lyons RM, Harvey JH, Holmes CE, Ortega GL, Prchal JT, Silver RT, Baer MR, Erickson-Viitanen S, O'Neill P, Peng W, Leopold L, Kantarjian H, Verstovsek S. J Clin Oncol 2012 Jun;30:15(May 20 suppl):6630a (Am Soc Clin Oncol 2012 Annual Meeting). Dr. Afrin's roles: Local trial principal investigator, cared for patients in trial, manuscript review.

Getting under his skin: a 19-year-old male with a progressive rash, malaise and weight loss

February 10, 2012

Knackstedt T (resident), Afrin L. Poster presentation (#33), Soc Gen Int Med 2012 Annu Mtg, New Orleans, LA. Dr. Afrin's roles: Supervised resident in patient care, reviewed/edited abstract and poster.

Serum C18-ceramide as a biomarker for response: Phase II trial of gemcitabine plus doxorubicin in patients with HNSCC

July, 2011

Shirai K, Saddoughi S, O'Brien PE, Afrin L, Garrett-Mayer E, Simon GR, Chaudhary UB, Ogretmen B. Poster presentation, Am Soc Clin Oncol 2011 Annu Mtg. Dr. Afrin's roles: Trial co-investigator, provided care for patients in trial, reviewed abstract.

- Mast cell activation disorder (MCAD): an unusual cause of secondary osteoporosis in men** April 13-17, 2011
Gore AP (fellow), Alele J, Afrin LB. Poster presentation, Am Assoc Clin Endocrinol 2011 Annu Mtg, San Diego, CA. Dr. Afrin's roles: Supervised fellow in patient care, reviewed/edited abstract and poster.
- 2004 Annual Meeting of the Association of American Medical Colleges' Group on Information Resources** May 3, 2004
Afrin LB., Salt Lake City, UT.
- DeTMan: A Decision Tree Manager for Web and PDA Environments** November 11, 2003
Afrin LB. American Medical Informatics Association 2003 Annual Symposium, Washington, DC.
- Scanning In Versus Signing In: More Efficient Tracking of Resident Conference Attendance** November 1 - 5, 2003
Cancellaro TA (resident), Johnson GM, Afrin LB. American Academy of Pediatrics 2003 Annual Meeting, New Orleans, LA. Dr. Afrin's roles: Concept creator, sole software developer, supervised resident in data analysis, reviewed/edited abstract and poster.
- Conference Attendance: A Reliable Solution At Last?** March 25, 2003
Afrin LB. Tracking Residents' American Association of Medical Colleges Group on Information Resources 2003 Annual Meeting, San Antonio, TX (won third prize).
- Delivering Data Mining without the Warehouse: MUSC's Experience** November 12, 2002
Ebeling MD, Boyd CK, Agbor-Tabi DA, Afrin LB. American Medical Informatics Association 2002 Annual Symposium, San Antonio, TX. Dr. Afrin's roles: Principal investigator, development team leader, reviewed/edited abstract and poster.
- Tracking Residents' Conference Attendance: A Reliable Solution At Last?** November 11, 2002
Afrin LB. American Medical Informatics Association 2002 Annual Symposium, San Antonio, TX.
- Fentanyl Associated Syndrome of Inappropriate Antidiuretic Hormone Secretion** April 7 - 10, 2002
Kokko H, Hall PD, Afrin LB. American College of Clinical Pharmacy Spring Meeting, Savannah, GA. Dr. Afrin's roles: Provided patient care, reviewed manuscript.
- PALMER: PalmOS-Based Access to the Enterprise Clinical Data Repository and Clinical Documentation Assistant.** November 6, 2001
Afrin LB, Daniels MS. American Medical Informatics Association 2001 Annual Symposium, Washington, DC. Dr. Afrin's roles: Sole concept creator, software co-developer, data acquisition, abstract and poster preparation.

Integration of Enterprise Ambulatory Appointment Scheduling with Portable Digital Assistant Calendaring

November 6, 2001

Afrin LB, Quattlebaum TG. American Medical Informatics Association 2001 Annual Symposium, Washington, DC. Dr. Afrin's roles: Sole concept creator, software co-developer, data acquisition, abstract and poster preparation.

