

**CURRICULUM VITAE**

**November 12, 2019**

**MARK BALLOW, M.D.**

Birthdate: September 8, 1943

Birthplace: Harrisburg, Pennsylvania

Office Address: Windom Allergy, Asthma, & Sinus (11/2012-2018)  
Sarasota Clinical Research  
4040 Sawyer Road  
Sarasota, FL 34233

Allergy & Immunology Division (July 2013 to present)  
USF Health School of Medicine  
All Children's Hospital  
Children's Research Institute  
St Petersburg, FL

Undergraduate  
Education:

Rutgers University, Department of Biological Sciences,  
New Brunswick, NJ; BA, June, 1965

University of Chicago, School of Medicine; M.D., 1969

Postgraduate  
Training:

Intern, Department of Pediatrics, Yale-New Haven Hospital, 7/69-7/70  
Resident, Department of Pediatrics, Yale-New Haven Hospital, 7/70-7/71  
Medical Fellow, Department of Pediatrics, University of Minnesota Hospitals,  
7/71-7/73

Professional  
Experience:

Chief, Clinical and Experimental Immunology, Walter Reed  
Army Medical Center, Washington, DC; 7/73-7/75

Assistant Professor, Department of Pediatrics,  
The University of Connecticut Health Center, 7/75-10/79

Associate Professor, Department of Pediatrics,

The University of Connecticut Health Center, 10/79-10/85

Professor, Department of Pediatrics

The University of Connecticut Health Center, 10/85-7/88

Professor, Department of Pediatrics

Children's Hospital of Buffalo (7/1988 – 6/2012)

Chief, Division of Allergy/Immunology, and Pediatric Rheumatology

Director, Fellowship Training Program in Allergy/ Immunology – 1990 to  
Sept 29, 2012

State University of New York at Buffalo (SUNY Buffalo),

School of Medicine and Biomedical Sciences (7/1/1988 to 10/1/2012)

Medical Director of the Immunobiology Laboratory at Children's Hospital of  
Buffalo, 1988 - 2012.

Medical Director of the Clinical Laboratories at Children's Hospital of  
Buffalo, 1992- 2005.

Interim Chair, Department of Pediatrics, SUNY Buffalo, School of Medicine  
& Biomedical Sciences, April 2005 – November 2006

Professor of Pediatrics, Department of Pediatrics, University of South Florida,  
Morsani College of Medicine, Division of Allergy & Immunology, Johns  
Hopkins All Children's Hospital, July, 2013 to present

Allergy & Immunology Training Program Director – Allergy & Immunology  
Division, Department of Pediatrics, USF, Johns Hopkins All Children's  
Hospital, July, 2013 to July, 2016

Consulting Medical Director for the Immune Deficiency Foundation. Sept  
2017 to present

Academic and  
Professional Honors:

Phi Beta Kappa, 1965, Rutgers University

Henry Rutgers Scholar

Alpha Omega Alpha Medical Honor Society

Borden Undergraduate Research Award in Medicine Graduation with Honors,  
University of Chicago School of Medicine

The Carl E. Arbesman Memorial Lectureship, American Academy of Allergy  
and Immunology, March 5, 1994

The John C Selner Lecturer, American College of Allergy, Asthma, &  
Immunology, Nov. 7, 2000

Visiting Professorship, Medical College of Wisconsin, 1<sup>st</sup> Annual Fink Lecture, Pediatric Grand Rounds, February 3, 2006.  
Clinical Immunology Society Distinguished Service Award, June, 2006  
Pierson Visiting Professorship, University of Vermont, Department of Pediatrics, October 17, 18, 2006.  
American Academy of Allergy, Asthma and Immunology Special Recognition Award, February 2007  
Bernard Berman Memorial Lecture, American College Allergy, Asthma & Immunology Nov. 10, 2007

Membership

Phi Beta Kappa, 1965 Rutgers University  
Alpha Omega Alpha Medical Honor Society

Board Certifications:

National Board of Medical Examiners, 1971  
Diplomate, American Board of Pediatrics, April, 1974  
Diplomate, American Board of Allergy and Immunology, October, 1975  
Diplomate, Clinical Laboratory Immunology, October 1988

Licensure:

Connecticut, State Board of Medical Examiners, No. 14661, Oct. 28, 1970  
Maryland, State Board of Medical Examiners, No. 15978, Nov. 29, 1973  
New York, State Board of Medical Examiners, No. 174470, May 23, 1988  
Florida, State Board of Medical Examiners, ME 112011, Feb. 24, 2012 to present

National Societies:

Society for Pediatric Research  
American Pediatric Society  
Buffalo Allergy Society  
Clinical Immunology Society  
American Academy of Allergy, Asthma and Immunology  
American College of Allergy, Asthma and Immunology

National Offices in Societies

**American Academy of Allergy, Asthma and Immunology**

HIV Committee Member, 1988-1989  
Program Directors Assembly Member, 1992-1993  
Primary Immunodeficiency Diseases Committee Member, 1992-2002  
Program Directors Counselor/Past Chair, 1993-1994

Basic and Clinical Immunology Interest Section Secretary, 1993-1995  
Program Directors Chair-Elect, 1994-1996  
Basic and Clinical Immunology Interest Section Vice Chair, 1995-1997  
Immuno-Ophthalmology Committee Member, 1995-1999  
Annual Meeting Program Committee Member, 1995-1999  
Program Directors Assembly Chair, 1996-1998  
Training Program Directors' Core Curriculum & Education Subcommittee Member, 1996-1998  
Board of Directors At-Large Member, 1996-1999  
Primary Care Rotations in Allergy and Pierson Visitation Program Task Force Member, 1996-2000  
Basic and Clinical Immunology Interest Section Chair, 1997-1999  
Program Directors Past Chair, 1998-2000  
Training Program Directors' Core Curriculum & Education Subcommittee Chair, 1998-2000  
Immuno-Ophthalmology Committee Vice Chair, 1999-2001  
International Assembly Member, 1999-2003  
Primary Care Rotations in Allergy and Pierson Visitation Program Task Force Co-Chair, 2000-2004  
Training Program Directors' RRC Subcommittee Chair 2000-2005.  
Workforce Committee Member, 2001-2007  
Immuno-Ophthalmology Committee Chair, 2001-2003  
Nominating Committee Member, 2001  
Chrysalis Project Chair, 2002-2006  
Immuno-Ophthalmology Committee Member, 2003-2007  
Abstracts Subcommittee Leadership Group Member, 2004-2007  
Executive Council Member, 2004-2007  
Primary Care Rotations in Allergy and Pierson Visitation Program Task Force Member, 2004-2007  
Primary Immunodeficiency Diseases Committee Member, 2004 - 2007  
ST\*AR Program Task Force Member, 2005-2007  
Training Program Directors' In-Training Examination Committee Member, 2005-2007

**American Academy of Allergy, Asthma and Immunology –**  
Secretary-Treasurer 2008,  
President Elect 2009,  
President in 2010-2011.

American Board of Allergy and Immunology

Director, American Board of Allergy and Immunology, a Conjoint Board of the American Board of Internal Medicine and the American Board of Pediatrics (6 year term; 1/1/93-12/98); Treasurer- 1997-1998.

Clinical Immunology Society

Board of Directors, 1997-2000.  
Secretary-Treasurer, 1999-2007  
Finance Committee, 2007 – 2016

Immune Deficiency Foundation  
Member, Medical Advisory Committee 2010 to present

Member of the Blood Product Advisory Committee of CBER/FDA, 2006 – 2009

Ad. hoc Journal Reviewer:

Allergy Asthma Proceedings  
Annals of Allergy, Asthma & Immunology  
Biomedical Immunology  
Blood  
Clinical & Experimental Immunology  
Clinical Immunology  
Infections in Medicine  
Journal of Allergy and Clinical Immunology  
Journal of the American Medical Association  
Journal of Clinical Immunology  
Journal of Experimental Immunology  
Journal of Investigational Allergology & Clinical Immunology  
Journal of Leukocyte Biology  
Journal of Pediatrics  
New England Journal of Medicine  
Nutrition  
Pediatric Asthma, Allergy & Immunology  
Pediatrics  
Pediatric Research  
Frontiers in Immunology

Editorial Boards: Journal of Allergy and Clinical Immunology, 1984-1989, 1995-2000  
Infections in Medicine, 1991 to 2006  
Journal of Clinical Immunology, 1993-1996  
Pediatric Asthma, Allergy and Immunology, 1996-2010  
Clinical Reviews in Allergy & Immunology, 1992-2018  
Journal of Investigational Allergy & Clinical Immunology 2000-03  
Journal of Allergy and Clinical Immunology: In Practice 2012 – 2016; 2018 to present

Editor, Journals: Co-editor for *Current Opinion in Allergy and Clinical Immunology*,  
Lippincott Williams & Wilkins, 2000 – 2018

E-Medicine, Editor for Pediatric Allergy & Immunology section, 2000 -2006

Peer Review Study Sections:

Clinical Sciences, University of Connecticut Research Foundation, 1977-1980  
Special N.I.H. Study Section on AIDS  
Vision Science A Special Study Section of Eye Institute  
Ad hoc reviewer for March of Dimes  
Ad hoc reviewer, Small Business Grants- NIH study section  
Ad hoc reviewer, special AIDS study section (1989,1991)

Sabbatical:

July 1985-July 1986. Metabolism Branch, NCI at NIH Lab of Drs. M Blaese & S. Korsmeyer. "Molecular biology of Immunoglobulin gene recombinatorial events"

Special Committees:

Medical Knowledge Self-Assessment Program (MKSAP) in Allergy and Immunology, American College of Physicians, Philadelphia, PA, (Chairpersons: J Fink and RF Lockey), 1991- 1993.

Chair, Postgraduate Education, American Academy of Allergy and Immunology, 1994.

Strategic Planning Subcommittee, The Theodore T. Jacobs, MD Institute of Molecular Medicine and Immunology, 1994-1996

Professional Staff, Ernest Witebsky Center Committee, School of Medicine and Biomedical Sciences, SUNYAB, July 1994-June 1998.

