Curriculum Vitae

Leonard Moise, PhD

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Education

Sc.B., Brown University, Providence, Rhode Island 1993
Biochemistry with Honors

Ph.D., Brown University, Providence, Rhode Island 2002
Biology
Mentor: Edward Hawrot, PhD
Dissertation title: NMR solution structure of the principal bungarotoxin binding site on the α7 neuronal nicotinic acetylcholine receptor in complex with bungarotoxin

Post-Graduate Training

Post-doctoral fellowship 2002-2005
Department of Molecular Pharmacology, Physiology and Biotechnology
Brown University, Providence, Rhode Island

Academic Appointments

Instructor in Medicine 2005-2006
Department of Medicine (Infectious Disease)
Brown University School of Medicine

Assistant Professor (Research) 2008-present
Department of Cell and Molecular Biology
College of Environmental and Life Sciences
University of Rhode Island

Industry Appointments

Director of Vaccine Research
EpiVax Inc. 2006-present

Research Interests

vaccine development, antigen discovery, immunoinformatics, genomics, global health, biodefense, immunogenicity, protein therapeutics, bio-betters, autoimmunity, immune tolerance

Publications in Peer Reviewed Journals

1. Yamasaki H, Prager S, Gebremedhin S, Moise L, Melmed S. Binding and Action of Insulin-Like Growth Factor I in Pituitary Tumor Cells. *Endocrinology* 1991;128:857-862.
2. Levandoski M, Lin Y, Moise L, McLaughlin JT, Cooper E, Hawrot E. Chimeric Analysis of a Neuronal Nicotinic Acetylcholine Receptor Reveals Amino Acids Conferring Sensitivity to α-Bungarotoxin. *J Bio. Chem.* 1999;274:26113-26119.
3. Zeng H, Moise L, Grant M, Hawrot E. The Solution Structure of the Complex Formed between α-Bungarotoxin and an 18mer Cognate Peptide Derived from the α1 Subunit of the Nicotinic Acetylcholine Receptor from *Torpedo californica*. *J. Biol. Chem.* 2001;276:22930-22940.
4. Moise L, Piserchio A, Basus V, and Hawrot E. NMR Structural Analysis of α-Bungarotoxin and Its Complex with the Principal α-Neurotoxin Binding Sequence on the α7 Subunit of a Neuronal Nicotinic Acetylcholine Receptor. *J. Biol.Chem.* 2002;277:2406-12417.
5. Paek HJ, Moise L, Morgan JR, and Lysaght MJ. Origin of Insulin Secreted from Islet-Like Cell Clusters Derived from Murine Embryonic Stem Cells. *Cloning and Stem Cells* 2005;7:226-231.
6. McMurry JA, Gregory SH, Moise L, Rivera D, Buus S, De Groot AS. Diversity of Francisella tularensis Schu4 antigens recognized by T lymphocytes after natural infections in humans: Identification of candidate epitopes for inclusion in a rationally designed tularemia vaccine. Vaccine. 2007 Apr 20;25(16):3179-91.
7. De Groot AS, Goldberg M, Moise L, Martin W. Evolutionary deimmunization: An ancillary mechanism for self-tolerance. Cell Immunol. 2007 Apr 17; Epub. Cellular Immunology. Volume 244, Issue 2, December 2006, Pages 148-153. http://dx.doi.org/10.1016/j.cellimm.2007.02.006
8. De Groot AS, L. Moise, W. Martin, F. Guirakhoo, and T. Monath. Analysis of ChimeriVax Japanese Encephalitis (JE) virus Sequence for T cell epitopes and comparison to circulating wild type JE Virus strains. Nov. 2007. Vaccine 25 (2007) 8077–8084.
9. Moise L, McMurry JA, Pappo J, Lee DS, Moss SF, Martin WD, De Groot AS. Identification of genome-derived vaccine candidates conserved between human and mouse-adapted strains of *H. pylori*. Hum Vaccines. 2008;4(3) 219-223.

10. De Groot A.S., L. Moise, J.A. McMurry, Erik Wambre, Laurence Van Overvelt, Philippe Moingeon, W. Scott, W. Martin, Activation of Natural Regulatory T cells by IgG Fc-derived Peptide “Tregitopes”. Blood, 2008,112: 3303-11.

11. Moise L, McMurry JA, Buus S, Frey S, Martin WD and De Groot AS. In Silico-Accelerated Identification of Conserved and Immunogenic Variola/Vaccinia T-Cell Epitopes. Vaccine. 2009 27(46):6471-9. PMCID: PMC2838212.

12. Gregory SH, Mott S, Phung J, Lee J, Moise L, McMurry JA, Martin W, De Groot AS. Epitope-based Vaccination against Pneumonic Tularemia. Vaccine 2009 27(39):5299-306. PMCID: PMC2772204.

13. De Groot AS, Ardito M, McClaine E, Moise L, Martin B. Immunoinformatic comparison of T-cell epitopes contained in novel swine-origin influenza A (H1N1) virus with epitopes in 2008-2009 conventional influenza vaccine. Vaccine. 2009 27(42):5740-7.

14. Cohen T, Moise L, Ardito M, Martin W, De Groot AS. A method for individualizing the prediction of immunogenicity of protein vaccines and biologic therapeutics: Individualized T Cell Epitope Measure. Journal of Biomedicine and Biotechnology. 2010;2010. pii: 961752

15. Moise L, Liu J, Pryazhnikov E, Khiroug L, Jeromin A, Hawrot E. K(V)4.2 channels tagged in the S1-S2 loop for alpha-bungarotoxin binding provide a new tool for studies of channel expression and localization. Channels (Austin). 2010 Mar-Apr;4(2):115-23. PMCID: PMC2888848.

16. Moise L, Buller RM, Schriewer J, Lee J, Frey SE, Weiner DB, Martin W, De Groot AS. VennVax, a DNA-prime, peptide-boost multi-T-cell epitope poxvirus vaccine, induces protective immunity against vaccinia infection by T cell response alone. Vaccine. 2011 Jan 10;29(3):501-11.

17. Moss SF, Moise L, Lee DS, Kim W, Zhang S, Lee, J, Rogers AB, Martin W, De Groot AS. HelicoVax: Epitope-based therapeutic *H. pylori* vaccination in a mouse model of gastric cancer. Vaccine. 2011 Mar 3;29(11):2085-91.

18. Schanen, Brian C. , De Groot AS, Moise L, Ardito M, McClaine E,, Martin, WB, Vaughan Wittman, William L. Warren, and Donald R. Drake III* Coupling sensitive in vitro and in silico techniques to assess cross-reactive CD4+ T cells against the swine-origin H1N1 influenza virus. Vaccine. 2011 Apr 12;29(17):3299-309. doi: 10.1016/j.vaccine.2011.02.019, PMCID: PMC 3130614.

19. Ardito M, Fueyo J, DaSilva K, Zhang S, Martin W, De Groot AS, Moss SF, Moise L. An Integrated Genomic and Immunoinformatic Approach to *H. pylori* Vaccine Design. 2011. Immunome Res. 2011 Nov 20;7(2):25. http://immunome-research.net/journal/index.php/ immunome.