Challenges in Using an Enterprise Clinical Data Repository for Research

November 6, 2001

Agbor-Tabi D, Boyd CK, Afrin LB. American Medical Informatics Association 2001 Annual Symposium, Washington, DC. Dr. Afrin's roles: Principal investigator, development team leader, reviewed/edited abstract and poster.

A Better Blue Book: A Web-Based Residency Procedure Log System

2000

Afrin LB. American Medical Informatics Association 2000 Annual Symposium, Los Angeles, CA.

The Electronic Medical Record at the Medical University of South Carolina: Successful Integration of Multiple Commercial "Best of Breed" Systems

1999

Afrin LB. American Medical Informatics Association 1999 Annual Symposium, Washington, DC.

Improved Access to Hematopathology Teaching Images

1998

Afrin LB. Proceedings of the American Medical Informatics Association 1998 Annual Symposium, Orlando, Florida, p. 965.

Web/Java-Based Access to and Analysis of a Library of Clinical Outcomes Databases

1997

Afrin LB. American Medical Informatics Association Fall 1997 Symposium, Nashville, Tennessee, p. 838.

Web-Based Clinical Trials Information for Patients: An Accrual Aid?

1997

Afrin LB, Gentry JR, Stuart RK. American Medical Informatics Association Fall 1997 Symposium, Nashville, Tennessee, p. 902. Dr. Afrin's roles: concept creator, study design, software development, data acquisition and analysis, wrote abstract, created poster.

Invited On-line Presentations (Internet Radio, Podcasts, etc.)

"Open Community Q&A with Dr. Lawrence Afrin."

October 17, 2019

Webinar, EDS Wellness.

"Mast Cell Activation: An Important and Underappreciated Component of Chronic Illness."

September 1, 2016

The Cutting Edge of Health and Wellness Today, VoiceAmerica Health and Wellness, <https://www.voiceamerica.com/episode/94194/mast-cell-activation-an-important-and-underappreciated-component-of-chronic-illness>

“Mast Cell Activation Syndrome.”

June 22, 2016

EDS Awareness: Educational Series.

<https://www.youtube.com/watch?v=82dmZhCBuBo>.

Teaching And Curriculum Development

University of Minnesota

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 10, 2015

Grand rounds, Middlemore Hospital, Auckland, New Zealand

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 9, 2015

Grand rounds, Auckland City Hospital, Auckland, New Zealand.

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 8, 2015

Grand rounds, Tauranga Hospital, Tauranga, New Zealand.

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 4, 2015

Grand rounds, Waikato Hospital, Hamilton, New Zealand.

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 1, 2015

Grand rounds, Southland Hospital, Invercargill, New Zealand.

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

September 1, 2015

Grand rounds, Division of Hematology, Dunedin Hospital, Dunedin, New Zealand.

“Mast Cell Activation Syndrome: The Bulk of the Iceberg Revealed.”

August 30, 2015

Case conference, Oamuru Physicians, Oamuru, New Zealand.

“Mast Cell Activation Syndrome: The Bulk of the Iceberg Revealed.”

August 28, 2015

Case conference, Division of Hematology, University of Otago Hospital – Christchurch, Christchurch, New Zealand.

“The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”

August 28, 2015

Grand rounds, University of Otago Hospital – Christchurch, Christchurch, New Zealand

- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 26, 2015
Grand rounds, Department of Hematology, University of Otago Hospital – Wellington, Wellington, New Zealand.
- “The Prevalence of Mast Cell Activation Disease: A Quintessential Challenge for the New Century.”** August 25, 2015
Grand rounds, Department of Pathology, University of Otago Hospital – Wellington, Wellington, New Zealand.
- “Systemic Mast Cell Disease: An Update.”** August 6, 2014
Grand rounds, Division of Allergy and Immunology, University of Cape Town, Cape Town, South Africa.
- “Hemolytic Anemia,”** 2014
Introduction to hemolytic anemia for junior medical students, lecture to medical students, Minneapolis, MN.
- “Clinical Reasoning,”** 2014
Introduction of small groups of sophomore medical students to clinical reasoning, University of Minnesota, Minneapolis, MN.
- “Fundamentals of Physical Diagnosis,”** 2014
Introduction of sophomore medical students to history-taking, physical examination, and verbal and written case presentations, 2-4 students yearly, University of Minnesota, Minneapolis, MN, 2014-present.