Medical Knowledge Self-Assessment Program (MKSAP) in Allergy and Immunology, 2000-2003

Data Safety Monitoring Boards –

CSL Behring – IgPro20 – Hizentra Phase IV

Prometic Biotherapeutics, Inc – Phase III IVIG 10%

Green Cross – GC%107\_P3 – Phase III IVIG 10%

Glenmark Pharmaceuticals, SA – GBR830 monoclonal antibody atopic dermatitis

## **Bibliography**

### **Peer reviewed papers:**

1. Blough, H.A.; **Ballow, M.** and Kreider, J.: A sandwich technique for the detection myxovirus infected cells using a fluorescein conjugated antibody directed against a glycoprotein substrate fectuin. J. Immunol. 100:209-213, 1968.
2. Ballow, M. and Cochrane, C.G.: Two anticomplementary factors in cobra venom: Hemolysis of guinea pig erythrocytes by one of them. J. Immunol. 103:944-952, 1969.
3. Ballow, M.; Margolis, C.; Schactel, B. and Hsia, Y.E.: Progressive familial intrahepatic cholestasis. Peds. 51:998-1007, 1973.
4. Ballow, M.; Day, N.K.B. and Good, R.A.: Effect of cobra venom factor on the local GVH reaction. I. Partial characterization of a cytotoxic factor from cobra venom for rat lymphocytes. J. Immunol. 110:354-361, 1973.
5. Gatti, R.A.; Robinson, W.A.; Deinard, A.S.; Nesbit, M.; McCullough, J.J.; **Ballow, M.** and Good, R.A.: Cyclic leukocytosis in chronic myelogenous leukemia: New perspectives on pathogenesis and therapy. Blood 41:771-782, 1973.
6. Ballow, M.; Dupont, B. and Good R.A.: Autoimmune hemolytic anemia in Wiskott-Aldrich syndrome during treatment with a transfer factor. J. Peds. 83:772-780, 1973.
7. Ballow, M.; Day, N.K. and Good, R.A.: Depletion of complement during graft-versus-host reaction in a severe combined immunodeficiency patient after receiving a mismatched marrow transplant. Transplan. 16:380-382, 1973.
8. Gajl-Peczalska, K.J.; **Ballow, M.**; Hansen, J.A.; Good, R.A.: IgE-bearing lymphocytes and atopy in a patient with X-linked infantile agammaglobulinemia. Lancet 1:1254. 1973.
9. Ballow, M.; Day, N.K.; Biggar, W.D.; Park, B.H. and Good, R.A.: Reconstitution of serum Clq following bone marrow transplantation in patients with severe combined immunodeficiency disease. Clin. Immunol. Immunopathol. 2:28-35, 1973.
10. Dupont, B.; **Ballow, M.**; Hansen, J.A.; Quick, C.; Yunis, E.J. and Good, R.A.: Effect of transfer factor therapy on mixed lymphocyte culture reactivity. Proc. Nat. Acad. Sci. 71:867-871, 1974.

11. Ballow, M.; Park, B.H.; Dupont, B.; Cadwell, R.R.; Lonsdale, D. and Good, R.A.: Benign giant lymphoid hyperplasia of the mediastinum with associated abnormalities of the immune system. J. Peds. 34:418-420, 1974.
12. Ballow, M.; Fang, F.; Good, R.A. and Day, N.K.: Developmental aspects of complement components in the newborn and the presence of complement components and C3 proactivator (Properdin Factor B) in human colostrum. Clin. Exp. Immunol. 18:257-266, 1974.
13. Ballow, M.; Day, N.K. and Good, R.A.: Complement in graft-versus-host disease. I. Depletion of complement components during a systemic graft-versus-host reaction in the rat. Soc. for Exp Biol and Medicine 148:170-176, 1975.
14. Ballow, M.; Shira, J.E.; Harden, L.; Yank, S.Y. and Day, N.K.: Complete absence of the third component of complement in man. J. Clin. Invest. 56:703-710, 1975.
15. Ballow, M.; Ward, G.W., Jr.; Gershwin, M.E. and Day, N.K.: C1-bypass complement activation pathway in patients with idiopathic chronic urticaria and angioedema. Lancet 2 248:250, 1975.
16. Ballow, M. and Good, R.A.: Report of a patient with T-cell deficiency and normal B-cell function: A new immunodeficiency disease with response to transfer factor. Cell. Immuno. 19:219-229, 1975.
17. Ballow, M. and Hyman, L.: Combination immunotherapy in chronic mucocutaneous candidiasis: Synergism between transfer factor and fetal thymus tissue. Clin. Immunol. Immunopathol. 8:504-512, 1977.
18. Hyman, L.; **Ballow, M.** and Kneiser, M.: Diphenylhydantoin-induced interstitial nephritis: Roles of Cellular and humoral immunologic injury. J. Peds. 92 (6):915-920, 1978.
19. Einstein, L.P.; Hansen, P.J.; **Ballow, M.**; Davis, A.E.; Davis J. S.; Alper, C.A.; Rosen, F.S. and Colten, H.R.: Biosynthesis of the third component of complement (C3) in vitro by monocytes from both normal and homozygous C3 deficient humans. J. Clin. Invest. 60:963-969, 1977.
20. Lundy, J.; Damjanov, I.; **Ballow, M.**; Henken, M. and Mitchell, M.S.: Pulmonary granulomas in a patient on MER therapy. The Yale J. Biol. and Med. 50 (6):665-668, 1977.
21. Ballow, M.: Modulation of mixed-lymphocyte-culture reactivity following alloimmunization between H-1 (Ag-B) histocompatible rat strains. Transplan. 26:295-299, 1978.
22. Ballow, M.; McLean, R.H.; Damjanov, I. and Lowenstein, M.B.: Immunologic reconstitution, autoimmunity and T-cell deficiencies. Cell. Immuno. 45:364-376, 1979.



23. Ballow, M. and Rickles, F.R.: Impaired monuclear cell tissue factor generation in patients with severe combined immuno deficiency. Blood, 56:402-408, 1980.
24. Ballow, M.: Modulations of immunoglobulin synthesis in vitro by dialyzable transfer factor in PROCEEDINGS OF THE THIRD INTERNATIONAL SYMPOSIUM ON TRANSFER FACTOR (N.O. Hill, A. Khan and C. Kirpatrick, eds.) Academic Press: New York, 1979, pp. 461-467.
25. O'Neill, G.J.; Berger, R.; **Ballow, M.**; Yunis, E.J. and Dupont, B.: Chido and Rodgers blood groups and C4 deficiency. Transplan Proceed 11:1941-1943, 1979.
26. Ballow, M.; McLean, R.H.; Einarson, M.; Martin, S.; Yunis, E.J.; Dupont, B. and O'Neill, G.J.: Hereditary C4 deficiency - genetic studies and linkage to HLA. Transplan. Proceed 11:1710-1712, 1979.
27. Ballow, M. and Mendelson, L.: Specific IgE antibodies in the tear secretions of patients with vernal conjunctivitis. J Allergy Clin Immunol 66(2):112-118, 1980.
28. Ballow, M.: Autoimmune hemolytic anemia and immune regulation. Amer J Ped Hem Onc 2:173-180, 1980.
29. Sanders, W.M.; Zimmerman, A.W.; Mahoney, M.A. and Ballow, M.: Leukocyte histamine release in migraine. Headache 20:307-310, 1980.
30. Ballow, M. and Pantschenko, A.: In vitro effects of ADA inhibitors on lymphocyte mitogen responsiveness in the mouse. Cell Immunol 64:290-43, 1981.
31. Ballow, M.; McLean, R.H.; Yunis, E.J.; Awdeh, Z.L.; O'Neill, G.J.; Einarson, M.; Alper, C.A.: C4 polymorphism and HLA linkage: Studies in a family with hereditary C4 deficiency. Clin Immunol Immunopathol 20:354-360, 1981.
32. Awdeh, Z.L.; Raum, D.D.; Glass, D.; Agnello, V.; Schur, P.H.; Johnson, R.B., Jr.; Gelfand, E.W.; **Ballow, M.**; Yunis, E. and Alper, C.A.: Complement-Human histocompatibility antigen haplotypes in C2 deficiency. J Clin Invest 67:581-583, 1981.
33. Eisenberg, E.; **Ballow, M.**; Wolfe, S.H.; Krutchkoff, D.J.; Tanzer, J.M.: Pemphigus-like mucosal lesions: a side effect of penicillamine therapy. Oral Surg, Oral Med, Oral Patho 51:409-414, 1981.
34. Ballow, M.; Kennedy, T.L.; Gaudio, K.M.; Siegel, N.J.; McLean, R.H.: Serum hemolytic factor D values in children with steroid responsive idiopathic nephrotic syndrome. J Peds 100:192-196, 1982.

