

Biographical Sketch

NAME	POSITION TITLE
Wayne G. Shreffler, M.D., Ph.D.	Assistant Professor of Pediatrics
eRA COMMONS NAME SHREFFLERWG	Assistant Professor, Immunology Institute Mount Sinai School of Medicine

Education/Training

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
University of Washington, Seattle, WA	B.S.	1991	Cell & Molecular Biology
New York University, New York, NY	M.S.	1996	Biochemistry
New York University, New York, NY	Ph.D.	1998	Biochemistry
New York University, New York, NY	M.D.	1998	Medicine
Albert Einstein College of Medicine, Bronx, NY	Residency	1998-2000	Pediatrics
Mount Sinai School of Medicine, New York, NY	Fellowship	2000-2003	Allergy & Immunology

Research and Professional Experience:

1988 to 1992	Research Assistant, Seattle Biomedical Research Institute
1992 to 1998	Graduate Student, New York University School of Medicine
1998 to 2000	Pediatric Resident, Albert Einstein College of Medicine & Montefiore Medical Center
2000 to 2003	Allergy/ Immunology Fellowship, Mount Sinai School of Medicine
2003 to present	Attending Physician in Pediatrics, Mount Sinai Medical Center
2003 to present	Assistant Professor of Pediatrics, Mount Sinai School of Medicine
2006 to present	Assistant Professor, Immunology Institute, Mount Sinai School of Medicine

Honors and Awards:

- 1992: SBRI Undergraduate Research Award.
- 1992: NIH funded MSTP Research Fellow, NYU.
- 1999: ABP Short track to Allergy/Immunology.
- 2000: ACAAI Travel Gant.
- 2000-3: AAAAI Travel Grant.
- 2003-9: NIH-LRP Extramural Pediatrics.
- 2006-8: NIH Child Health Research Career Development Award.
- 2009: Elected Fellow AAAAI.

Professional Certification

NYS License	1998 - current
DEA	1999 - current
American Board of Pediatrics	2003
American Board of Allergy & Immunology	2004

Professional Societies and Activities

American Academy of Allergy Asthma and Immunology: FIT member (2000-3), Member (2003-9), Fellow (2009-current) Mechanisms of Allergic Inflammation Interest Section Member (2002 - current); Chrysalis Program Mentor (2002); National Resident Education Program Mentor (2000-1);

Peer Review: Ad hoc reviewer for: *J Allergy & Clin Immunol*; *J Immunol*; *Blood*; *J Leuk Biol*; *Clin Exp Allergy*; *Allergy*; *FEBS Letters*; *Int Arch Allergy Immunol*; *Immunology Letters*; *BMC Immunology*

Grant Review: Welcome Trust; Food Allergy Initiative; Food Allergy & Anaphylaxis Network; USAMRMC-AIBS

Publications

1. Reed, S. G., W. G. Shreffler, J. M. Burns, J. M. Scott, M. da G Orge, H. W. Ghalib, M. Siddig, and R. Badaro, 1990. An improved serodiagnostic procedure for visceral leishmaniasis. *Am J Trop Med Hyg* 43: 632–9.
2. Scott, J. M., W. G. Shreffler, H. W. Ghalib, A. el Asad, M. Siddig, R. Badaro, and S. G. Reed, 1991. A rapid and simple diagnostic test for active visceral leishmaniasis. *Am J Trop Med Hyg* 44: 272–7.
3. Burns, J. M., W. G. Shreffler, D. E. Rosman, P. R. Sleath, C. J. March, and S. G. Reed, 1992. Identification and synthesis of a major conserved antigenic epitope of trypanosoma cruzi. *Proc Natl Acad Sci USA* 89: 1239–43.
4. Burns, J. M., W. G. Shreffler, D. R. Benson, H. W. Ghalib, R. Badaro, and S. G. Reed, 1993. Molecular characterization of a kinesin-related antigen of leishmania chagasi that detects specific antibody in african and american visceral leishmaniasis. *Proc Natl Acad Sci USA* 90: 775–9.
5. Shreffler, W. G., J. M. Burns, R. Badaro, H. W. Ghalib, L. L. Button, W. R. McMaster, and S. G. Reed, 1993. Antibody responses of visceral leishmaniasis patients to gp63, a major surface glycoprotein of leishmania species. *J Infect Dis* 167: 426–30.
6. Frevert, U., P. Sinnis, C. Cerami, W. Shreffler, B. Takacs, and V. Nussenzweig, 1993. Malaria circumsporozoite protein binds to heparan sulfate proteoglycans associated with the surface membrane of hepatocytes. *J Exp Med* 177: 1287–98.
7. Peralta, J. M., M. G. Teixeira, W. G. Shreffler, J. B. Pereira, J. M. Burns, P. R. Sleath, and S. G. Reed, 1994. Serodiagnosis of Chagas' disease by enzyme-linked immunosorbent assay using two synthetic peptides as antigens. *J Clin Microbiol* 32: 971–4.
8. Shreffler, W., T. Magardino, K. Shekdar, and E. Wolinsky, 1995. The unc-8 and sup-40 genes regulate ion channel function in caenorhabditis elegans motoneurons. *Genetics* 139: 1261–72.
9. Shreffler, W., and E. Wolinsky, 1997. Genes controlling ion permeability in both motoneurons and muscle. *Behav Genet* 27: 211–21.
10. Tavernarakis, N., W. Shreffler, S. Wang, and M. Driscoll, 1997. unc-8, a deg/enac family member, encodes a subunit of a candidate mechanically gated channel that modulates c. elegans locomotion. *Neuron* 18: 107–19.
11. Shreffler, W. G., K. Beyer, T.-H. T. Chu, A. W. Burks, and H. A. Sampson, 2004. Microarray immunoassay: association of clinical history, in vitro IgE function, and heterogeneity of allergenic peanut epitopes. *J Allergy Clin Immunol* 113: 776–82.
12. Shreffler, W. G., D. A. Lencer, L. Bardina, and H. A. Sampson, 2005. IgE and IgG4 epitope mapping by microarray immunoassay reveals the diversity of immune response to the peanut allergen, Ara h 2. *J Allergy Clin Immunol* 116: 893–9.
13. Shreffler, W. G., Z. Charlop-Powers, and S. H. Sicherer, 2006. Lack of association of HLA class II alleles with peanut allergy. *Ann Allergy Asthma Immunol* 96: 865–9.