Medical University of South Carolina

Course/Lecture List

- “Professor Rounds,”** 2005-2014
Introduction to hematology/oncology for junior medical students, six lectures yearly, Medical University of South Carolina, Charleston, SC.
- “Fundamentals of Physical Diagnosis,”** 1995-2014
Introduction of sophomore medical students to history-taking, physical examination, and verbal and written case presentations, 2-4 students yearly, Medical University of South Carolina, Charleston, SC.
- “Myeloproliferative Neoplasms – Part 2.”** May 12, 2014
Hematology/Oncology Fellowship Teaching Conference, Medical University of South Carolina, Charleston, SC.
- “Myeloproliferative Neoplasms – Part 1.”** May 5, 2014
Hematology/Oncology Fellowship Teaching Conference, Medical University of South Carolina, Charleston, SC.

- “Hodgkin Lymphoma.”** February 3, 2014
Hematology/Oncology Fellowship Teaching Conference, Medical University of South Carolina, Charleston, SC.
- “Myeloproliferative Neoplasms.”** May 31, 2013
Hematology/Oncology Fellowship Teaching Conference, Medical University of South Carolina, Charleston, SC.
- “Myeloproliferative Neoplasms.”** February 20, 2012
Hematology/Oncology Fellowship Teaching Conference, Medical University of South Carolina, Charleston, SC.
- “Anemia.”** April 27, 2012
Maternal-Fetal Medicine Teaching Conference, Medical University of South Carolina, Charleston, SC.
- “Rapid Development of Mobile Applications: Theory and Practice,”** September 7, 2004
Tutorial instructor, American Medical Informatics Association 2004 Annual Symposium, San Francisco, CA.
- “Rapid Development of Mobile Applications: Theory and Practice,”** November 9, 2003
Tutorial instructor, American Medical Informatics Association 2003 Annual Symposium, Washington, DC.
- “Introduction to Clinical Information Systems,”** December 9, 2002
Lecturer in master’s course Introduction to Biomedical Informatics, MUSC College of Graduate Studies, Charleston, SC.
- “Rapid Development of Mobile Applications: Theory and Practice,”** November 10, 2002
Tutorial instructor, American Medical Informatics Association 2002 Annual Symposium, San Antonio, TX.
- “Building Dynamic, Enterprise Resource-Integrated Web Applications: Theory and Practice with Cold Fusion,”** November 9, 2002
Tutorial instructor, American Medical Informatics Association 2002 Annual Symposium, San Antonio, TX.
- “Overview of Clinical Information Systems,”** April 18 and 25, 2002
Lecturer in master’s course Contemporary Topics in Clinical Research, MUSC, Charleston, SC.
- “Rapid Development of Mobile Applications: Theory and Practice,”** November 4, 2001
Tutorial instructor, American Medical Informatics Association 2001 Annual Symposium, Washington, DC.
- “Overview of Clinical Information Systems,”** March 8, 2001
Lecturer in master’s course Contemporary Topics in Clinical Research, MUSC.
- “Introduction to Clinical Information Systems,”** February 12 and 14, 2001
Lecturer in master’s course Introduction to Biomedical Informatics, MUSC.

“Medical Therapy for Advanced Prostate Cancer,” March 2, 2000
MUSC Internal Medicine Residents’ Lecture Series, Charleston, SC.

“Leukemia and Lymphoma,” 1997-2005
Lecturer, 6 times per year to groups of MUSC third-year medical students, Charleston, SC.

“Leukemia, Lymphoma, and Myeloma,” 1997-2000
Annual lecture for MUSC Physician’s Assistant trainees, Charleston, SC.

Guest Lecturer, Management Information Systems, Furman University undergraduate students. April 11, 1997
Two-hour presentation: Information Systems in Medicine: Patient Care, Research, and Educational Applications. MUSC Hollings Cancer Center, Charleston, SC.

Curriculum/Examination Development

Question Writer 2006
American Board of Internal Medicine Hematology Board Certification Exam.

Collaborative Efforts and Activities

Project originator, “Deepening the Pool: A Proposal to Significantly and Sustainably Enlarge the Pool of ‘Under-Represented in Medicine’ Candidates for Careers in Health and Medicine.” 2012 - 2014
Collaborator: Harry S. Clarke, Jr., M.D., Ph.D. (Director, MUSC GME Office; MUSC GME Designated Institutional Official; MUSC Associate Dean for GME).