20. Messitt, T., Ardito, M, Moise, L, Gustafson, EA, Martin, WD, De Groot, AS. A comparison of two methods for T cell epitope mapping: “cell free” in vitro versus Immunoinformatics. Immunome Research, Vol.7, No.2, 2011. http://immunome-research.net/journal/index.php/ immunome.

21. De Groot, AS, Ardito, M, Moise, L, Gustafson, EA, Spero, D, Tejada, Martin, WD. Immunogenic Consensus Sequence T helper Epitopes for a Pan-Burkholderia Biodefense Vaccine. 2011. Immunome Research, Vol 7, No 2 (2011). http://immunome-research.net/

22. Moise L, Song C, Martin WD, Tassone R, De Groot AS, Scott DW. Effect of HLA DR epitope de-immunization of Factor VIII in vitro and in vivo. Clin Immunol. 2012 Mar;142(3):320-31. PMCID: PMC3288193

23. Osipovitch DC, Parker AS, Makokha CD, Desrosiers J, Kett WC, Moise L, Bailey-Kellogg C, Griswold KE. Design and analysis of immune-evading enzymes for ADEPT therapy. Protein Eng Des Sel. 2012 Oct;25(10):613-23. PMCID: PMC3449401

24. Levitz L, Koita OA, Sangare K, Ardito MT, Boyle CM, Rozehnal J, Tounkara K, Dao SM, Koné Y, Koty Z, Buus S, Moise L, Martin WD, De Groot AS. Conservation of HIV-1 T cell epitopes across time and clades: Validation of immunogenic HLA-A2 epitopes selected for the GAIA HIV vaccine. Vaccine. 2012 Dec 14;30(52):7547-60. PMCID: PMC3522424

25. Inaba H, Moise L, Martin W, De Groot AS, Desrosiers J, Tassone R, Buchman G, Akamizu T, De Groot LJ. Epitope Recognition in HLA-DR3 Transgenic Mice Immunized to TSH-R Protein or Peptides. Endocrinology. 2013 Jun;154(6):2234-43. doi:10.1210/en.2013-1033. Epub 2013 Apr 16. PubMed PMID: 23592747.

26. Moise L, Gutierrez AH, Bailey-Kellogg C, Terry F, Leng Q, Abdel Hady KM, Verberkmoes N, Sztein MB, Losikoff P, Martin WD, Rothman A, De Groot AS. The two-faced T cell epitope: Examining the host-microbe interface with JanusMatrix. Hum Vaccin Immunother. 2013 Apr 12;9(7). [Epub ahead of print] PubMed PMID:23584251.

27. De Groot AS, Ardito M, Terry F, Levitz L, Ross TM, Moise L, Martin W. Low immunogenicity predicted for emerging avian-origin H7N9: Implication for influenza vaccine design. Hum Vaccin Immunother. 2013 May;9(5). [Epub ahead of print] PMID: 23807079

28. Moise L, Terry F, Ardito M, Tassone R, Latimer H, Boyle C, Martin WD, De Groot AS. Universal H1N1 influenza vaccine development: Identification of consensus class II hemagglutinin and neuraminidase epitopes derived from strains circulating between 1980 and 2011. Hum Vaccin Immunother. 2013 Jul 11;9(7). [Epub ahead of print] PMID: 23846304

29. Moise L, Tassone R, Latimer H, Terry F, Levitz L, Haran JP, Ross TM, Boyle C, Martin WD, De Groot AS. Immunization with cross-conserved H1N1 influenza CD4+ T-cell epitopes lowers viral burden in HLA DR3 transgenic mice. Hum Vaccin Immunother. 2013 Sep 17;9(10). [Epub ahead of print] PMID: 24045788

Conference Proceedings

1. De Groot AS, Moise L. Vaccine renaissance--from basic research to implementation. Med Health R I. 2007 Oct;90(10):300.

2. Moise L, McMurry J, Rivera DS, Carter EJ, Lee J, Kornfeld H, Martin WD, De Groot AS. Progress towards a genome-derived, epitope-driven vaccine for latent TB infection. Med Health R I. 2007 Oct;90(10):301-3.

3. McMurry JA, Moise L, Gregory SH, De Groot AS. Tularemia vaccines - an overview. Med Health R I. 2007 Oct;90(10):311-4.

4. Moise L, Ardito M., Desrosiers J., Schriewer, J. Buller, M., Frey, S., Gregory SF, Moss, SF, Lee J, Kornfeld, H, Martin W, De Groot A.S., Immunome-derived Epitope-driven Vaccines (ID-EDV) Protect against Viral or Bacterial Challenge in Humanized Mice. Procedia in Vaccinology. 2009; 1(1):15-22.

5. Ardito M, Martin W, De Groot AS, Zhang S, Moss SF, Moise L. Immunoinformatic driven *H. pylori* vaccine design. 2010. BCB '10 Proceedings of the First International ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Pages 611-615. ACM New York, NY, USA 2010. DOI 10.1145/1854776.1854890
6. Ardito M, Moise L, Martin W, De Groot AS. Immunoinformatic approach to a multi-pathogen genome-derived epitope-driven vaccine. BCB '10 Proceedings of the First International ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Pages 616-620. ACM New York, NY, USA 2010. DOI 10.1145/1854776.1854891
7. Moise L, Ardito M, Martin W, Gustafson E, Rothman A, De Groot AS. Immunoinformatic discovery of potential cross-reactive T cell epitopes in the Measles Genome. BCB '11 Proceedings of the 2nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Pages 589-593. ACM New York, NY, USA 2011. DOI 10.1145/2147805.2147906
8. Gutierrez AH, Moise L, Terry F, DaSilva K, Bailey-Kellogg C, Martin W, De Groot AS. Immunoinformatic Analysis of Chinese Hamster Ovary (CHO) Protein Contaminants in Therapeutic Protein Formulations, BCB '12 Proceedings of the ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Pages 637-642. ACM New York, NY, USA 2012. DOI 10.1145/2382936.2383049