35. Sakamoto, K.; Seeley, J.K.; Lindsten, T.; Sexton, J.; Yetz J.; **Ballow, M.** and Purtilo, D.T.: Abnormal anti-Epstein-Barr virus antibodies in carriers of the X-linked lymphoproliferative syndrome and in females at risk. J Immunol 128(2):904-907, 1982.
36. Lindsten, T.; Seeley, J.K.; **Ballow, M.**; Sakamoto, K; St. Onge, S.; Yetz, J.; Alman, P. and Purtilo, D.T.: Immune deficiency in the X-linked lymphoproliferative syndrome. II. Immunoregulatory T-cell defects. J Immunol 129:2536-2540, 1982.
37. Ballow, M.; Seeley, J.; Rickles, F.R.; Sakamoto, K.; St. Onge, S. and Purtilo, D.T.: Familial chronic mononucleosis. Ann Intern Med 97:821-825, 1982.
38. Ballow, M.; Mendelson, L.; Donshik, P.C.; Rapacz, P.; Sparks, K.: IgG Specific antibodies to rye grass and ragweed pollen antigens in patients with vernal conjunctivitis. Am J Ophth 95:161-168, 1983.
39. McLean, R.H.; Kennedy, T.L.; **Ballow, M.** and Siegel, N.: Increased frequency of factor B fast variant (BF\*F) in the nephrotic syndrome. Disease Markers 1:25-32, 1983.
40. Sparks, K. and **Ballow, M.**: The indirect ELISA for quantification of specific antibody: Analysis of antibody dilution curves. Diagnostic Immunology 1:269-275, 1983.
41. Sedgwick, A.K.; **Ballow, M.**; Sparks, K. and Tilton, R.C.: A rapid quantitative micro enzyme-linked immunosorbent assay (ELISA) for tetanus antibodies. J Clin Microbiol 18(1):104-109, 1983.
42. Donshik, P.C. and **Ballow, M.**: Tear immunoglobulins in contact lens-induced giant papillary conjunctivitis. Am J Ophthal 96:460-466, 1983.
43. Ballow, M.; Mendelson, L.; Donshik, P.; Rooklin, A. and Rapacz, P.: Pollen-specific IgG antibodies in the tear secretions of patients with allergic-like conjunctivitis. J Allergy Clin Immunol 73:376-380, 1984.
44. Shaskan, E.G.; **Ballow, M.**; Orelan, L.; Wadell, G.: Is there functional significance for dopamine antagonist binding sites on lymphoid cells? Adv Biol Psychiat 12:123-141, 1983.
45. Shaskan, E.G.; **Ballow, M.**; Lederman, M.; Margoles, S.L. and Melchreit, R.: Spiroperidol binding sites on mouse lymphoid cells: Effects of ascorbic acid and psychotropic drugs. J Neuroimmunology. 6:59-66, 1984.
46. Donshik, P.C.; **Ballow, M.**; Luistro, A.; Samartino, L.: Treatment of contact lens induced giant papillary conjunctivitis. The CLAO Journal 10:346-350, 1984.
47. Clark, R.B. and **Ballow, M.**: Long term T-cell lines from the tears of patients with vernal conjunctivitis. J Clin Lab Immunol 15:91-94, 1984.

48. White, W.B.; Shornick, J.K.; Grant-Kels, J.M.; **Ballow, M.**: Erythroderma with spongiotic dermatitis: association with common variable hypogammaglobulinemia. American J Med 78:523-528, 1985.
49. DuBois, R.E.; Seeley, J.K.; Brus, I.; Sakamoto, K.; **Ballow, M.**; Harada, S.; Bechtold, T.A.; Pearson, G.; Purtilo, D.T.: Chronic mononucleosis syndrome. Southern Medical Journal 77:1376-1382, 1984.
50. White, W.B.; **Ballow, M.**: Modulation of suppressor cell activity by cimetidine in patients with common variable hypogammaglobulinemia: New England J Medicine 312:198-202, 1985.
51. Ballow, M.; Hirschhorn, R.: Varicella pneumonia in a bone marrow transplanted, immune reconstituted adenosine deaminase deficient patient with severe combined immunodeficiency disease. J Clin Immunology 5(3): 180-186,1985.
52. Ballow, M.; Donshik, P.C.; Mendelson, L.: Complement proteins and C3 anaphylatoxin in the tears of patients with conjunctivitis. J Allergy Clin Immunol 76:473-476,1985.
53. Gerber, M.A.; Rapacz, P.; Kalter, S.S.; **Ballow, M.**: Cell-mediated immunity in cat-scratch disease. J Allergy Clin Immunol 78:887-890, 1986.
54. Gerber, M.A.; Sedgwick, A.K.; MacAlister, T.J.; Gustafson, K.B.; **Ballow, M.**; Tilton, R.C.: Isolation of the etiologic agent of cat scratch disease, Lancet I:1236-1239,1985.
55. Ballow, M.; Cates, K.L.; Rowe, J.C.; Goetz, C.; Desbonnet, C.: Development of the immune system in the very small (less than 1500 gm) premature infant: Plasma immunoglobulin concentrations and pattern of infections. Ped Research, 20:899-904,1986.
56. Ballow, M.; Cates, K.L.; Rowe, J.C.; Goetz, C.; Panschenko, A.G.: Peripheral blood T-cell subpopulations in the very low birth weight (less than 1500 Gm) infant. Am J Hematology 24:85-92, 1987.
57. Ballow, M: The role of interleukins in Immunoregulation. Infections in Medicine. 4 (4) 167-172, 1987.
58. Ballow, M.; Donshik, P.C.; Rapacz, P.; Samartino, L.: Tear lactoferrin levels in patients with external inflammatory ocular disease. Investigative Ophthalmol Visual Science 28:543-545, 1987.
59. White, W.B.; Desbonnet, C.R., **Ballow, M.**: Immunoregulatory effects of intravenous immune serum globulin therapy in common variable hypogammaglobulinemia. Am J Med 83:431-436, 1987.

60. Hyams, J.S.; **Ballow, M.**; Leichtner, A.M.: Cyclosporine treatment of autoimmune chronic active hepatitis. Gastroenterology 93:890-893, 1987.
61. Cates, K.L.; Goetz, C.; Rosenberg, N.; Pantschenko, A.; Rowe, J.C.; **Ballow, M.**: Longitudinal development of specific and functional antibody in very low birth weight premature infants. Ped Research 23(1): 14-22,1988.
62. Rapacz, P.; Donshik, P.C.; Tedesco, J.; **Ballow, M.**: Tear lysozyme levels in patients with contact lens-induced giant papillary conjunctivitis. CLAO Journal, 14(4): 207-209, 1988.
63. Rubin, K.R.; **Ballow, M.**; Baron, R.; Greenstein, R.M.; Raisz, L.G.; Rowe, D.W.: Malignant Osteoporosis and Defective Immunoregulation. J Bone Mineral Research. 3(5):509-16, 1988.
64. Whittum-Hudson, J.; **Ballow, M.**; Zurier, R.B.: Effect of PGE<sub>1</sub> Treatment on In Vitro Thymocyte Function of Normal and Autoimmune Mice. Immunopharmacology 16:71-78,1988.
65. Ballow, M.; Donshik, P.C.; Rapacz, P.; Maenza, R.; Yamase, H.: Immunological Responses in Cynomolgus Monkeys to Lense from Patients with Contact Lense-Induced Giant Papillary Conjunctivitis (GPC). The CLAO Journal, 15(1): 64-70, 1989.
66. Kohn, DB; Mitsuya, H; **Ballow, M**; Selegue, JE; Barankiewicz, J; Cohen,A; Gelfand, E; Anderson, WF; Blaese, RM.: Establishment and characterization of adenosine deaminase (ADA)-deficient human T cell lines. J Immunol. 142(11): 3971-7,1989.
67. Rubinstein, E. and **Ballow, M**. Isolation of monocyte-depleted and monocyte rich fractions from human mononuclear cells. J Clin Lab Immunol, 30:35-39,1989.
68. Parke, A; Maier, D; Wilson, D; Andreoli, J; **Ballow, M**. Intravenous gamma-globulin, antiphospholipid antibodies, and pregnancy [letter]. Ann-Intern-Med. 110(6): 495-6,1989.
69. Ballow, M; White,W; Desbonnet ,C. Modulation of in vitro synthesis of immunoglobulin and the induction of suppressor activity by therapy with intravenous immune globulin. J. Allergy Clin Immunol. 84 (4, part 2): 595- 602, 1989.
70. Ballow, M and Parke, A. The use of intravenous immune globulin in collagen vascular disorders. J Allergy Clin Immunol. 84(4, pt 2): 608-612, 1989.
71. Cano, F; Mayo D.R., **Ballow, M.**: Absent Specific Viral Antibodies in Patients with Transient Hypogammaglobulinemia of Infancy. J Allergy Clin Immunol 85(2):510-513, 1990.
72. Lantner, R.; **Ballow M.**: Idiopathic anaphylaxis. J Allergy Clin Immunol, (Letter), 85 (2): 529, 1990.

73. Israel H, Odziemiec C, **Ballow M**. The Effects of Retinoic Acid on Immunoglobulin Synthesis by Human Cord Blood Mononuclear Cells. Clin Immunol Immunopath 59: 417-425,1991.
74. Ballow M. Mechanisms of action of intravenous immune serum globulin therapy and potential use in autoimmune connective tissue diseases. Cancer 68(6): 1430-1436, 1991.
75. Gandhi A, Brodsky L, **Ballow M**. Benefits of antibiotic prophylaxis in children with chronic sinusitis: assessment of outcome predictors. Allergy Proc 14:37-43, 1993.
76. Wang W, Napoli JL, **Ballow M**: The effects of retinol on in vitro immunoglobulin synthesis by cord blood and adult peripheral blood mononuclear cells. Clin and Exp Immunol 92:164-168, 1993.
77. Wang W and **Ballow M**: The effects of retinoic acid on in vitro immunoglobulin synthesis by cord blood and adult peripheral blood mononuclear cells. Cellular Immunology, 148:291-300,1993.
78. Thornton CA and **Ballow M**. Safety of intravenous immunoglobulin (Editorial). Arch Neurology, 50:135-136, 1993.
79. Bernstein J, Rich G, Odzimiec C, and **Ballow M**. Are thymus derived lymphocytes (T-cells) defective in the nasopharyngeal and palatine tonsils of children. Otolaryngology Head Neck Surg 109:693-700, 1993.
80. Hirschhorn R, Yang DR, Insel RA, and **Ballow M**. Severe combined immunodeficiency of reduced severity due to homozygosity for an adenosine deaminase missense mutation (Arg253Pro) Cell Immunol 152(2):383-393, 1993.
81. Braden GL, Warzynski MJ, Golightly M, **Ballow M**. Cell mediated immunity in allopurinol-induced hypersensitivity. Clin Immunol Immunopath, 70:145-151, 1994.
82. Ballow M. Mechanisms of action of intravenous immune serum globulin therapy. Pediatr Infect Dis J 13(9):806-811, 1994.
83. Greenberg SJ, Choi Y, **Ballow M**, Du T, Ward P, Richert MH, Frankel S, Bernstein S, and Brecher M. Profile of immunoglobulin heavy chain variable gene repertoires and highly selective detection of malignant clonotypes in acute lymphoblastic leukemia. J Leukoc Biol, 57(6): 856-864, 1995.
84. Choi Y, Rickert MH, **Ballow M**, and Greenberg SJ. Human IgH-V Gene repertoire in neonatal cord blood, adult peripheral blood, and EBV-transformed cells. Ann NY Acad Science, 764:261-264, 1995.