Faculty Development Activities regarding teaching

Attendance at faculty development lectures in UMN Internal Medicine Grand Rounds. April 9, 2015
Teaching High-Value Care

Attendance at multiple faculty development lectures in MUSC Internal Medicine Grand Rounds. 1995-2014

Attendance at multiple MUSC GME Office-sponsored faculty development lectures. 1997-2005

“Board Examination Question-Writing Workshop,” September 15, 2006

February 12, 2024

Co-sponsored by the American Society of Hematology, the American Society for Clinical Oncology, and the National Board of Medical Examiners, Las Vegas, NV.

Continuing Medical Education

“Dissemination of Clinical Information on the Web: Computer Skills for Practicing Physicians CME Course Lecture.” July 18, 1998
Medical University of South Carolina, Charleston, SC.

“Dissemination of Clinical Information on the Web: Computer Skills for Practicing Physicians CME Course Lecture,” November 15, 1997
Medical University of South Carolina, Charleston, SC.

“Computer Skills Workshops for Physicians (CME Course),” November 14-15, 1997
Medical University of South Carolina, Charleston, SC.

Advising And Mentoring

Undergraduate Student Activities

Multiple MUSC medical students and Clemson University students 1995 - 2014

Graduate Student Activities

Master’s Student Advisees

“Phase II Study of Abraxane in Head and Neck Cancer,” 2007-2009
Keisuke Shirai, M.D., Masters of Science in Clinical Research Thesis Committee, Department of Biometry and Epidemiology, MUSC College of Graduate Studies.

“Cost-Effectiveness of Extended Adjuvant Rituximab for US Patients Aged 65-70 Years with Follicular Lymphoma in Second Remission,” 2006 - 2008
Jay Hayslip, M.D., Masters of Science in Clinical Research Thesis Committee, Department of Biometry and Epidemiology, MUSC College of Graduate Studies.

“Race, Education and Knowledge of Bone Marrow Registry: Indicators of Willingness to Donate Bone Marrow Among African Americans and Caucasians,” 2002 - 2004

Adedayo Onitilo, M.D., Masters of Science in Clinical Research Thesis Committee, Department of Biometry and Epidemiology, MUSC College of Graduate Studies.

Doctoral Dissertations Directed

“Deriving Clinical Trial Management Systems from Metadata,” 1998 - 1999
Sami Shaban, principal advisor, Doctoral Thesis Committee, Department of Biometry and Epidemiology, MUSC College of Graduate Studies, Charleston, SC.

Residents Supervised

Approximately 10-15 internal medicine residents per year 1991 - present

Approximately 10 hematology/oncology fellows per year 1995 - present

Clinical Service (If Applicable)

Clinical Leadership Accomplishments

Organizer/Leader, 2014-present
University of Minnesota Mast Cell Disease Interest Group

Director, 1997-2010
MUSC Hematology/Oncology Fellowship Training Program; restoration of program to full accreditation in 1998, additional full reaccreditations in 2004 and 2010.

Project originator, 2012-2014
“Deepening the Pool: A Proposal to Significantly and Sustainably Enlarge the Pool of ‘Under-Represented in Medicine’ Candidates for Careers in Health and Medicine,” MUSC GME Office.

Member, 2010
Diversity in Oncology Mentoring Programs Task Force, American Society of Clinical Oncology.

Member, 2007-2010
Oncology Training Programs Subcommittee, American Society of Clinical Oncology.

Quality Improvement Projects

Communication with Referring Physicians Practice Improvement Module, 2014
American Board of Internal Medicine Maintenance of Certification Program.

2013 Update in Hematology Medical Knowledge Module, 2013
American Board of Internal Medicine Maintenance of Certification Program.

Attendance at American Board of Internal Medicine Update in Hematology Workshops, 2013 - 2016
Annually 2013-2016 at the annual meetings of the American Society of Hematology.

2011 Update in Hematology Medical Knowledge Module, 2011
American Board of Internal Medicine Maintenance of Certification Program.