Chapter, Commentary and Review Publications

1. Review. Moise L, Zeng H, Caffery P, Rogowski RS, Hawrot E. Structure and function of α-Bungarotoxin Toxin Reviews. 2002 Jan; 21(3):293-317.
2. Commentary. Moise L, De Groot AS. Putting immunoinformatics to the test. Nat Biotechnol. 2006 Jul;24(7):791-2. PMID: 16841062.
3. Editorial. De Groot A.S., L. Moise New tools, new approaches and new ideas for vaccine development. Expert Rev Vaccines. 2007 Apr; 6 (2):125-7.
4. Review. De Groot A.S. and L. Moise. Prediction of immunogenicity for therapeutic proteins: State of the art. Current Opinions in Drug Development and Discovery. May 2007. 10(3):332-40.
5. Chapter. Mycobacterium Tuberculosis Vaccines. Vaccines for Biodefense and Emerging and Neglected Diseases, edited by Alan D.T. Barrett and Lawrence R. Stanberry. Elsevier (Accepted December 2007. Published December, 2008).
6. Review. Anne S. De Groot, Julie McMurry and Lenny Moise, Prediction of Immunogenicity: In Silico Paradigms, Ex Vivo and In Vivo Correlates, Curr Opin Pharmacol. 2008 Oct;8(5):620-6.
7. Chapter. Anne S. De Groot, Julie McMurry, Lenny Moise, Bill Martin. Epitope-based Immunome-derived Vaccines: A Strategy for Improved Design and Safety. Springer Immunomics Series. Editor Andras Falus. Falus, Andras (Ed.) 2009.
8. Chapter. William Martin, Matt Ardito, Ryan Tassone, Joe Desrosiers, Paul Knopf, Julie A. McMurry, Leonard Moise, Anne S. De Groot. Tools for Vaccine Design: Prediction and Validation of Highly Immunogenic and Conserved Class II Epitopes and Development of Epitope-driven Vaccines. For book entitled, Development of Vaccines: From Discovery to Clinical Testing. Editors Indrish Srivastava and Manmohan Singh Publisher: John Wiley and Sons.

9. Chapter. Cohen T, Moise L, McMurry JA, Martin W, and De Groot AS. T cell-directed vaccination for infectious diseases: Technological advances. In Sintchenko V, editor. Infectious Disease Informatics. Springer, 2009

10. Review. Weber CA, Mehta PJ, Ardito M, Moise L, Martin B, De Groot AS. T cell epitope: Friend or Foe? Immunogenicity of biologics in context. Adv Drug Deliv Rev. 2009:61(11):965-976.

11. Commentary. Moise L, Cousens L, Fueyo J, De Groot AS. Harnessing the power of genomics and immunoinformatics to produce improved vaccines. Expert Opin. Drug Disc. 2011;6:9-15

12. Commentary. Zhang S, Moise L, Moss SF. *H. pylori* vaccines: why we still don't have any. Hum Vaccin. 2011 Nov;7(11):1153-7.

13. Commentary. Gutiérrez AH, Moise L, De Groot AS. Of [Hamsters] and men: a new perspective on host cell proteins. Hum Vaccin Immunother. 2012 Sep;8(9):1172-4. PMCID: PMC3579895

14. Commentary. Moise L, Moss SF, De Groot AS. Moving Helicobacter pylori vaccine development forward with bioinformatics and immunomics. Expert Rev Vaccines. 2012 Sep;11(9):1031-3.

15. Review. Cousens LP, Najafian N, Mingozzi F, Elyaman W, Mazer B, Moise L, Messitt TJ, Su Y, Sayegh M, High K, Khoury SJ, Scott DW, De Groot AS. In vitro and in vivo studies of IgG-derived Treg epitopes (Tregitopes): a promising new tool for tolerance induction and treatment of autoimmunity. J Clin Immunol. 2013 Jan;33 Suppl 1:S43-9. PMCID: PMC3538121

Abstracts/Poster Presentations

1. Yamasaki, H., Prager, D., Gebremedhin, S., Moise, L., and Melmed, S. IGF-I Attenuation Of Growth-Hormone is Enhanced by Over-Expression of Pituitary Cell IGF-I Receptors. Clinical Research 39, A324

2. Moise, L., Mothkur, S., and Hawrot, E. Functional Expression of a Synthetic Gene encoding 66 Amino Acids of the Nicotinic Acetylcholine Receptor α7 Subunit Binding Site. Twenty-Fifth Annual Meeting New England Pharmacologists, Univ. of Mass. Medical School, Boxborough, MA, 1996.

3. Moise, L., Zimmerman, A.L., and Hawrot, E. (1997) Expression And Initial Characterization of a 66 Amino Acid Fragment of the Nicotinic Acetylcholine Receptor α7 Subunit Binding Site. 27th Ann. Soc. Neurosci. Mtg. Abstract 23:156.2

4. Moise, L., Shi, Q.-L., Pham, Q. and Hawrot, E. Structure-Function Analysis of the Bungarotoxin Binding Site on the α7 Neuronal Nicotinic Acetylcholine Receptor. Protein Science 8(Suppl. 1): 174, Abstract #690S, 1999.

5. Moise, L., Piserchio, A., Shi, Q.L., Pham, Q., and Hawrot, E. Preliminary NMR Characterization of the Bungarotoxin Binding site on the α7 Neuronal Nicotinic Acetylcholine Receptor. (2000) FASEB Journal 14, 441

6. Moise, L., Piserchio, A., Shi, Q.-L., Pham, Q. and Hawrot, E. Heteronuclear NMR Studies of the Bungarotoxin Binding Site on the Chick α7 Neuronal Nicotinic Acetylcholine Receptor. The Tenth Neuropharmacology Conference: Neuronal Nicotinic Acetylcholine Receptors. New Orleans, LA, November 2-4, 2000.

7. Zeng, H., Moise, L., Grant, M.A., and Hawrot, E. NMR Solution Structure of the Complex Formed

between □-bungarotoxin and an 18mer Cognate Peptide Derived from the □1 Subunit of the Nicotinic Acetylcholine Receptor from *Torpedo californica*. Soc. Neurosci. Abstracts 27 #486.12, 2001

8. Moise, L., Liu, J. and Hawrot E. (2004) α-Bungarotoxin Antagonizes a $GABA_A$ Receptor. 2004 Experimental Biology meeting abstracts. Abstract #LB583

9. Moise, L., Liu, J., Jeromin, A., and Hawrot, E. (2005) Kv4.2 Channels tagged for α-Bungarotoxin 35th Ann. Soc. Neurosci. Mtg. Abstract 31:267.8

10. Paek, H.J., Moise, L.J., Morgan, J.R. and Lysaght, M.J. (2005) Identifying the source of insulin secreted by islet-like cell clusters derived from murine embryonic stem cells. 9th Annual Hilton Head Workshop: Engineering Tissues

11. Moise, L., Liu, J., Jeromin, A. and Hawrot, E. (2005) Kv4.2 channels tagged for α-bungarotoxin binding. Submitted to 35th Annual Society for Neuroscience Meeting.

12. AS De Groot, M. Goldberg, D Rivera, JA McMurry, L Moise, M Kone, OA Koita, L Marcon, M Kutzler, M Lally, KH Mayer, DB Weiner, WD Martin. 2006 progress update on the GAIA HIV Vaccine: Broad coverage by HLA alleles and Geographic Location, Optimization of HIV Immunogens in Pre Clinical Studies. Paper Number: 438.00. AIDS Vaccine 2006, Amsterdam, 08/06.

13. L Marcon, L Moise, D Rivera, M Lally, M Kutzler, JA McMurry, WD Martin, DB Weiner, AS De Groot. Elicitation of robust T cell responses in HLA DRB1*0101 transgenic mice by MHC class II compartment-targeted and untargeted HIV T helper multiepitope molecular constructs. Paper Number: 441.00. AIDS Vaccine 2006, Amsterdam, 08/06.