85. Schaffer FM, **Ballow M**. Immunodeficiency: The office work-up. J Resp Dis 16:523-541, 1995.
86. Weiping W, **Ballow M**. Retinoic-acid-induced enhancing effects of immunoglobulin synthesis by human B cells. Int Arch Allergy Immunol 107(1-3):370-371, 1995.
87. Choi Y, Greenberg SJ, Du TL, Ward PM, Overturf PM, Brecher ML and **Ballow M**. Clonal evolution in B-lineage acute lymphoblastic leukemia by contemporaneous V<sub>H</sub>-V<sub>H</sub> gene replacements and V<sub>H</sub>-DJ<sub>H</sub> gene rearrangements. Blood 87: 2506-2512, 1996.
88. Ballow M, Xiang S, Wang W, Brodsky L. The effects of retinoic acid on immunoglobulin synthesis: Role of interleukin 6. J Clin Immunol, 16:171-179, 1996.
89. Ballow M, Wang W, Xiang S. Modulation of B-cell immunoglobulin synthesis by retinoic acid. Clin Immunol Immunopath, 80: S73-81, 1996.
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97. Shvarts A, Ballow M, Yu A, Lehman H. "An Evaluation of Pneumococcal Titers in Patients Receiving Ig Replacement for Immunodeficiency." Abstract presented at American Academy of Allergy, Asthma & Immunology (AAAAI) Annual Meeting, 2012. Abstract 318. *Journal of Allergy and Clinical Immunology*, Volume 129, Issue 2, Supplement 1, February 2012, Page AB84.
98. Yu A, Ballow M, Shvarts A, Lehman H. "Evaluation of Coverage of Allergy Concepts in Electronic Health Records." Abstract presented at American Academy of Allergy, Asthma & Immunology (AAAAI) Annual Meeting, 2012. Abstract 412. *Journal of Allergy and Clinical Immunology*, Volume 129, Issue 2, Supplement 1, February 2012, Page AB108.
99. Ballow M, Bullinger A, Murphy EA, Berger M. Immunologist' attitudes on "wear-off" effects of IgG replacement therapy for primary immunodeficiency patients. *Journal of Allergy and Clinical Immunology* 131 (2): AB156.
100. Warnatz K, Ballow M, Stangel M, Bril V. 7<sup>th</sup> International Immunoglobulin Conference: Poster Presentations. *Clinical & Experimental Immunology*. 178 Supp 1:162, 2014.

101. Warnatz K, Ballow M, Stangel M, Bril V. 7<sup>th</sup> International Immunoglobulin Conference: Poster Presentations. *Clinical & Experimental Immunology*. 178 Supp 1:139-140, 2014.
102. Yoon J, Ballow M “B Cell Lymphopenia as a Complication of Remote Rituximab Use in a Patient with Common Variable Immunodeficiency.” Abstract presented at American Academy of Allergy, Asthma & Immunology Academy of Allergy, Asthma & Immunology (AAAAI) Annual Meeting, 2015 (#287).
103. Ballow M, Burns TM, Conaway, M Construction of a health-related quality of Life survey for patients with antibody deficiency diseases. Abstract presented to American College of Allergy, Asthma and Immunology (ACAAI) Annual Meeting 2015.
104. Ballow M, Conaway MR, Rachid RA, Seeborg, FO, Sriaroon P, Duff CM, Bonilla FA, Younger MEM, Shapiro R, Burns TM: Construction and Validation of a Health-related Quality of Life (HR-QOL) Instrument for Patients with Primary Antibody Deficiency Disease. American Academy of Allergy, Asthma & Immunology (AAAAI) Annual Meeting, 2016.
105. Lindsay DS, Cunningham\_Rundles C, Fulehan RL, Ballow M, Leiding JW. Incidence of reactivated Herpes Zoster (shingles) in patients with Primary Immune Deficiency. *J Allergy Clin Immunol* 141 (2) AB21, 2018.
106. F Khan, MD MBA1, Joychan S., Castro-Wagner J, Weearsooriya V, Ballow M, Leiding JW. CTLA-4 Haploinsufficiency Presenting in a Child with Very Early- Onset Colitis *J Clin Immunol* 38:352, 2018.
107. Henderson TS, Ballow M, Scalchunes C, Blaese M. Incidence of Herpes Zoster (Shingles) vaccination and diagnosis among older patients with Primary immunodeficiency. *J Clin Immunol* 38:376, 2018.
108. Ballow M, Henderson TS, Scalchunes C, Blaese M. Seasonal influenza vaccination among person with Primary Immunodeficiency. *J Clin Immunol* 38:403, 2018.

### **Data Safety Monitoring Boards**

1. ProMetic Biotherapeutics Inc – phase III study 10% IVIG in patients with PIDD
2. CSL Behring - IgPro20-4004 study
3. Green Cross Corporation – IVIG study GC5107 phase III
4. Kedrion – IVIG study KB052 phase III
5. Glenmark Pharma – biologic for atopic dermatitis phase III trial

**Past Research Grants Awarded**

1. Hood Foundation: 7/1/75-6/30/77; Study of the effect of transfer factor on the histocompatibility system; \$29,071.
2. UConn Research Foundation: 8/1/75-6/30/76; In vitro modulation of the mixed-lymphocyte culture reactivity of transfer factor; \$8,450.
3. UConn Research Foundation: 3/77-2/78; Immune mechanisms in the pathogenesis of vernal conjunctivitis; award returned.
4. NIH PHS Grant 1R01 AM2-975-01: 7/1/79-6/30/81; Association of the major histocompatibility system and diabetes in sacral agenesis; \$82,809.
5. American Heart Association, CT Affiliate: 9/1/78-8/31/79; Immune function in idiopathic nephrosis; award returned.
6. NIH 1R23 EY02036: 8/1/77-7/31/80; Mediators of inflammation in tear secretions; \$30,000.
7. NIH 1R01 HD 12050: 8/1/78-7/31/81; Effects of altered metabolism on immune function in nephrosis; \$142,328.
8. UConn Research Foundation: 12/15/78-12/15/79; Adenosine deaminase deficiency - An animal model; \$6,600.
9. NIH 1R01 AI4484: 2/1/79-1/31/82; Immune responses to minor histocompatibility antigens; \$138,821.
10. NIH 2R01-AM20975; 9/1/79-8/30/81; Immunogenetics of sacral agenesis, \$82,809.
11. NIH, R01-EY02036 9/1/81-8/31/84; Mediators of Inflammation in Tear Secretions. \$147,285.
12. NIH R01-H016481, 7/1/82 to 6/30/86; Human Milk and Immune Development in Premature Infants, \$409,508.
13. UConn Research Fd 9/1/83 to 7/31/83 Contact Lens Induced Conjunctivitis \$10,080.
14. NIH EY-05189 9/1/83 to 8/31/84; Immune Mechanisms in Contact Lens Induced Conjunctivitis (co-investigator) \$15,000.
15. Solomon Eye Fund - Immune Mechanisms in Contact Lens Induced Papillary Conjunctivitis \$10,000 7/1/84 - 6/30/85.

16. NIH EY-02036-08, 9/30/84 to 6/30/88; Mediators of Inflammation in Tear Secretions, \$259,734.
17. UConn Research Foundation 6/6/87 - 12/31/87; Ontogeny and B-Cell Development in VLBW Premature Infants, \$19,000.
18. Intravenous Immune Serum Globulin Therapy in Patients with SLE and Sjogren's Disease:  
  
UConn Research Foundation - \$ 9,828  
Cutter Laboratories - \$20,000  
Travenol Laboratories - \$35,000
19. NIH, 7/1/88 - 5/31/93; Ontogeny and B-Cell Development in VLBW Premature Infants, \$543,333.
20. SINGULAIR Pediatric Mild Asthma Program (PMAP) Medical School Grant, "*Use of a Leukotriene Modifier (Montelukast) to Improve Medication Adherence for Asthmatic Children Seen from the Inner-City*"; 2000-2002 \$49,450.
21. NIH -Vitamin A Therapy in Preterm Infants: Vaccine Response. R01 HD37263. National Institute of Child Health and Human Development, National Institutes of Health; 9/15/99-8/30/00; Entire Project Period 9/15/99-8/30/04; \$829,466.
22. Talecris Biotherapeutics (Talents) Grant: Effects of IGIV on Dendritic Cell Maturation and Function: Comparison of Gamunex With Other Commercial IgIVs. April 1, 2008 – March 30, 2010 \$104,755.

Clinical studies:

1. Glaxo. "A double blind, randomized, placebo controlled study of the efficacy and safety of aqueous fluticasone propionate given once versus twice daily vs. placebo in patients with seasonal allergic rhinitis", 1989.
2. Fisons Pharmaceuticals. "Tilade clinical experience study: an evaluation of Tilade in patients with mild to moderate asthma." 1993
3. Armour Pharmaceuticals. "Open Study of Human Immune Globulin in Children with Recurrent Acute or Chronic Sinusitis" August, 1992 to April 1995, \$10,000.