**Clinical Service Responsibilities
 University of Minnesota:**

Approximately 16 weeks per year on inpatient hematology consult service 2014 - 2017

Approximately 2 weeks per year on inpatient hematology ward service 2014 - 2017

Three half-days of clinic per week, 2014-2015; four half-days of clinic per week 2015-2016; 4.5 half-days of clinic per week 2016-2017 2014 - 2017

MUSC:

Approximately 4-8 weeks per year on inpatient hematology/BMT service. 2011 - 2014

Approximately 8-12 weeks per year on inpatient hematology/BMT service. 2005 - 2011

Approximately 8-12 weeks per year on inpatient hematology/BMT and oncology services 1995 - 2005

Average of four half-days of clinic per week 1995 - 2014
1 half-day private at MUSC, 2 half-days teaching at MUSC, 1 half-day teaching at Charleston VA)

Supervising rotating fellow in hematology e-consults <i>Charleston VA</i>	2011 - 2014
Weekly participation in hematology tumor board	1991 - 2014

Professional Service And Public Outreach

Service To The Discipline/Profession/Interdisciplinary Area(s)

Editorships/Journal Reviewer Experience

Associate Editor for Electronic Publishing, Journal of the South Carolina Medical Association.	2002-2014
Associate Editor for Hospital/Institutional Medicine, Journal of the South Carolina Medical Association.	2013-2014
Member, Editorial Board, International Journal of Medical Informatics.	2009-present
Member, Editorial Advisory Board, Oncology Net Guide, January.	2009-present
Member, Editorial Advisory Board, Oncology & Biotech News.	2009-present
Member, Editorial Advisory Board, Contemporary Oncology.	2009-present
Member, Honorary Editorial Board, Blood and Lymphatic Cancer: Targets and Therapy.	September 2010-present
Member, Editorial Research Panel, Healthcare Informatics.	2003
Invited Reviewer, Journal of the International Medical Informatics Association.	2004-2017
Invited Reviewer, EBioMedicine.	2049
Invited Reviewer, Blood.	2018
Invited Reviewer, Leukemia Research.	2015
Invited Reviewer, Translational Research.	2017- 2017
Invited Reviewer, BMJ Case Reports.	2017, 2020
Invited Reviewer, Immunity, Inflammation and Disease.	2015
Invited Reviewer, Immunogenetics.	2010, 2014
Invited Reviewer, Allergy and Asthma Proceedings.	2014

Invited Reviewer, Critical Reviews in Oncology/Hematology.	2014
Invited Reviewer, The American Journal of the Medical Sciences.	2006 -2016
Invited Reviewer, American Journal of Case Reports.	2017
Invited Reviewer, Translational Psychiatry.	2017 - 2018
Invited Reviewer, Cytometry: Part B – Clinical Cytometry.	2017
Invited Reviewer, Naunyn-Schmiedeberg's Archives of Pharmacology.	2013
Invited Reviewer, PLoS ONE.	2013
Invited Reviewer, Trials.	2013
Invited Reviewer, Journal of Investigative Medicine High Impact Case Reports.	2013
Invited Reviewer, Annual Symposium of the American Medical Informatics Association.	1997 - 2012
Invited Reviewer, Journal of Hematology and Oncology.	2010, 2012
Invited Reviewer, European Journal of Haematology.	2012
Invited Reviewer, Lymphoma and Chronic Lymphocytic Leukemia.	2012
Invited Reviewer, Thrombosis & Hemostasis.	2011
Invited Reviewer, MedInfo: The World Triennial Health Informatics Congress	2001, 2004, 2007, 2010, 2011
Invited Reviewer, Acta Odontologica Scandinavica.	2011
Invited Reviewer, International Conference on Education, Training, and Informatics: ICETI.	2010
Invited Reviewer, International Conference of the European Federation for Medical Informatics (MIE).	2003 - 2008
Invited Reviewer, Biomed Central Journal of Medical Informatics and Decision Making.	2007 - 2008
Invited Reviewer, International Journal of Pharmaceutical Medicine.	2007
Invited Reviewer, Journal of the American Medical Association.	2003
Invited Reviewer, Artificial Intelligence in Medicine.	2002