14. AS De Groot, M. Goldberg, D Rivera, JA McMurry, L Moise, M Kone, OA Koita, L Marcon, M Kutzler, M Lally, KH Mayer, DB Weiner, WD Martin. 2006 progress update on the GAIA HIV Vaccine: Broad coverage by HLA alleles and Geographic Location, Optimization of HIV Immunogens in Pre Clinical Studies. Paper Number: 438.00. AIDS Vaccine 2006, Amsterdam, August 2

15. Marcon L, L Moise, D Rivera, M Lally, M Kutzler, JA McMurry, WD Martin, DB Weiner, AS De Groot. Elicitation of robust T cell responses in HLA DRB1*0101 transgenic mice by MHC class II compartment-targeted and untargeted HIV T helper multiepitope molecular constructs. Paper Number: 441.00. AIDS Vaccine 2006, Amsterdam.

16. Daniel Rivera, Christine Malboeuf, Julie Mcmurry, Leonard Moise, Bill Martin, Annie De Groot. High Throughput validation of predicted T-cell epitopes conserved between Variola and Vaccinia: Development of a novel immunome based Smallpox vaccine. Abstract Number: 241561. Poster presentation at the 6th Annual Meeting of the Federation of Clinical Immunology Societies (FOCIS 2006), June 1-5 in San Francisco, Calif.

17. Rivera DS, Kimball SL, McMurry JA, Moise L, Martin W, Marcon L, and De Groot AS. High Throughput validation of predicted T-cell epitopes conserved between Variola and Vaccinia: Development of a novel immunome based Smallpox vaccine, 9th Annual Conference on Vaccine Research, National Foundation for Infectious Diseases.

18. Wright C, Malboeuf CM, Rodriguez C, Rivera DS, Finucane D, Lee J, McMurry JA, Moise L, Gregory S, Martin W, and De Groot AS. High Throughput Validation of Predicted T-cell Epitopes in F. Tularensis: The Development of a Novel T-cell Epitope Based Tularemia Vaccine; Poster

Abstract, 32nd Annual New England Immunology Conference, October 2006, Woods Hole, MA, USA.

19. Moise L., Rivera DS, J.A. McMurry, W. Kim, D. Lee, J. Pappo, E. Sordillo, S. Moss, W.D. Martin, and A.S. De Groot. Targeted PCR confirmation of vaccine components conserved between human and mouse-adapted strains of *H. pylori*. American Gastro Association meeting, May 2007 Washington DC. L.Moise presented poster/oral abstract.

20. Moise L, Rivera DS, McMurry JA, Kim W, Lee D, Pappo J, Sordillo E, Moss S, Martin W, and De Groot AS. Potential immunogenicity of predicted epitopes conserved between human and mouse-adapted strains of *H. pylori*. 10th Annual Conference on Vaccine Research, NFID, 2007 Baltimore, MD.

21. Moise L, Rivera DS, Malboeuf CM, Rodriguez C, McMurry JA, Goldberg M, Martin W, Frey S, Buller M, and De Groot AS. Further progress on the immunome-based DNA prime / Peptide boost smallpox vaccine: Results from in vivo immunogenicity assays. L.Moise presented poster/oral abstract. 10th Annual Conference on Vaccine Research, NFID, 2007. Baltimore, MD.

22. Rivera DS, Malboeuf CM, Rodríguez C, Lee J, McMurry JA, Moise L, Gregory S, Martin W and De Groot AS. Protective effect of an epitope driven vaccine against F. tularensis: Survival of aerosol-challenged mice. Oral presentation. 10th Annual Conference on Vaccine Research, NFID, 2007. Baltimore, MD. L.Moise presented poster/oral abstract.

23. Coulibaly K, Koita OA, Rivera DS, Moise L, Martin WD, De Groot AS. Updated results from ongoing work on the GAIA HIV Vaccine: Recognition of class I and II-restricted epitopes in Bamako, Mali and Providence, USA. CROI meeting, January 2008, Boston MA.

24. De Groot A.S. Updated results from ongoing work on the GAIA HIV Vaccine: Broad Recognition of class I and II-restricted epitopes and in vivo studies, Poster presentation, Eleventh Annual Conference on Vaccine Research, National Foundation for Infectious Diseases. Baltimore, May, 2008.

25. Moise, L. Positive Prediction of Immunogenic Vaccine Candidate Epitopes and Progress on the Development of an IDV Vaccine for *H. pylori*, Oral presentation and abstract, , Eleventh Annual Conference on Vaccine Research, National Foundation for Infectious Diseases, Baltimore, May 2008.

26. Moise L, McMurry JA, W, Lee J, Buller M, Frey S Martin W, and De Groot AS. Immunogenicity in vivo: Proof-of-concept study of an immunome-derived smallpox vaccine. NFID Eleventh Annual Meeting on Vaccine Research. National Foundation for Infectious Diseases, 2008 Baltimore, MD.

27. McMurry JA, Moise L, Rivera DS, Martin WD, Gregory SH, De Groot AS. Development of a novel epitope-based vaccine that protects against lethal F tularensis LVS challenge. Vaccine Technology, Portugal, 2008.

28. J.A. McMurry, L. Moise, W.D. Martin, S.H. Gregory, A.S. De Groot, High Throughput validation of predicted T-cell epitopes in F. Tularensis: The development of a novel T-cell epitope-based Tularemia vaccine Rhode Island Research Alliance Symposium on June 3, 2008 at the RI Convention Center.

29. De Groot A.S., L Moise, J McMurry, B Wu, J Desrosiers, C Eil, W Martin, LJ De Groot. IgG Tregitopes and AITD-ASATI: Antigen specific tolerance induction in Autoimmune Thyroid Disease. Rhode Island Research Alliance Symposium on June 3, 2008 at the RI Convention

Center.

30. J. McMurry, L. Moise, W. Martin, De Groot A.S. A call to humoral and cellular arms: A case for enlisting cognate T cell help to develop broad-spectrum vaccines against influenza. Sixth World Congress on Vaccines, Immunisation and Immunotherapy, 23-25 September 2008: Milan, Italy.

31. Anne S. De Groot, M.D, Leonard Moise, Yan Su, Julie A McMurry, William D Martin and David W. Scott. IgG-Derived Tregitope Peptides Suppress T Cell Responses in Vitro and in Vivo. Oral Presentation 677, 50th annual Meeting of the American Society for Hematology. December 6-10, 2008. San Francisco, California.

32. Leonard Moise, Ph.D, Jonathan Skupsky, Ryan Tassone, Julie A McMurry, William D Martin, Anne S. De Groot, and David W. Scott. De-Immunization of Human Factor VIII: Identification of Epitopes in the C2 Domain. Poster 1030, 50th annual Meeting of the American Society for Hematology. December 6-10, 2008. San Francisco, California.

33. J. McMurry, K. Coulibaly, L. Moise, J. Desrosiers, R. Tassone, O. A. Koita, W. Martin, De Groot A.S. The GAIA HIV vaccine progress report: broad recognition of class i and ii-restricted epitopes and in vivo studies. Poster 127. 2nd Global Vaccine Congress, Boston Massachusetts, Dec 7-9 2008.