4. Rhone-Poulenc Rorer Pharmaceuticals. "Comparison of safety, tolerance and efficacy of Gammar IV and Pasteurized Gammar IV" October, 93 to June 95, Total budget: \$40,000. To determine the safety, tolerance and efficacy and biological half-life of Pasteurized Gammar Intravenous Immune Globulin.
5. Miles Inc., "A study of the prevalence of human rhinovirus in pediatric asthma patients with upper respiratory illness" August 1994 to October 1995. Total budget: \$46,787
6. Armour Pharmaceutical Company. "A comparison of the safety, tolerance, efficacy and biological half-life of RPR 109413 and Gamimmune N (10% solutions) for replacement therapy in patients with primary or secondary immune deficiency", 1995. Total budget: \$68,257
7. Bayer Corporation. "A Randomized, Double-Blind, Multicenter, Repeat Dosing, Cross-Over Trial Comparing the Safety, Pharmacokinetics, and Clinical Outcomes of IGIV-Chromatography, 10% (Experimental) with IGIV-Solvent Detergent Treated, 10% (Control) in Patients with Primary Humoral Immune Deficiency" 1998/99. Total budget: \$26,500.
8. Bayer Corporation. "A Randomized, Double-Blind, Multicenter, Parallel Group Trial Comparing the Safety and Efficacy of IGIV-Chromatography, 10% with IGIV-Solvent Detergent Treated, 10% in Patients with Primary Immune Deficiency (PID)" 1999/00. Total budget: \$37,200.
9. Novartis Pharmaceuticals "A 1 year, randomized, double blind, parallel-group, placebo-controlled, multicenter evaluation of efficacy, safety, pharmacokinetics and pharmacodynamics of omalizumab in children (6 - <12 years) with moderate-severe, persistent, inadequately controlled allergic asthma." 2005-2006
10. Primary Immune Services, Inc. Grifols-04 "Clinical Study to Evaluate the Safety, Efficacy, and Pharmacokinetics of Flebogamma® [Immune Globulin Intravenous (Human)] for Replacement Therapy in Primary Immunodeficiency Diseases (PID)" 2002-2005 Direct Annual Costs: \$30,146
11. ZLB Behring An open study to evaluate the safety and efficacy of IVIG-F10 in patients with primary immunodeficiency diseases (PID)." 2005-2006 Total Budget: \$53,244
12. INC Research, Inc. GMX01 "A Phase III, Multicenter, open-label study to evaluate the efficacy, safety, and pharmacokinetics of Gammalex in primary immuneodeficiency diseases." 2006-2007 Total Budget: \$55,000
13. Nabi Biopharmaceuticals: "Open Label, Phase III Safety, Efficacy, and Pharmacokinetic Study of Nabi-IGIV 10% [Immune Globulin Intravenous (Human)] in Subjects with Primary Immune Deficiency Disorders (PID)" 2007-2008 \$81,600.



14. Grifols Biologicals Inc. "Flebogamma 5% DIF-Pediatric Experience Trial". \$25,000.
15. Grifols Biologicals Inc. An open-label, multicenter study to evaluate the safety and pharmacokinetics of IGSC 20% administered for 6 months in subjects with primary immunodeficiency. 2016-2018.
16. Shire. Safety, tolerability, immunogenicity and pharmacokinetic evaluation of HyQvia in pediatric PIDD subjects. 2018- present.

## **EDUCATIONAL/ADMINISTRATIVE ACTIVITIES**

### **State University of New York at Buffalo**

Peer Review Committee for BRSG Funds (1989-1991)

Facilities Planning and and Budget Committee

Incoming Residents Group Leaders Committee (1988-1991)

Residency Reallocation Working Group 1994- 1998.

The Theodore T. Jacobs MD Institute of Molecular Medicine and Immunology Committee (1994-95) Organizing Committee

Student Research Committee of the School of Medicine and Biomedical Sciences, 1994-1998.

Chair-Elect, Program Directors Committee of SUNY at Buffalo consortium, November 1995-1996.

Chair, Program Directors Committee of SUNY at Buffalo consortium, 1996-1997.

Medicare Demonstration Project Committee, 1998-2001.

Administrative Committee, Graduate Medical Education, 1997-1998.

Ad Hoc Committee on Promotions to Qualified (Clinical) Ranks, 1998-2001.

Chair, 1999-2000.

Bylaws Committee for Graduate Medical Dental Education Consortium, 1999-2003.

Medical Scientist Training Program Admissions Committee, 1999-2003.

UBMD Project Team Committee, April 2007 – present

GME Strategic Planning Task Force – 2007 – present

UBMD Management Committee (at-large elected from faculty) April, 2008 - present

### **Children's Hospital of Buffalo and Department of Pediatrics Committees**

Department of Pediatrics Committee on Appointments and Promotions  
Space Committee (1988-1991)  
Clinical Laboratory Management Committee, Chair  
Radioactive Materials Safety Committee  
Animal Care Evaluation Committee (1988-1992)  
University Pediatric Associates Billing Committee (1990-1993)  
Women's and Children's Research Foundation Advisory Committee  
Pediatric Residency Recruitment Committee  
Clinical Laboratory Marketing Committee  
Clinical Pathology Director Search Committee (1992)  
DRG/Asthma Care Committee, 1996-1997  
Latex Committee to develop a latex policy for the Consortium CGF Hospitals  
University of Pediatrics Information Systems Steering Committee - 1996-1997  
University Pediatric Associates Finance Committee, 1996- to present  
    Chair of the Billing Committee  
Merger committee for Clinical Laboratories for CGF Hospital\* - 1997-1999  
Merger committee for affiliation agreement between SUNY Buffalo and CGF, 1997- 1999.  
Member, Medical Advisory Committee at Children's Hospital of Buffalo, 2001 - 2006  
Chair, Search Committee for Pediatric Pulmonary Medicine, 1998-1999  
Chair, Billing Committee for the Department of Pediatrics. 2000 –  
Member, Board of Directors of University at Buffalo Pediatrics Associates, 2002 – 2006  
Interim Chair, Board of Directors of University at Buffalo Pediatric Associates, 2005 – 2006

Invited Speaker from 2000 (142 invited speaker engagements for 1990-1999)

1. Title: Co-Moderator of Symposium, "Chronic Sinusitis and Nasal Polyposis" at 56<sup>th</sup> Annual Meeting of American Academy of Allergy, Asthma and Immunology, San Diego, California, March 5, 2000.

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\* CGF- merged hospitals of Children's, Buffalo General, and Millard Fillmore Hospitals, March, 1998

2. Title: "Immunodeficiency: Clinical Aspects/Genetics/Approach to Therapy" at 56<sup>th</sup> Annual Meeting of American Academy of Allergy, Asthma and Immunology, San Diego, California, March 7, 2000.
3. Title: Breakfast Seminar "Appropriate Uses and Monitoring of Intravenous Gamma Globulin Therapy" at 56<sup>th</sup> Annual Meeting of American Academy of Allergy, Asthma and Immunology, San Diego, California, March 8, 2000
4. Title: "Treatment of Autoimmune Diseases with Intravenous Immune Globulin: Mechanisms of Action", Grand Rounds, University of Tennessee, Division of Allergy and Immunology, Department of Medicine, June 7, 2000.
5. Title: "Office Evaluation of Recurrent Infections", Florida Allergy Asthma and Immunology Society Annual Meeting, Allergy, Asthma and Immunology into the Next Millennium, Lake Buena Vista, Florida, June 9 - 11, 2000.
6. Title: "New Insights into the Pathogenesis of B-Cell Immune Deficiencies", Florida Allergy Asthma and Immunology Society Annual Meeting, Allergy, Asthma and Immunology into the Next Millennium, Lake Buena Vista, Florida, June 9 - 11, 2000.
7. Title: "New Advances in Asthma", Grand Rounds, Catholic Health System, Sisters of Charity Hospital, Buffalo, New York, June 28, 2000.
8. Organizer and Speaker -- Title: "Opportunistic Infections and Immune Deficiencies" at 23<sup>rd</sup> International Conference on Pediatric/Adult Allergy and Clinical Immunology, Toronto, Ontario, Canada, July 21-23, 2000.
9. Title: "Office Evaluation of Immune System", Family Practice Lecture Series, Catholic Health System, Sisters of Charity Hospital, Buffalo, New York, August 10, 2000.
10. Title: "Future Directions in the Treatment of Allergic Diseases with Immunotherapy", SUNY Syracuse, School of Medicine, Department of Medicine, Grand Rounds, September 7, 2000.
11. Title: "Asthma Control: New York's Biggest Health Challenge", Erie County Medical Society and The Medical, Educational and Scientific Foundation, a subsidiary of the Medical Society of the State of New York, Buffalo, New York, September 11, 2000.
12. Title: "Current Perspectives on the Use of Intravenous Immune Globulin (IVIG)", Virginia Society of Health-System Pharmacists (VSHP) Region II Program of Continuing Education for Pharmacists and Technicians, September 20, 2000.

13. Title: "Vitamin A: Effects on Immunization and Risk of Infection", 10<sup>th</sup> Anniversary Pastor Lectureship, Women's and Children's Health Research Foundation, Children's Hospital of Buffalo, NY, September 22, 2000.
14. Title: "Opportunistic Infections and Immune Deficiency", at Buffalo 2000, Division of Allergy Immunology Rheumatology, State University of New York at Buffalo School of Medicine and Biomedical Sciences, Buffalo, NY, September 23, 2000.
15. Title: "Introduction to Pulmicort Respules", Tonawanda Pediatrics, Tonawanda, NY, October 18, 2000.
16. Title: "New Approaches in the Treatment of Allergy Diseases", Medical Grand Rounds, Long Island Jewish Medical Center, New York , October 27, 2000
17. "The ABCs of Leukocyte Trafficking and Defects Leading to Recurrent Infection", John C. Selner Lecture, American College of Allergy, Asthma and Immunology, Seattle, WA, November 7, 2000.
18. Workshop Title: "How to Teach a Rotating Resident", American College of Allergy, Asthma and Immunology, Philadelphia, PA, November 7, 2000.
19. Lecture Title: "Therapeutics", Compass Pilot Program, American Academy of Allergy, Asthma and Immunology, Washington, DC, November 15, 2000.
20. Title: "Quality and Safety of Plasma Products", Quality & Safety Speakers Bureau Meeting, Tarry Town, NY, January 18, 2001.
21. Title: "Initiating Controller Therapy in Asthma", Pediatric Service Educational Program , Olean General Hospital, March 9, 2001, Olean, New York.
22. Presenter: "Appropriate Uses and Monitoring of Intravenous Gamma Globulin Therapy", American Academy of Allergy and Immunology 57<sup>th</sup> Annual Meeting, New Orleans, Louisiana, March 17, 2001.
23. Moderator: "Antibody Deficiency and IVIG", American Academy of Allergy and Immunology 57<sup>th</sup> Annual Meeting, New Orleans, Louisiana, March 17, 2001.
24. Presenter: "Mechanisms of Action of IVIG", American Academy of Allergy and Immunology 57<sup>th</sup> Annual Meeting, New Orleans, Louisiana, March 19, 2001.
25. Title: "Compass: New Directions in the Treatment of Allergic Conjunctivitis and Related Disorders", Kaiser Foundation Health Plan of the Mid-Atlantic States, Inc., Vienna, Virginia, May 16, 2001.