Invited Reviewer, Journal of the American Academy of Dermatology.	1996 - 1998
Invited Reviewer, Frontiers in Pediatrics.	2021
Invited Reviewer, Frontiers in Immunology.	2021
Invited Reviewer, Exploration of Immunology.	2021
Invited Reviewer, International Journal of Infectious Diseases.	2021 - 2022
Invited Reviewer, Case Reports in Immunology.	2022
Invited Reviewer, Medical Hypotheses.	2022
Invited Reviewer, British Journal of Hospital Medicine.	2022
Invited Reviewer, Naunyn-Schmiedeberg's Archives of Pharmacology.	2022
Invited Reviewer, AIMS Allergy and Immunology.	2022
Invited Reviewer, Cureus.	2022
Invited Reviewer, Environmental Advances.	2023
Invited Reviewer, Journal of Clinical Rheumatology.	2023
Invited Reviewer, Scientific Reports.	2023
Invited Reviewer, Rheumatology & Autoimmunity.	2024

Review panels for external funding agencies, foundations, etc.

National Institute of Mental Health Study Section <i>for Proposals for a National Coordination Office for the National NeuroAIDS Tissue Consortium.</i>	2003
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Program review experience

“Board Examination Question-Writing Workshop,” <i>Co-sponsored by the American Society of Hematology, the American Society for Clinical Oncology, and the National Board of Medical Examiners, Las Vegas, NV.</i>	September 15, 2006
Question Writer, <i>American Board of Internal Medicine Hematology Board Certification Exam.</i>	2006

**Governor’s Blue Ribbon Panel on University Research Programs,
State of Virginia.** 2003

**Institute of Medicine National Cancer Policy Board Advisory Panel
for the Georgia Cancer Coalition Project.** 2003

**Institute of Medicine Committee on Assessing Improvements in
Cancer Care in Georgia.** 2003 - 2004

**Invited Reviewer, IDEAS Grant Program,
*Medical University of South Carolina.*** 1997 - 1999

Organization of conferences, workshops, panels, symposia

Session Chair, “WWW Interfaces to Healthcare Data” October 28, 1997
*(Session S44), Fall 1997 Symposium of the American Medical
Informatics Association.*

Committee memberships [indicate if the candidate served as chair]

Member, Graduate Medical Education Advisory Committee, 2008 - 2014
Southern Medical Association.

Member, Oncology Training Programs Subcommittee, 2007 - 2010
American Society of Clinical Oncology.

Public Advocacy

Member, Diversity in Oncology Mentoring Programs Task Force, 2010
American Society of Clinical Oncology.

**Governor’s Blue Ribbon Panel on University Research Programs,
*State of Virginia.*** 2003

**Institute of Medicine National Cancer Policy Board Advisory Panel
for the Georgia Cancer Coalition Project.** 2003

**Institute of Medicine Committee on Assessing Improvements in
Cancer Care in Georgia.** 2003 - 2004

Service to the University/Medical School/Department

University of Minnesota [indicate dates of service activities]

University-wide service

Clinical Information Systems Oversight Committee 2014 - 2016

IRB Member/Reviewer 2016 - 2017

Medical School Service and Intercollegiate Service

Lecturer to medical students 2014 - 3017
Hemolytic anemia

Lecturer to hematology/oncology fellows 2014 - 2017
Immune thrombocytopenia

Preceptor to sophomore medical students 2014 - 2017
Physical Diagnosis

Small-group instructor to sophomore medical students 2014 - 2017
Clinical Reasoning

Director, Sophomore Medical Student 2016 - 2017
Hematology Course

Department/Unit Service

Assistant Fellowship Training Program Director, 2014 - 2017
Division of Hematology, Oncology & Transplantation

Medical University of South Carolina [indicate dates of service activities]