34. L. Moise, W.D. Martin, J. Desrosiers, R. Tassone, J.A. McMurry, S.H. Gregory, De Groot A.S.. Rapid development and validation of a t-cell epitope-based Tularemia vaccine for F. Tularensis. Poster 125. 2nd Global Vaccine Congress, Boston Massachusetts, Dec 7-9 2008.

35. L. Moise, JA. McMurry, J. Lee, J. Desrosiers, R. Tassone, M. Buller, S. Frey, W. Martin, De Groot A.S.. A Venn vaccine: selection and validation of vaccinia-variola-conserved epitopes. Poster 126. 2nd Global Vaccine Congress, Boston Massachusetts, Dec 7-9 2008.

36. M. Ardito, De Groot A.S., J.A. McMurry, L. Moise, W. Yang1, W.D. Martin. EpiMatrix: Tool for Accelerated Epitope Selection and Vaccine Design. Poster 133. 2nd Global Vaccine Congress, Boston Massachusetts, Dec 7-9 2008.

37. De Groot A.S., W. Yang, L. Moise, J. A. McMurry, J. Desrosiers, W. Martin; A Novel Compound for the Treatment of Allergy and Autoimmune Disease. Oral Presentation, AAAI, March 13-17, Washington, DC. 2009.

38. L Moise; H Veelken; W Yang; C Weber; J McMurry; W Martin; A De Groot De-tolerization of anti-DEC-205 for HIV subunit vaccine delivery. HIV Immunobiology: From Infection to Immune Control (X4) March 22 - March 27, 2009 Keystone Resort, Keystone, Colorado. Poster Number: 2095.

39. L Moise; J Desrosiers; W Martin; A De Groot; J McMurry; C Weber Effective design of T-cell driven vaccines applied to the GAIA HIV vaccine: Advances in vaccine design based on current preclinical success Prevention of HIV/AIDS (X3) Dates: March 22 - March 27, 2009 Keystone Resort, Keystone, Colorado, Poster Number: 2036.

40. Sangare K, Koita O, Tounkara K, Koty Z, Moise L, Ardito M, Cohen T, Desrosiers J, Dupont R, Rochas M, Martin W, De Groot AS. Tracking highly conserved and immunogenic epitopes included in the GAIA HIV vaccine over time. 2010. AIDSVaccine Meeting. Atlanta, Georgia.

41. Moise L, Buhlmann JE, Weber C, Reslow A, Martin B, Martin WD, De Groot AS. De-tolerization of anti-DEC-205 for HIV vaccine delivery. 2010. AIDSVaccine Meeting. Atlanta, Georgia.

42. Ardito M, Martin WD, De Groot AS, Desrosiers J, DaSilva K, Zhang S, Moss SF, Moise L. Immunoinformatic identification of *H. pylori* core genome vaccine candidates. 2010. Keystone Meeting: Immunological Mechanisms of Vaccination. Seattle, Washington.

43. Cousens LP, Weber CA, Moise L, Martin WD, Veelken H, De Groot AS. Development of de-tolerized anti-DEC-205 for delivery of an HIV subunit vaccine. 2010. Keystone Meeting: Immunological Mechanisms of Vaccination. Seattle, Washington.

44. Cousens L, Weber CA, Reslow A, Buhlmann JE, Martin WD, Moise L, De Groot AS. Importance of regulatory T-cell epitopes in vaccine delivery vehicle design. 2010. Vaccine and ISV 4th Annual Vaccine Congress. Vienna, Austria.

45. Ardito M, Fueyo J, DaSilva K, Zhang S, Martin W, De Groot AS, Moss SF, Moise L. Immunoinformatic-driven *H. pylori* vaccine design. First Immunogenicity: Determinants and Correlates (IDC) Conference. Poster presentation. Providence, RI, USA. 2011 May 10-12.

46. Cousens L, Martin B, Reslow A, Aguirre D, Weber CA, Martin WD, Moise L, De Groot AS. Removal of tolerogenic signals in dendritic cell targeting antibodies for improved vaccine delivery. First Immunogenicity: Determinants and Correlates (IDC) Conference. Poster presentation. Providence, RI, USA. 2011 May 10-12.

47. Cousens LP, Moise L, Martin WD, DuPont R, Martin BA, De Groot AS. Designing the optimal delivery vehicle for Regulatory T Cell Epitopes, “Tregitopes”. First Immunogenicity: Determinants and Correlates (IDC) Conference. Poster presentation. Providence, RI, USA. 2011 May 10-12.

48. Tassone R, Moise L, Ardito M, Desrosiers J 3rd, Scott DW, Martin W, De Groot AS. In vitro and in vivo validation of FVIII deimmunization by T cell epitope modification. First Immunogenicity: Determinants and Correlates (IDC) Conference. Poster presentation. Providence, RI, USA. 2011 May 10-12.

49. Gustafson E, Moise L, Ardito M, Tejada G, Desrosiers J, Martin W, De Groot AS. Immunogenic Consensus Sequence T helper Epitopes for a Pan-BurkholderiaBiodefense Vaccine. Accepted poster presentation. 2011. NFID Fourteenth Annual Conference on Vaccine Research. Baltimore, MD.

50. Zhang S, Moise L, Tassone R, Levitz L, Fast L, Desrosiers J, DaSilva K, Meraj B, Ardito M, Martin B, De Groot A, Moss SF. Bioimmunoinformatic approach to mine *H. pylori* genomes for targeted vaccine development. American Gastroenterology Association annual meeting, May 2011, Chicago, IL

51. Ardito M, Fueyo J, DaSilva K, Zhang S, Martin W, De Groot AS, Moss SF, Moise L. An Integrated Genomic and Immunoinformatic Approach to *H. pylori* Vaccine Design. 2011 NFID Fourteenth Annual Conference on Vaccine Research. Baltimore, MD.

52. Reslow A, Aguirre D, Cousens L, Martin B, Weber CA, Martin WD, De Groot AS, Moise L. Improved vaccine delivery by removal of tolerogenic signals in dendritic cell targeting antibodies. 2011. NFID Fourteenth Annual Conference on Vaccine Research. Baltimore, MD.

53. Kotou Sangare, Ousmane Koita, Karamoko Tounkara, Zoumana Koty, Lenny Moise, Matt Ardito3, Toby Cohen, Joe Desrosiers, Rachel Dupont, Mali Rochas, Bill Martin, Anne S. De Groot. 'Conservation across time and sequence: Validation of immunogenic HLA-A2 'Achilles'

heel' epitopes for the GAIA HIV vaccine'. Poster 218130. AIDS Vaccine 2011, Bangkok Convention Centre. Monday, 12 September- Wednesday, 14 September 2011

54. Leonard Moise, Ousmane Koita, Kotou Sangare, Lauren Levitz, John Rozehnal, Zoumana Koty, Karamoko Tounkara, Matthew Ardito, Mali Rochas, William Martin, Anne S. De Groot; GAIA HIV Vaccine progress report: Further validation of broadly conserved class I epitopes in West Africa'; Poster Abstract 218180. AIDS Vaccine 2011, Bangkok Convention Centre. Monday, 12 September- Wednesday, 14 September 2011

55. Levitz L, Messitt T, McClaine E, Tassone R, Ardito M, Buhlmann JE, Moise L, Knopf PM, Martin W, De Groot AS. Adjuvant Effects of C3d Are Mediated Through the Activation of C3d-specific Autoreactive T-cells. Poster Presentation and Oral Presentation by Lauren Levitz. 5th Vaccine and ISV Annual Congress. Seattle, Washington, USA. October 2011.