26. Title: "T-Cell Disorders", Infections in the Immunocompromised Patient, Roswell Park Cancer Institute, Niagara on the Lake, Ontario, Canada, June 23, 2001.
27. Organizer and Speaker -- Title: "Alternate Approaches to Therapy of Allergic Disease" at 24<sup>th</sup> International Conference on Pediatric/Adult Allergy and Clinical Immunology, Toronto, Ontario, Canada, July 20-22, 2001.
28. Title: "Problem-Based Learning: A Case Study Workshop", International Meeting & Science Inc. Faculty Meeting: *Asthma and Allergic Rhinitis: Connecting Common Pathways and Treatment*, July 27-29, 2001, Ottawa, Ontario, Canada.
29. Title: "The Role of Leukotrienes in Pediatric Asthma".Syracuse, NY, August 14, 2001.
30. Title: "New Directions in the Treatment of Allergic Conjunctivitis and Related Disorders", Albany Compass Program, American Academy of Allergy, Asthma and Immunology, Albany, NY, September 19, 2001.
31. Title: "New Directions in the Treatment of Allergic Conjunctivitis and Related Disorders", American Academy of Allergy, Asthma and Immunology, Massachusettes, November 1, 2001.
32. Title: "Current Treatments in the Management of Pediatric Asthma", Buffalo, NY, March 20, 2002.
33. Title: "Role of Nasal Steroids as They Relate to the Upper and Lower Airway", Buffalo, NY, March 25, 2002.
34. Title: "Appropriate Uses and Monitoring of Intravenous Gamma Globulin Therapy", American Academy of Allergy and Immunology 58<sup>th</sup> Annual Meeting, New York, New York, March 3, 2002.
35. Title: "IVIG: Product Selection and Administration", American Academy of Allergy and Immunology 58<sup>th</sup> Annual Meeting, New York, New York, March 3, 2002.
36. Title: "Administration of IVIG and Treatment of Adverse Effects", American Academy of Allergy and Immunology 58<sup>th</sup> Annual Meeting, New York, New York, March 5, 2002.
37. Title: "Asthma : Immunotherapy", City-Wide Grand Rounds, Department of Medicine, School of Medicine and Biomedical Sciences, University at Buffalo, April 18, 2002, Buffalo, New York.
38. Organizer and Speaker -- Title: "Risk Factors for the Development of Allergic Disease" at 25<sup>th</sup> International Conference on Pediatric/Adult Allergy and Clinical Immunology, Toronto, Ontario, Canada, July 19-21, 2002.

39. Presenter: “Risk Factors in the Development of Allergic Diseases”, Integrative Medicine 2002, Women and Children’s Health Research Foundation, Children’s Hospital of Buffalo/Kaleida Health, September 13, 2002.
40. Title: “IGIV Therapy and Other Treatment Options for Primary Immune Deficiency Diseases”, Immune Deficiency Foundation Operation Outreach Educational Meeting, Rochester, NY, November 2, 2002.
41. Title: “New Approaches for the Diagnosis and Management of Asthma” , Medical Education Program, Syracuse, NY, September 12, 2002. Title: “Asthma – New Treatments”, Buffalo Pediatric Society, Buffalo, NY, September 24, 2002.
42. Lecture Title: “Evaluation of the Patient with Recurrent Infections”, Visiting Professor, China, October 17-21, 2002.
43. Lecture Title: “ New Concepts in Treatment of Asthma”, Visiting Professor, China, October 17-21, 2002.
44. Title: "Risk Factors in the Development of Allergic Diseases", University of South Florida College of Medicine/All Children's Hospital Pediatric Grand Rounds, St. Petersburg, Florida, November 21-22, 2002.
45. Research Conference: “Vitamin A and Modulation of the Immune System”, University of South Florida College of Medicine/All Children's Hospital, St. Petersburg, Florida, November 21-22, 2002.
46. Title: "Acquired Immune Deficiencies Including AIDS, Congenital Immune Deficiencies and Graft vs. Host Reaction/Bone Marrow Transplantation", Certification Course for Allergy Boards, March 22, 2003.
47. Title: “Approach to the Patient with Recurrent Infection” Rush Medical Center, Pediatric Grand Rounds, Chicago, IL, March 26, 2003.
48. Seminar Title: “Uses and Abuses of IVIG Therapy”, Rush Medical Center, Chicago, IL, March 26, 2003.
49. Recertification Lectures for Allergy/Immunology Boards, Dallas, TX, April 5, 2003
50. Title: “Appropriate and Non-Label Uses of Intravenous Gamma Globulin Therapy”, 60<sup>th</sup> Annual Meeting of American Academy of Allergy, Asthma and Immunology, Denver, CO, March 9, 2003.
51. Title: “IVIG Therapy in the New Millennium”, Illinois Council of Health-System Pharmacists, St. Louis , Missouri, April 25, 2003.

52. Title: "Stepwise Evaluation of Suspected Immune Deficiencies", Recognition of Primary Immune Deficiencies, - If You Don't Look, You Won't See..You Will Never Know, University Hospitals of Cleveland Health System, Rainbow Babies and Children's Hospital, Cleveland, Ohio, June 14, 2003.
53. Title: "Immune Globulin Therapy Subcutaneous Administration" Immune Deficiency Foundation Second National Conference in Baltimore, MD, June 19-21, 2003.
54. Title: "Asthma Management: Following the Guidelines", Grand Rounds , Catholic Health System, Sisters of Charity Hospital, Buffalo, NY, June 25, 2003.
55. Title: "Clinical Immunodeficiency Syndromes ", World Allergy Organization, IAACI (WAO) Congress - XVIII ICACI, Vancouver, British Columbia, Canada, September 8, 2003.
56. Title: "Are All IVIGs the Same?", Nebraska Allergy Society, Omaha, Nebraska, October 23, 2003.
57. Title: "Effects of Retinoids on the Immune System", Grand Rounds, Creighton University, Omaha, Nebraska, October 24, 2003.
58. Title: "Evaluation of Patients with Recurrent Infection", Visiting Professor Lecture to fellows, Creighton University, Omaha, Nebraska, October 24, 2003.
59. Title: "Evaluation of the patient with recurrent infections", Grand Rounds, Michigan State University Kalamazoo Center for Medical Studies, Kalamazoo, Michigan, January 30, 2004.
60. Title: "The Effects of Retinoic Acid on Immune Responses", Boston Children's Hospital, Boston, MA, March 8, 2004.
61. Title: "The Role of the Eosinophil in Asthma", Brigham and Women's Hospital, Boston, MA, March 9, 2004.
62. Title: Breakfast Seminar "Clinical Use of IVIG" at 60<sup>th</sup> Annual Meeting of American Academy of Allergy, Asthma and Immunology, San Francisco, California, March 23, 2004.
63. Title: "Optimizing Outcomes with IVIG Therapy", Allergy Update 2004 21<sup>st</sup> Annual Symposium, Allergy Asthma & Immunology Society of Ontario, Canada, April 17, 2004.

64. Title: "Chronic Recurrent Infections: When to Evaluate and When to Treat", Allergy and Clinical Immunology 62<sup>nd</sup> Annual Course, Departments of Medicine, Pediatrics and Laboratory Medicine and Pathology, University of Minnesota Medical School, Minneapolis, MN, April 23, 2004.
65. Title: "The Goal is Control: Update on Asthma Management", Kaleida Health Pediatrics, Buffalo, NY, June 11, 2004.
66. Title: "Evaluation of the Patient with Recurrent Infection", Pennsylvania Allergy & Asthma Association, 56<sup>th</sup> Annual Meeting, Harrisburg, PA, June 26, 2004.
67. Title: "Uses of IVIG", Pennsylvania Allergy & Asthma Association, 56<sup>th</sup> Annual Meeting, Harrisburg, PA, June 26, 2004.
68. Title: "Evaluation of the Patient with Recurrent Infections", Immunology in the Office Setting, Joint Sponsorship of the American Thoracic Society and the American Lung Association of New York State/New York State Thoracic Society, Syracuse, NY, October 9, 2004.
69. Title: "Humoral Immune Deficiency Disorders: State of the Art", 2004 Canadian Society of Allergy and Clinical Immunology 2004 Annual Scientific Meeting, Ottawa, Ontario, October 22, 2004.
70. Title: "Evaluation of the Patient with Recurrent Infections", Pediatric Grand Rounds, Department of Pediatrics, The University of Texas Medical Branch, Galveston, Texas, January 21, 2005.
71. Title: "Mechanisms of Action of IVIG", Department of Medicine, Allergy/Immunology Division, The University of Texas Medical Branch, Galveston, Texas, January 20, 2005.
72. Title: "Does Our Environment Influence the Development of Allergic Diseases: the Hygiene Hypothesis", 2005 Shanghai International Pediatric Forum, Children's Hospital of Fudan University, Shanghai, P.R. China, June 17, 2005.
73. Title: "Chronic Sinusitis & Primary Immune Deficiency Diseases", Immune Deficiency Foundation (IDF) Third National Conference, Lake Buena Vista, Florida, June 23-25, 2005.
74. Title: "IgG Subclass Deficiency and Specific Antibody Deficiency", Immune Deficiency Foundation (IDF) Third National Conference, Lake Buena Vista, Florida, June 23-25, 2005.