University-wide service

MUSC Graduate Medical Education Diversity Task Force 2013 - 2014

MUSC Graduate Medical Education Strategic Planning Committee 2012 - 2014

MUSC Epic Oncology Steering Committee 2012 - 2014

MUSC Epic Ambulatory Steering Committee 2011 - 2014

MUSC Analytics Development and Operations Committee 2011 - 2014

Data Safety Monitoring Board, Clinical Trials Office, MUSC Hollings Cancer Center	2011 - 2014
MUSC Ambulatory Care System Replacement Selection Advisory Committee	2010
MUSC Epicare Deployment Oversight Committee	2011 - 2014
MUSC Oacis Discharge Summary Oversight Committee	2009 - 2010
MUSC Medication Reconciliation Oversight Committee	2009 - 2014
MUSC Biomedical Informatics Faculty Charter Member	2008 - 2014
MUSC Biomedical Informatics Steering Committee	2008 - 2014
MUSC Hollings Cancer Center Protocol Review Committee	2004 - 2011
MUSC Hollings Cancer Center Data Safety Monitoring Board	2011 - 2014
MUSC Hollings Cancer Center Cancer Program Committee	2003 - 2014
MUSC Biomolecular Computing Resources Advisory Committee	2002 - 2014
MUSC Hollings Cancer Center Expansion Facility Operations Task Force	2002 - 2014
MUSC Hollings Cancer Center Clinic Relocation Task Force	2002 - 2014
MUSC Hollings Cancer Center P-30 Grant Planning Committee	2001 - 2014
MUSC Physicians Information Council	2005 - 2014
MUSC Clinical Information Management Council	2001 - 2004
MUSC Hollings Cancer Center Bioinformatics Program Organizing Committee	2001 - 2014
MUSC Graduate Medical Education Committee <i>Representing Internal Medicine subspecialty training programs</i>	2001 - 2014
MUSC Educational Policy Council <i>Representing the College of Medicine</i>	2003 - 2014
MUSC University-Wide Information Technology Steering Committee	1998 - 2004
MUSC Informatics 2000	1999

MUSC Clinical Information Systems (CIS) Steering Committee <i>General CIS oversight, including development of MUSC's "Emerald" electronic medical record; member, 2/94-12/04; chairman, 3/99-12/04</i>	2004
MUSC Core Clinical Systems Steering Committee <i>CIS subcommittee; chairman</i>	1997 - 2004
MUSC Health Information Systems Advisory Committee	2001 - 2014
Protocol Review Committee, Clinical Trials Office, MUSC Hollings Cancer Center	2001 - 2011
MUSC Biomedical Informatics Program Organizing Committee	1999 - 2014
MUSC Search Committee for Biomedical Informatics Program Faculty	2000 - 2014
MUSC Transcription Task Force	2000 - 2004
MUSC Task Force on the Feasibility of an Electronic Central Resource Scheduling Facility	1998
MUSC Task Force on Effort Reporting	1998 - 2004
MUSC Electronic Medical Record Project Communications Committee	1997 - 2004
MUSC University Planning Committee, <i>Working Group on Strategic Planning for Health Care Services</i>	1997 - 2004
MUSC Medical Records Committee, <i>Ad Hoc Working Group on Medical Records Systems in the New Ambulatory Care Facility</i>	1996 - 1997
MUSC Partnering Negotiating Team, Information Technology Working Group	1995 - 1996
MUSC Ad Hoc Working Group to Revise Policy on Research Use of Clinical Data	1995 - 1998
MUSC College of Medicine Strategic Planning Committee, <i>Working Group on Medical Informatics</i>	1995 - 1996
MUSC Oncology Operations Committee	1995 - 2004
MUSC Partnering Analysis Team, Information Systems Task Force	1995
MUSC Hollings Cancer Center and Division of Hematology/Oncology webmaster	1994 - 2014
MUSC Information Systems Strategic Planning Advisory Committee	1994

MUSC Data Security Task Force of the Clinical Information System Committee (Chairman)	1994 - 1997
Judge, Medical Informatics Awards, Medical University of South Carolina Student Research Day	1997 - 1998
MUSC designated representative to the Oacis User Group (1992-2012), including service (Director of Product Advising) on the OUG Board of Directors 2003-2005 and 2009-2011	1992 - 2011
Medical School Service and Intercollegiate Service	
MUSC School of Medicine Applicant Interviewer	2010 - 2014
Department/Unit Service	
MUSC Department of Internal Medicine Information Technology Strategic Planning Committee	1996
Community Outreach Activities	
Science advisor, Charleston Collegiate School (Johns Island, SC).	2006 - 2011
Science fair project supervisor, Academic Magnet High School (North Charleston, SC).	2009 - 2010
Mentor/research supervisor for South Carolina Governor's School Summer Research Program students engaged in summer research projects.	1997 - 2014
Mentor for Clemson University undergraduate students pursuing a career in medicine.	1997 - 2014
Shadowing mentor for Charleston County Academic Magnet High School students interested in careers in medicine.	2008 - 2011