56. Moss SF, Zhang S, Ardito M, Terry F, Fueyo J, DaSilva K, Martin W, De Groot AS, and Moise L. Bioinformatic-Driven *H. pylori* Vaccine Design. Poster Presentation. 5th Vaccine and ISV Annual Congress. Seattle, Washington, USA. October 2011.

57. Moise L, Ardito M, Martin W, De Groot AS. Immunoinformatic Discovery of Potential Cross-reactive T Cell epitopes in the Measles Genome. Poster Presentation. 5th Vaccine and ISV Annual Congress. Seattle, Washington, USA. October 2011.

58. De Groot AS, Ardito M, Moise L, Tassone R, Martin W. An Integrated Genomic and Immunoinformatic Approach to Pan-Burkholderia Biodefense Vaccine Development. Poster Presentation, NERCE/BEI Annual Retreat. Newport, Rhode Island, USA. November 2011.

59. Moise L, Ardito M, Martin W, De Groot AS. Immunoinformatic Discovery of Potential Cross-reactive T Cell epitopes in the Measles Genome. Poster Presentation. 5th Vaccine and ISV Annual Congress. Seattle, Washington, USA. October 2011.

60. De Groot AS, Moise L, Ardito M, McClaine E, DuPont R, Tassone R, Haran J, Suner S, Martin WD. Evidence from H1N1 Supporting Development of Broad-Spectrum Vaccines Against Influenza. Chemical and Biological Defense Science and Technology (CBD S&T) Conference. Poster presentation. Abstract #W14-021. Las Vegas, NV, USA. 2011 Nov 14-18.

61. Terry F, Ardito M, Cohen T, Moise L, Martin W, De Groot AS. A method for individualizing the prediction of immunogenicity for vaccines and protein therapeutics: iTEM (Individualized T cell Epitope Measure). 2011 Chemical and Biological Defense Science and Technology (CBD S&T) Conference. Poster presentation. Abstract #W20-006. Las Vegas, NV, USA. 2011 Nov 14-18.

62. Moise L, Schriewer J, Martin W, Lee JH, Buller M, Frey S, De Groot AS. T-cell Epitopes Are Sufficient for Protective Vaccination Against Lethal Vaccinia Infection In HLA Transgenic Mouse Model. Poster Presentation, Chemical and Biological Defense Science and Technology Conference, Las Vegas, Nevada, USA. November 2011.

63. Dupuy LC, Mitchell D, Richards MJ, Bounds C, Ardito M, McClaine E, Moise L, Martin W, De Groot AS, Schmaljohn CS. Immunogenicity and protective efficacy of a multi-epitope vaccine composed of Ebola Virus and Venezuelan Equine Encephalitis Virus HLA class II T cell epitopes in HLA transgenic mice. 2011 Chemical and Biological Defense Science and Technology (CBD S&T) Conference. Poster presentation. Abstract #W14-014. Las Vegas, NV, USA. 2011 Nov 14-18. **Winner of Outstanding Poster Presentation Award**

64. De Groot AS, Moise L, Messitt T, McClaine E, Einck L, Del Pozzo J, Martin W. FastVax: Accelerated Vaccine Design, Production and Delivery. Chemical and Biological Defense Science and Technology (CBD S&T) Conference. Poster presentation. Abstract #W14-020. Las Vegas, NV, USA. 2011 Nov 14-18.

65. Cousens LP, Moise L, Ardito MA, McClaine EM, Terry F, Martin W, De Groot AS. Regulating immune responses to biologics: epitope prediction and applications. The American Association of Immunologists (AAI) Immunology 2012. Oral presentation and abstract #13384505. Poster presentation. Abstract #P1153. Boston, MA, USA. 2012 May 4-8. J Immunol. 2012 May;188(Meeting Abstract Supplement):58.23.

66. De Groot AS, Sangare K, Koita O, Ardito M, Boyle CM, Levitz L, Rozehnal J, Tounkara K, Dao S, Kone Y, Koty Z, Moise L, Martin W. Conservation of HIV-1 T cell epitopes across time and clades: validation of immunogenic HLA-A2 epitopes selected for the GAIA HIV vaccine. AIDS Vaccine 2012. Poster presentation. Abstract #P12.05. Boston, MA, USA. 2012 Sep 9-12. Retrovirology. 2012;9(Suppl 2):P294.

67. Moise L, Koita O, Sangare K, Levitz L, Rozehnal J, Koty Z, Tounkara K, Ardito M, Boyle CM, Rochas M, Martin W, De Groot AS. Further confirmation of broadly conserved, highly immunogenic cross-clade HIV CTL epitopes for inclusion in the GAIA HIV Vaccine. Poster presentation. Abstract #P12.06. AIDS Vaccine 2012. Boston, MA, USA. 2012 Sep 9-12. Retrovirology. 2012;9(Suppl 2):P295.

68. De Groot A.S., Najafian N., Hui D.J., Mingozzi F., Cousens L.P., Moise L., Khoury S.J., Elyaman W., Martin W., and Scott D.W. Tregitopes and tolerance: Harnessing regulatory T cells to suppress inflammation. Oral presentation. 10th World Congress on Inflammation. Paris, France. 2011 June 25-29. Inflamm. Res. 2011; 60(Suppl 1): S1-S321.

69. De Groot A.S., Najafian N., Hui D.J., Mingozzi F., Cousens L.P., Moise L., Scott D.W., Khoury S., Elyaman W., and Martin W. Making Better Biologics by Harnessing Tolerance and Immunogenicity. AAPS National Biotechnology Conference 2011 Meeting. Oral presentation. San Francisco, CA. 2011 May 16-18. AAPS Journal. 2011;13(S1).

70. Gutiérrez AH, Bailey-Kellogg C, DaSilva K, Terry F, Ardito M, Moise L, Martin W, De Groot AS. Cross-reactivity analysis of the Chinese Hamster Ovary genome. The 17th International Inflammation Research Association (IRA) Conference. Poster presentation. Abstract #A112. Bolton Landing, NY, USA. 2012 Sep 9-13. Inflammation Res. 2012 Sep;61(S):S15.

71. Gutiérrez AH, Bailey-Kellogg C, DaSilva K, Terry F, Ardito M, Moise L, Martin W, De Groot AS. Immunogenicity analysis of HCP derived from CHO genome. 17th International IRA Conference September 9 - 13, 2012, Lake George Bolton Landing, NY.