75. Title: "Intravenous Immune Globulins in the 21st Century: Progress and Challenges in Efficacy, Safety, and Paths to Licensure", Immune Deficiency Foundation/Food and Drug Administration Workshop, Bethesda, Maryland, April 13, 2005.
76. Title: "Recent Advances in B-cell Immune Deficiencies", The California Society of Allergy, Asthma and Immunology 13<sup>th</sup> Annual Education Meeting – A Midsummer Night's Wheeze, Monterey, California, July 16, 2005.
77. Title: "IVIG Therapy: Potential Issues When Selecting a Product", The California Society of Allergy, Asthma and Immunology 13<sup>th</sup> Annual Education Meeting – A Midsummer Night's Wheeze, Monterey, California, July 17, 2005.
78. Title: "Immunodeficiency", The 3<sup>rd</sup> Annual Allergy and Immunology Conference, Syracuse, New York, October 29, 2005.
79. Title: "Immunodeficiency: Office-Based Proteomics and Genomics", American College of Allergy, Asthma & Immunology 2005 Annual Meeting, Anaheim, California, November 7, 2005.
80. Title: "Childhood Immunodeficiency", American College of Allergy, Asthma & Immunology 2005 Annual Meeting, Anaheim, California, November 7, 2005.
81. Title: "B-Cell Deficiencies", Department of Pediatrics, Division of Allergy/Immunology/Rheumatology, University of South Florida, Florida, January 23, 2006.
82. Title: "Office Evaluation of Patients with Recurrent Infection", Pediatric Grand Rounds Visiting Professor: 1<sup>st</sup> Annual Jordan Fink Lecture, Medical College of Wisconsin, February 3, 2006.
83. Title: "Immune Modulation of Retinoids", Visiting Professor, Academic Conference, Medical College of Wisconsin, February 3, 2006.
84. Title: "Safety and Adverse Effects of IGIV", Allergy/Immunology Grand Rounds, Visiting Professor, Medical College of Wisconsin, February 3, 2006.
85. Title: "IVIG & Substitutes – Perspective for Clinical Use", Hema-Quebec Consensus Forum 2006 – "Plasma Self-Sufficiency in the province of Quebec", Canada, February 17, 2006.
86. Title: "Immunodeficiency Diseases", Chrysalis Project, American Academy of Allergy, Asthma & Immunology 2006 Annual Meeting, Miami Beach, Florida, March 3, 2006.

87. Title: "Individualizing Immunoglobulin Therapy: Dosing Options for Patients with Primary Immune Deficiency", American Academy of Allergy, Asthma & Immunology 2006 Annual Meeting, Miami Beach, Florida, March 3, 2006.
88. Title: "High Impact Publications for Basic and Clinical Immunology", American Academy of Allergy, Asthma & Immunology 2006 Annual Meeting, Miami Beach, Florida, March 6, 2006.
89. Title: "IVIG Treatment in Patients with Primary Immunodeficiencies: Efficacy, Adverse Reactions and Viral Safety", The First Symposium of the Robert A. Good Immunology Society: Perspectives in Immunology 2006, St. Pete Beach, Florida, June 10, 2006.
90. Title: "Office Diagnosis of Immunodeficiency Disorders", Long Island Allergy & Asthma Society 13<sup>th</sup> Annual Scientific Conference, Montauk, Long Island, New York, September 9, 2006.
91. Title: "Use of Biologicals and IVIG as Immune Modulators", Long Island Allergy & Asthma Society 13<sup>th</sup> Annual Scientific Conference, Montauk, Long Island, New York, September 10, 2006.
92. Title: "Evaluation of Recurrent Infections in a Child for Immune Deficiency and When to Treat With IGIV", Western Society of Allergy, Asthma & Immunology 45<sup>th</sup> Annual Scientific Session, Maui, Hawaii, January 14-18, 2007.
93. Title: "Does IGG Subclass and Selective Antibody Deficiencies Really Exist, and Do We Need to Treat with IGIV?" Western Society of Allergy, Asthma & Immunology 45<sup>th</sup> Annual Scientific Session, Maui, Hawaii, January 14-18, 2007.
94. Title: "Evaluation of Specific Antibody Responses to Diagnose PID". American Academy of Allergy, Asthma & Immunology 2007 Annual Meeting, San Diego, California, February 25, 2007.
95. Title: "The Connection of Chronic Sinusitis and Primary Immune Deficiency Diseases", Immune Deficiency Foundation 2007 National Conference, St. Louis, MO, April 16, 2007
96. Title: "Immune System Basics", Immune Deficiency Foundation "Operation Outreach Meeting", Buffalo, New York, May 5, 2007.
97. Title: "Treatment Options for Primary Immunodeficiency Diseases", Immune Deficiency Foundation "Operation Outreach Meeting", Buffalo, New York, May 5, 2007.
98. Title: "B-Cell Immunity", Divisions of Allergy and Immunology, Department of Pediatrics and Internal Medicine, University of South Florida, St. Petersburg Florida, May 15, 2007.

99. Title: “Balancing the Perfect with the Practical: IVIG Analytes”, Plasma Protein Forum, Plasma Protein Therapeutics Association, Reston, Virginia, June 5, 2007. Title: “Abnormal Antibody Responses: When to Intervene?”, American College of Allergy, Asthma & Immunology 2007 Annual Meeting, Dallas Texas, November 10, 2007.
100. Title: “Major Immunodeficiency Diseases Treated with IVIG/SCIG Replacement Therapy”, Advanced Practicum for Health Care Professionals Providing Immunoglobulin Therapy: IVIG and SCIG, University Hospitals Case Medical Center, Cleveland, Ohio, December 1, 2007.
101. Title: “Major Autoimmune and Inflammatory Diseases Treated with IgG Immunomodulatory Therapy”, Advanced Practicum for Health Care Professionals Providing Immunoglobulin Therapy: IVIG and SCIG, University Hospitals Case Medical Center, Cleveland, Ohio, December 1, 2007.
102. Title: “Office-Based Approach to Evaluation of Immunodeficiency Disorders”, Kansas City Allergy Society Annual Meeting, Kansas City, Missouri, January 19, 2008.
103. Title: “Commercially Available Genetic Tests to Diagnose Immunodeficiency”, Kansas City Allergy Society Annual Meeting, Kansas City, Missouri, January 19, 2008.
104. Title: “Evidence-Based Use of IVIG”. American Academy of Allergy, Asthma & Immunology 2008 Annual Meeting, Philadelphia, Pennsylvania, March 17, 2008.
105. Title: “Immunomodulator Therapy in Allergic and Immunologic Disease”. American Academy of Allergy, Asthma & Immunology 2008 Annual Meeting, Philadelphia, Pennsylvania, March 14, 2008.
106. Title: “IVIG and SQ IG/Pregnancy and Allergy/Immunology”, 2008 AAAAI/ACAI Certification/Recertification Course, Chicago, Illinois, April 19, 2008.
107. Title: “Immunomodulators”, New York Allergy and Asthma Society, New York, New York, May 21, 2008.
108. Title: “Clinical experience of Flebogamma® 5% DIF, a New Generation IVIG in patients with Primary Immunodeficiency diseases”, Satellite Symposium / XII<sup>th</sup> ESID Congress 2008, The Netherlands, October 18, 2008.
109. Title: “Evaluation of Patients with Recurrent Infections”, American College of Allergy, Asthma & Immunology 2008 Annual Meeting, Seattle, Washington, November 8, 2008.
110. Title: “Primary Immunodeficiency”, The Israel Association of Allergy and Clinical Immunology Annual Meeting 2008, Israel, December 4, 2008.

111. Title: “Immunomodulator Therapy in Allergic and Immunologic Disease”. American Academy of Allergy, Asthma & Immunology 2009 Annual Meeting, Washington, DC, March 13, 2009.
112. Title: “Immunomodulator Therapy in Allergic and Immunologic Disease”. American Academy of Allergy, Asthma & Immunology 2009 Annual Meeting, Washington, DC, March 13, 2009.
113. Seminar Title: “Use of Pneumococcal Vaccination in Immunodeficiency Diagnosis and Management”. American Academy of Allergy, Asthma & Immunology 2009 Annual Meeting, Washington, DC, March 14, 2009.
114. Title: “B-Cell Immunity”. WAO-AAAAI Online Lectures: Immunology Series 2009.
115. Title: “Biologic Immune Response Modifiers for Asthma: Do we have the Magic Bullet?” Allergy/Immunology Grand Rounds, Department of Medicine, Rhode Island Hospital, April 23, 2009.
116. Title: “Primary Immune Deficiency-Phenotype vs. Genotype “Seeing the Trees Through the Forest”. Allergy & Asthma Seminar Series, Continuing Medical Education, Yale School of Medicine, New Haven, CT, April 24, 2009.
117. Title: “Use of Immunoglobulin in Inflammatory/Immunomodulatory Diseases”, 2009 Pediatric Academic Society Annual Meeting, Baltimore, Maryland, May 2, 2009.
118. Title: "The Allergist's Edge in Managing Patients with Immune Deficiency" The University of Michigan John M. Sheldon Allergy Society Tri-Annual Meeting, Ann Arbor, Michigan, July 24-26, 2009
119. Title: “Novel Immunomodulatory Treatments of Asthma”, Fourth Annual Nemaocolin Asthma Conference - An Innovative Approach to Patient Care, Therapy and Research, West Virginia University School of Medicine, Morgantown, West Virginia, September 12, 2009.
120. Title: “Seeing the Trees Thru the Forest’ – Phenotype Difference in the Clinical Presentation of Immune Deficiencies”, Grand Rounds, UCLA Department of Pediatrics, Los Angeles, California, September 25, 2009.
121. Title: “Immune Response Modifiers in the Treatment of Allergic Diseases: the Good, Bad and Ugly”, Fall Symposium of the Los Angeles Society of Allergy/Asthma & Clinical Immunology (LASAACI), Los Angeles, California, September 26, 2009.