14. Shreffler, W. G., C. M. Visness, M. Burger, W. W. Cruikshank, H. M. Lederman, M. de la Morena, K. Grindle, A. Calatroni, H. A. Sampson, and J. E. Gern, 2006. Standardization and performance evaluation of mononuclear cell cytokine secretion assays in a multicenter study. *BMC Immunol* 7: 29.
15. Shreffler, W. G., 2006. Evaluation of basophil activation in food allergy: present and future applications. *Curr Opin Allergy Clin Immunol* 6: 226–33.
16. Li, H., A. Nowak-Wegrzyn, Z. Charlop-Powers, W. Shreffler, M. Chehade, S. Thomas, G. Roda, S. Dahan, K. Sperber, and M. C. Berin, 2006. Transcytosis of IgE-antigen complexes by cd23a in human intestinal epithelial cells and its role in food allergy. *Gastroenterology* 131: 47–58.
17. Knight, A. K., W. G. Shreffler, H. A. Sampson, S. H. Sicherer, S. Noone, S. Mofidi, and A. Nowak-Wegrzyn, 2006. Skin prick test to egg white provides additional diagnostic utility to serum egg white-specific IgE antibody concentration in children. *J Allergy Clin Immunol* 117: 842–7.
18. Shreffler, W. G., R. R. Castro, Z. Y. Kucuk, Z. Charlop-Powers, G. Grishina, S. Yoo, A. W. Burks, and H. A. Sampson, 2006. The major glycoprotein allergen from *Arachis hypogaea*, Ara h 1, is a ligand of dendritic cell-specific icam-grabbing nonintegrin and acts as a th2 adjuvant in vitro. *J Immunol* 177: 3677–85.
19. Cerecedo, I., J. Zamora, W. G. Shreffler, J. Lin, L. Bardina, M. C. Dieguez, J. Wang, A. Muriel, B. de la Hoz, and H. A. Sampson, 2008. Mapping of the IgE and IgG4 sequential epitopes of milk allergens with a peptide microarray-based immunoassay. *J Allergy Clin Immunol* 122: 589–94.
20. Flinterman, A. E., E. F. Knol, D. A. Lencer, L. Bardina, C. F. den Hartog Jager, J. Lin, S. G. M. A. Pasmans, C. A. F. M. Bruijnzeel-Koomen, H. A. Sampson, E. van Hoffen, and W. G. Shreffler, 2008. Peanut epitopes for IgE and IgG4 in peanut-sensitized children in relation to severity of peanut allergy. *J Allergy Clin Immunol* 121: 737–743.e10.
21. Moloney, M., and W. G. Shreffler, 2008. Basic science for the practicing physician: flow cytometry and cell sorting. *Ann Allergy Asthma Immunol* 101: 544–9.
22. Berin, M. C., and W. G. Shreffler, 2008. TH2 adjuvants: implications for food allergy. *J Allergy Clin Immunol* 121: 1311–20; quiz 1321–2.
23. Hyman, S., W. G. Shreffler, and R. Rapaport, 2008. Type 1 diabetes, autoimmune thyroid disease, and chronic urticaria. *Pediatric Diabetes* .
24. Lemon-Mulé, H., H. A. Sampson, S. H. Sicherer, W. G. Shreffler, S. Noone, and A. Nowak-Wegrzyn, 2008. Immunologic changes in children with egg allergy ingesting extensively heated egg. *J Allergy Clin Immunol* 122: 977–983.e1.
25. Nowak-Wegrzyn, A., K. A. Bloom, S. H. Sicherer, W. G. Shreffler, S. Noone, N. Wanich, and H. A. Sampson, 2008. Tolerance to extensively heated milk in children with cow's milk allergy. *J Allergy Clin Immunol* 122: 342–7.
26. Shreffler, W. G., 2009. The perfectly potent peanut. *J Allergy Clin Immunol* 123: 352–3.
27. Shreffler, W. G., N. Wanich, M. Moloney, A. Nowak-Wegrzyn, and H. A. Sampson, 2009. Association of allergen-specific regulatory t cells with the onset of clinical tolerance to milk protein. *J Allergy Clin Immunol* 123: 43–52.e7.
28. Lin, J., L. Bardina, and W. G. Shreffler, 2009. Microarrayed allergen molecules for diagnostics of allergy. *Methods Mol Biol* 524: 259–72.
29. Wanich, N., A. Nowak-Wegrzyn, H. A. Sampson, and W. G. Shreffler, 2009. Allergen-specific basophil suppression associated with clinical tolerance in patients with milk allergy. *J Allergy Clin Immunol* 123: 789–94.e20.
30. Gern, J. E., C. M. Visness, P. J. Gergen, R. A. Wood, G. R. Bloomberg, G. T. O'Connor, M. Kattan, H. A. Sampson, F. R. Witter, M. T. Sandel, W. G. Shreffler, R. J. Wright, S. J. Arbes, and W. W. Busse, 2009. The urban environment and childhood asthma (URECA) birth cohort study: design, methods, and study population. *BMC Pulmonary Medicine* 9: 17.