72. Gustiananda M, Sasmono T, Gutiérrez Nunez A, Yohan B, Moise L, Aryati, Wardhani P, De Groot AS, Martin W. Analysis of ChimeriVax Dengue virus envelope for T-cell epitopes and comparison to circulating viral strains in Indonesia. The Second International Society of Vaccines (ISV) Pre-conference Computational Vaccinology Workshop (ICoVax 2012). Poster presentation. Shanghai, China. 2012 Oct 13.

73. Liu R, Martin BA, Desrosiers J, Moise L, De Groot AS. Immunogenicity assessment of in silico-selected T cell epitopes for a Burkholderia biodefense vaccine. American Society for Microbiology (ASM) Biodefense and Emerging Diseases Research Meeting. Oral and poster presentation. Washington, DC, USA. 2013 Feb 25-27.

74. Dupuy LC, Mitchell D, Richards MJ, Bounds C, Ardito M, McClaine E, Moise L, Martin W, De Groot AS, Schmaljohn CS. Immunogenicity and protective efficacy of a multi-epitope vaccine composed of Ebola virus and Venezuelan Equine Encephalitis Virus HLA class II T-cell epitopes in HLA transgenic mice. National Foundation for Infectious Disease (NFID) 16th Annual Conference on Vaccine Research. Accepted for poster presentation. Baltimore, MD, USA. 2013 Apr 22-24.

75. Liu R, Desrosiers J, Martin BA, Moise L, De Groot AS. Immunogenicity assessment of in silico-selected T cell epitopes for a Burkholderia biodefense vaccine. National Foundation for Infectious Disease (NFID) 16th Annual Conference on Vaccine Research. Accepted for poster presentation. Abstract #164. Baltimore, MD, USA. 2013 Apr 22-24.

76. Moise L, Boyle C, Latimer H, Tassone R, Ardito M, Terry F, Martin WD, De Groot AS. CD4+ T Cell Responses to Cross-Reactive Influenza H1N1 T-cell Epitopes Identified by Immunoinformatic Methods. National Foundation for Infectious Disease (NFID) 16th Annual Conference on Vaccine Research. Accepted for oral presentation. Abstract #184. Baltimore, MD, USA. 2013 Apr 22-24.

77. Zhang S, Moise L, Terry F, Desrosiers J, Aponte J, Fast L, Martin W, De Groot AS, Moss S. *H. pylori* vaccine development by reverse vaccinology. National Foundation for Infectious Disease (NFID) 16th Annual Conference on Vaccine Research. Accepted for poster presentation. Abstract #164. Baltimore, MD, USA. 2013 Apr 22-24.

78. Cousens LP, Moise L, Martin W, De Groot AS. Tregitopes: The active ingredient in IVIG-mediated tolerance induction? 2013 American Association of Pharmaceutical Scientists (AAPS) National Biotechnology Conference (NBC). Submitted for presentation. San Diego, CA, USA. 2013 May 20-22.

79. De Groot AS, Cousens LP, Moise L, Najafian N, Mingozzi F, Elyaman W, Mazer B, Khoury S, Su Y, Scott DW, Martin W. Antigen-specific tolerance induction by Tregitopes in vivo. 2013 American Association of Pharmaceutical Scientists (AAPS) National Biotechnology Conference (NBC). Submitted for presentation. San Diego, CA, USA. 2013 May 20-22.

80. Cousens LP, Moise L, Terry F, Martin W, De Groot AS. Immunogenic biologics: Validation of screening, deimmunization and tolerization approaches. 2013 American Association of Pharmaceutical Scientists (AAPS) National Biotechnology Conference (NBC). Submitted for presentation. San Diego, CA, USA. 2013 May 20-22.

81. Gutiérrez A, Bailey-Kellogg C, Moise L, Terry FE, Abdel Hady K, Leng Q, Losikoff P, Verberkmoes N, Martin WD, Rothman A, De Groot AS. The two-faced T cell epitope: Examining the host-microbe interface with JanusMatrix. 2013 American Association of Pharmaceutical Scientists (AAPS) National Biotechnology Conference (NBC). Submitted for presentation. San Diego, CA, USA. 2013 May 20-22.

82. Zhang S, Moise L, Terry F, Desrosiers J, Aponte J, Fast L, Martin W, De Groot AS, Moss S. Selection, identification and validation of a panel of immunogenic *H. pylori* peptides. Digestive Diseases Week (DDW) 2013. Accepted for poster presentation. Abstract #1598639.Orlando, FL, USA. 2013 May 18-21.

83. De Groot A, Boyle C, Ardito M, Terry F, Latimer H, Tassone R, Cote M, Moise L, Martin W. Cross-reactive influenza H1N1 T-cell epitopes identified by immunoinformatic methods stimulate CD4+ T cell responses. The American Association of Immunologists (AAI) Immunology 2013. Accepted for poster presentation. Abstract #1644033. Honolulu, Hawaii, USA. 2013 May 3-7.

84. Cousens LP, Moise L, Martin W, De Groot AS. Tregitopes: The active ingredient in IVIG-mediated tolerance induction? The American Association of Immunologists (AAI) Immunology 2013. Accepted for oral presentation. Abstract #1641263. Honolulu, Hawaii, USA. 2013 May 3-7.

85. De Groot AS, Cousens LP, Moise L, Najafian N, Mingozzi F, Elyaman W, Mazer B, Khoury S, Su Y, Scott DW, Martin W. Antigen-specific tolerance induction by Tregitopes in vivo. The American Association of Immunologists (AAI) Immunology 2013. Accepted for oral and poster presentation. Abstract #1644276. Honolulu, Hawaii, USA. 2013 May 3-7.

86. Cousens LP, Moise L, Terry F, Martin W, De Groot AS. Immunogenic biologics: Validation of screening, deimmunization and tolerization approaches. The American Association of Immunologists (AAI) Immunology 2013. Honolulu, Hawaii, USA. Accepted for poster presentation. Abstract #1641519. 2013 May 3-7.

87. De Groot AS, Bertino P, Hoffman P, Carbone M, Siccardi AG, Terry F, Cousens LP, Moise L, Martin W. Highly immunogenic vaccine for prevention and therapy of malignant mesothelioma. The American Association of Immunologists (AAI) Immunology 2013. Accepted for poster presentation. Abstract #1644630. Honolulu, Hawaii, USA. 2013 May 3-7.

88. De Groot AS, Terry F, Spero D, Moise L, Martin W. iVax: A sophisticated suite of online vaccine design tools. The American Association of Immunologists (AAI) Immunology 2013. Accepted for poster presentation. Abstract #1644599. Honolulu, Hawaii, USA. 2013 May 3-7.

89. Gutiérrez A, Bailey-Kellogg C, Moise L, Terry FE, Abdel Hady K, Leng Q, Losikoff P, Verberkmoes N, Martin WD, Rothman A, De Groot AS. The two-faced T cell epitope: Examining the host-microbe interface with JanusMatrix. The American Association of Immunologists (AAI) Immunology 2013. Accepted for poster presentation. Abstract #1672581. Honolulu, Hawaii, USA. 2013 May 3-7.