122. Title: “Immunodeficiencies Aren’t Always What They Seem”, American College of Allergy, Asthma & Immunology 2009 Annual Meeting, Miami Florida, November 8, 2009.
123. Title: “Immunoglobulin Therapy: IV vs SC”, American College of Allergy, Asthma & Immunology 2009 Annual Meeting, Miami Florida, November 9, 2009.
124. Title: “Meet the Professor”, American College of Allergy, Asthma & Immunology 2009 Annual Meeting, Miami Florida, November 2009
125. Title: “Biological Immune Response Modifiers for Allergic Diseases” XXI World Allergy Congress 2009, Buenos Aires, Argentina, December 8, 2009.
126. Title: “Primary Immunodeficiencies (PID)” XXI World Allergy Congress 2009, Buenos Aires, Argentina, December 9, 2009.
127. Title: “Antibody Deficiency Syndromes” XXI World Allergy Congress 2009, Buenos Aires, Argentina, December 9, 2009.
128. Title: “Use of Pneumococcal Vaccination in Immunodeficiency Diagnosis and Management”, American Academy of Allergy, Asthma & Immunology 2010 Annual Meeting, New Orleans, Louisiana, March 1, 2010.
129. Title: “IVIG and SQ/IG and Allergy/Immunology” Conjoint Certification/Recertification Board Review Course, Chicago, Illinois, April 18, 2010.
130. Title: “Asthma Update”, Grand Rounds, Catholic Health System, Sisters of Charity Hospital, Buffalo, New York, May 26, 2010.
131. Title: “Immunodeficiency – Recognition, Uses and Abuses of IVIG Therapy, Pennsylvania Allergy & Asthma Association 62<sup>nd</sup> Annual Meeting, Hershey, Pennsylvania June 27, 2010.
132. Title: “Evaluation of the Patient with Recurrent Infections” Forsyth Medical Center Pediatric CME Conference, Winston-Salem, N. Carolina, September 23, 2010.
133. Title: “Immunodeficiency Disease in Children” St. Vincent’s Mercy Children’s Hospital, The University of Toledo, Department of Pediatrics, Toledo, Ohio, September 29, 2010.
134. Title: “Systemic Reactions Caused by Immunotherapy: Diagnosis and Treatment”, International Conference on Specific Immunotherapy: State of the Art and Perspectives, Taormina – Sicily – Italy, October 26, 2010.

135. Workshop Title: “Immunodeficiencies Aren’t Always What They Seem”, American College of Allergy, Asthma and Immunology, Phoenix, Arizona, 2010.
136. Title: Co-Moderator of Symposium, "Issues and Advances in Primary Immunodeficiency Relevant to Allergists" at Annual Meeting of American College of Allergy, Asthma and Immunology, Phoenix, Arizona, 2010.
137. Meet the Professor Title: “Immunoglobulin Therapy: IV vs. SC” American College of Allergy, Asthma & Immunology Annual Meeting, Phoenix, Arizona, 2010.
138. Title: “Immune Response Modifiers”, American Academy of Allergy, Asthma & Immunology 2011 Annual Meeting, San Francisco, California, March 18, 2011.
139. Title: “Mechanisms of Action of IVIG”, American Academy of Allergy, Asthma & Immunology 2011 Annual Meeting, San Francisco, California, March 19, 2011.
140. Title: “IVIG as a Biologic Immune Response Modifier”, Visiting Professor, Cleveland Clinic, Allergy/Immunology Respiratory Institute, Cleveland, Ohio, June 7, 2011.
141. Title: “B-Cell Immune Deficiencies”, Visiting Professor, Cleveland Clinic, Allergy/Immunology Respiratory Institute, Cleveland, Ohio, June 8, 2011.
142. Title: “Ask an Expert: Rare Diseases That Shouldn’t Be Missed”, Florida Allergy Asthma and Immunology Society Annual Meeting, Amelia Island, Florida, July 8, 2011.
143. Title: “New Uses for Intravenous and Subcutaneous Immunoglobulin Therapy”, Grand Rounds, Winthrop University Hospital, Division of Rheumatology, Allergy & Immunology, Mineola, New York, October 21, 2011.
144. Title: “Individualization of Therapy Over a Lifetime”, American College of Allergy, Asthma, & Immunology 2011 Annual Meeting, Boston, Massachusetts, November 5, 2011.
145. Title: “Immunodeficiencies Aren’t Always What They Seem”, American College of Allergy, Asthma, & Immunology 2011 Annual Meeting, Boston, Massachusetts, November 6, 2011.
146. Title: “The What?” American College of Allergy, Asthma, & Immunology 2011 Annual Meeting, Boston, Massachusetts, November 7, 2011.
147. Title: “Evaluation & Management of Immunodeficiency”, American College of Allergy, Asthma, & Immunology 2011 Annual Meeting, Boston, Massachusetts, November 7, 2011.

148. Title: "Breakfast Symposium: Case Discussion on Patients with Possible Immune Deficiencies", 2011 World Allergy Congress, Cancun, Mexico, December 5, 2011.
149. Title: "Common Variable Immune Deficiency: Comorbid Medical Issues", 2011 World Allergy Congress, Cancun, Mexico, December 8, 2011.
150. Title: "When to Use IVIG", American Academy of Allergy, Asthma & Immunology 2012 Annual Meeting, Orlando, Florida, March 4, 2012.
151. Title: "Therapeutic Immunoglobulin: What It Is and How It Works", American Academy of Allergy Asthma & Immunology 2012 Annual Meeting, Orlando, Florida, March 5, 2012.
152. Title: "New Approaches to IgG Dosing", 2012 Annual Meeting: Primary Immune Deficiency Diseases North American Conference, Clinical Immunology Society, Chicago, Illinois, May 17-20, 2012.
153. Title: "Immunodeficiency: Role of the Allergist". 2012 Annual meeting: American College of Allergy, Asthma and Immunology, Anaheim, CA Nov 12, 2012
154. Title: "Management of Antibody Deficiencies in Older Adults". 2012 Annual meeting: American College of Allergy, Asthma and Immunology, Anaheim, CA Nov 10, 2012
155. Title: "Immune response modifiers: Infections and adverse events". North Carolina Infectious Disease Society. Nov 17, 2012
156. Title: "Therapy for Primary Immune Deficiency Disorders". Israel Allergy & Immunology Society. Nov. 29, 2012
157. Title: "Immunodeficiency diseases in Adults". Kansas City Allergy & Immunology Society. Jan. 12, 2013.
158. Title: "Practical application of AAAAI guidance on diagnostic vaccines: case studies Academy of Allergy Asthma & Immunology 2013 Annual Meeting, San Antonio, TX
159. Title: "Insights into immunological testing". 2013 National Conference Immune Deficiency foundation, Baltimore June 28, 2013
160. Title: "Antibody replacement therapy". Update in diagnosis and management of PIDD. Clinical Immunology Society. June 29, 2013, Baltimore, MD
161. Title: Immune response modifiers: The good, bad and ugly. AAFA Alaska Sept 6, 2013
162. Title: Treatment guidelines for immune deficiency. AAFA Alaska Sept 7, 2013

163. Title: Vaccines as tools for diagnosing primary immunodeficiencies, and IVIG-dosing and management considerations. Louisiana Society of Allergy, Asthma and Immunology. New Orleans, June 21-22, 2014.
164. Title: Mechanisms of action of IVIG in autoimmune and inflammatory disease. Mt Sinai School of Medicine grand rounds. NYC June 27, 2014.
165. Title: A primer for immunology. Florida Allergy, Asthma & Immunology Society, Orlando, FL July 19, 2014.
166. Title: Immune response modifiers: the good, bad, and ugly. Southeastern Allergy, Asthma & Immunology Society Isle of Palms, Sept 20, 2014
167. Title: New Approaches in IgG dosing for patients with antibody deficiency. Southeastern Allergy, Asthma & Immunology Society Isle of Palms, Sept 20, 2014
168. Title: Candidiasis – A window into Immune Deficiency Diseases. Grand Rounds Miami Children’s Hospital, Nov 14 , 2014
169. Title: “Evaluation of the Patient with Recurrent Infections”, Grand rounds – University of Texas Medical Center, Galveston Nov 20, 2014
170. Title: “Mechanisms of action of IVIG in Autoimmune Diseases”, Texas Children’s Hospital, Dec. 12, 2014
171. Title: “Mechanisms of action of IVIG in Autoimmune Diseases”, Philadelphia Children’s Hospital, Dec. 18, 2014.
172. Title: Candidiasis – A window into Immune Deficiency Diseases. Grand Rounds Cleveland Clinic, June 3, 2015
173. Title: “Mechanisms of action of IVIG in Autoimmune Diseases” Cleveland Clinic, June 3, 2015
174. Title: “Candidiasis: A window into the immune system. Alabama Society of Allergy & Immunology. July, 2015
175. Title: “Vaccine responses in the evaluation of patients with B-cell immune deficiency” Alabama Society of Allergy & Immunology. July, 2015
176. Title: “Development of a Patient - Reported Outcome (PRO) Survey for Patients with Antibody Immune Deficiency” International Forum on Immunology Research. Berlin, Germany Oct 9, 2015
177. Title: “Disease-specific health-related quality of life outcomes in patients with antibody immune deficiency. Clinical Immunology Society (Boston), April, 2016.
178. Title: “The variability in Common Variable Immunodeficiency (CVID)” Tennessee Allergy and Immunology Society, August 6, 2016.
179. Title: Prophylactic antibiotics in patients with primary immune deficiency” Annual meeting: American College of Allergy, Asthma and Immunology, Boston Nov. 2016.
180. Title: “Laboratory evaluation of humoral immunity in patients with PIDD”. Annual meeting: American College of Allergy, Asthma and Immunology, Boston Nov 2016.
181. Title: “Immunoglobulin replacement therapy and prophylactic antibiotics in patients with PIDD”. IDF and CIS Symposium Anaheim, CA June 2017



182. Title: "Selective antibody immune deficiency and IgG subclass immune deficiency". IDF Symposium Anaheim, CA June 2017
183. Title: "Candidiasis as a window into primary immune deficiency. Tennessee Allergy and Immunology Society, July 29, 2017
184. Title: "Personalized medicine and monogenic immune deficiency disorders" SUNY Buffalo, Children's Hospital September 30, 2017
185. Title: "Mucocutaneous candidiasis: a window into the immune system and primary immune deficiency. New York Allergy and Asthma Society. Oct 20, 2017
186. Title: "Masterclass in Immunology". Hanoi and Ho Chi Minh City, Vietnam March 18-20, 2018
187. Title: "43 year old women with a history of asthma, bronchitis and recurrent sinusitis" Department of Medicine City Wide Grand Rounds, Buffalo, NY Oct 11, 2018.
188. Title: "Constructing individualized treatments for patients with immune dysregulatory diseases". Robert Reisman Memorial Lecture, Buffalo, NY Oct 11, 2018
189. Title: "Patient-centered Outcomes" Am College of Allergy, Asthma & Immunology. Nov 10, 2019
190. Title: "Considerations for the long term management of children with PIDD" Am College of Allergy, Asthma & Immunology. Nov 11, 2019.