CURRENT SUPPORT

Shreffler, Wayne G. (PI: Shreffler) NIH/NIAID <i>Mechanisms of peanut (A. hypogaea) adjuvanticity</i>	ONGOING 7/2007-6/2010 K08 AI-06772	9.6 cal months \$359,625
The objectives of this project are to define mechanisms of innate immune activation by peanut allergens and how they contribute to allergic sensitization.		
Shreffler, Wayne G. (PI: Shreffler) NIH/NIAID <i>Mechanisms of oral immunotherapy-induced suppression of type I hypersensitivity</i>	ONGOING 7/2008-6/2010 R03 AI-079544	1.2 cal months \$169,500
The objectives of this projects are to identify the mechanisms of basophil anergy induced by allergen immunotherapy with a focus on developing methodological advances in the characterization of basophil activation by flow cytometry.		
Shreffler, Wayne G. (Co-Investigator) (PI: Busse) NIH/NIAID <i>Inner-city Asthma Consortium (ICAC): Immunologic Approaches to Reduce Asthma</i>	ONGOING 9/2003-9/2009 NIH-NIAID-DAIT-02-11	0.4 cal months \$345,436
My role is to characterize the innate and adaptive cellular immune changes in the context of two interventional clinical trials – one studying the efficacy of omalizumab and the other oral immunotherapy in cockroach-sensitized children.		
Shreffler, Wayne G. (Co-Investigator) (PI: Sampson) NIH/NIAID <i>Immunologic Basis of Cow Milk-Induced Hypersensitivities</i>	ONGOING 3/2008-2/2013 U19 AI-07-002	0.4 cal months \$900,9778
My role is to characterize the innate and adaptive cellular immune changes in the context of observational and interventional clinical studies of milk allergic children.		

PENDING SUPPORT

Shreffler, Wayne G. (PI: Shreffler) NIH/NIAID <i>Mechanisms of clinical reactivity or tolerance to mouse allergen</i>	PENDING 12/2009-11/2014 R01 AI-081845	\$3,951,878
The objectives of this project are to evaluate the relationship of new allergic sensitization and clinical sensitivity to allergen exposure and the mechanisms of immune regulation that underly what has been referred to as the 'modified Th2' hypothesis. This is in collaboration with Elizabeth Matsui at Johns Hopkins University and Bev Paigen at The Jackson Laboratories. Received score of 30 (12th percentile) on A1 submission.		