90. Gutiérrez AH, Moise L, Terry F, Bailey-Kellogg C, Martin W, De Groot AS. Immunogenicity analysis of Chinese Hamster Ovary (CHO) host cell protein contaminants in therapeutic protein formulations. 2013 American Association of Pharmaceutical Scientists (AAPS) National Biotechnology Conference (NBC). San Diego, CA, USA. 2013 May 20-22.

Meeting Presentations

1. NMR Characterization of the Bungarotoxin Binding site on the α7 Neuronal Nicotinic Acetylcholine Receptor. 29th Annual Meeting of New England Pharmacologists. Oral presentation. January 28-29, 2000; Providence, RI.
2. Protective effect of an epitope-driven vaccine against *F. tularensis*: Survival of aerosol-challenged mice. National Foundation for Infectious Disease 10th Annual Conference on Vaccine Research. Oral presentation. April 30 - May 2, 2007; Baltimore, MD.
3. High throughput validation of predicted T-cell epitopes conserved between Variola & Vaccinia: Development of a novel immunome based Smallpox vaccine. National Foundation for Infectious Disease 10th Annual Conference on Vaccine Research. Oral presentation. April 30 - May 2, 2007; Baltimore, MD.
4. Positive prediction of immunogenic vaccine candidate epitopes and progress on development of an IDV vaccine for *H. pylori*. National Foundation for Infectious Disease 11th Annual Conference

on Vaccine Research. Oral presentation. May 5-7, 2008; Baltimore, MD.

5. Prediction of immunogenicity: in silico paradigms ex vivo and in vivo correlates. PepTalk conference. Oral presentation and panel moderator. January 12-15, 2009; San Diego, CA.
6. Vaccine Renaissance. 62nd Annual American Society for Clinical Laboratory Science – Central New England Meeting. Oral presentation. May 4-6, 2010; Providence, RI.
7. Immunoinformatic-driven *H. pylori* vaccine design. First International ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Immunoinformatics and Computational Immunology Workshop. Oral presentation. August 2-4, 2010; Niagara Falls, NY.
8. Detolerization of Anti-DEC-205 for HIV Subunit Vaccine Delivery. First International ACM Conference on Bioinformatics, Computational Biology and Biomedicine. Immunoinformatics and Computational Immunology Workshop. Oral presentation. August 2-4, 2010; Niagara Falls, NY.
9. De-immunization (for better protein therapeutics) and de-tolerization (for better vaccine design). Immunogenicity Determinants and Correlates conference. Oral presentation and panel member. May 9-10, 2011; Providence, RI.
10. Immunome-derived vaccines: The next wave of vaccine design. Vaccines & Adjuvants For Emerging Infectious Diseases conference. Plenary presentation. May 11-13, 2011; Montego Bay, Jamaica.
11. Immunome-derived Epitope-driven Vaccines Protect against Viral or Bacterial Challenge in Humanized Mice. 9th Vaccines Discovery and Development: All Things Considered. Oral presentation. November 7-8, 2011; Boston, MA.
12. Conservation across time and sequence: Validation of immunogenic HLA-A2 “Achilles’ heel” epitopes for GAIA HIV Vaccine. 5th Vaccine Renaissance. Oral presentation. October 17-19, 2011; Providence, RI.
13. Induction of Antigen-Specific Tolerance in Autoimmune Thyroiditis. 81st Annual Meeting of the American Thyroid Association. Oral presentation. October 26-30, 2011; Indian Wells, CA
14. Countermeasure Preparedness for the Next Influenza Pandemic. Frontiers in Pharmaceutical Sciences: Global Perspectives. Oral presentation. September 28-30, 2012; Kingston, RI.
15. The two-faced T cell epitope, the human microbiome and relevance to vaccine efficacy. Phacilitate Vaccine Forum Washington 2013. Plenary presentation and panel member. January 28-30, 2013; Washington, DC.
16. CD4+ T-cell responses to cross-reactive influenza H1N1 t-cell epitopes identified by immunoinformatic methods. National Foundation for Infectious Disease 16th Annual Conference on Vaccine Research. Oral presentation. April 22-24, 2013. Baltimore, MD.
17. Immunogenicity and protective efficacy of a multi-epitope vaccine composed of Ebola virus and Venezuelan Equine Encephalitis Virus HLA class II T-cell epitopes in HLA transgenic mice. National Foundation for Infectious Disease 16th Annual Conference on Vaccine Research. Oral presentation. April 22-24, 2013. Baltimore, MD.
18. Immunome-Derived TB Vaccine Development. Aeras Foundation seminar presentation. August 12, 2013; Rockville, MD.

Editorial Roles

Co-editor (with A. De Groot) of Vaccination issue for Medicine and Health Rhode Island Oct. 2007

Co-editor (with A. De Groot and V. Brusic) of Immunogenicity Prediction volume in Methods in Molecular Biology Series, Humana Press. To be published in 2014

Journal manuscript reviews (ad hoc)

Biotechnology and Applied Biochemistry
BMC Bioinformatics
Cellular Microbiology
Clinical and Experimental Immunology
Expert Opinion on Drug Discovery
Expert Reviews Vaccines
Human Immunology
Human Vaccines and Immunotherapeutics
Journal of Biomedicine and Biotechnology
Journal of Immune Based Therapies and Vaccines
Journal of Molecular Modeling
Molecular Biotechnology
PLoS One
Tuberculosis
Vaccine
Virus Research

Principal Investigator (NIH and Foundation grants)

Ongoing:		
Infectious Disease/Vaccines		
U19AI082642	**Project 4 PI: L. Moise**	7/01/2009 – 6/30/2014
NIH/NIAID		
Title: Genome-wide fine-mapping of H. pylori-stimulated human T cell responses		
The goal of this research program is to characterize the human immunological response to Helicobacter pylori T-cell epitopes.		
U19AI082642	**Project 5 PI: L. Moise**	7/01/2009 – 6/30/2014
NIH/NIAID		
Title: Development of a Non-Tolerogenic Anti-DEC-205 Vaccine Delivery Platform		
The goal of this project is to improve vaccine delivery by removal of tolerogenic signals in dendritic cell targeting antibodies.		
U19AI057234	**Discretionary Fund Project Leader: L. Moise**	5/1/2013 – 4/30/2014
NIH/NIAID		
Title: Abundance of H. pylori-specific CD4+ T cells in naïve and memory repertoires		
The goal of this project is to evaluate the presence of T cells recognizing *H. pylori* peptides in subjects with no evidence of active or past *H. pylori* exposure.		

Completed:		
Protein Therapeutics		
Foundation grant	**PI: L. Moise**	1/01/2006 – 6/30/2006
Rhode Island Foundation		
Title: Development of De-immunized Botulinum Neurotoxin Type A for Dystonia		
The goal of this project is to reduce immunogenicity of botulinum neurotoxin type A by epitope modification.		
Autoimmune Disease		
Foundation grant	**PI: L. Moise**	7/01/2009 – 6/30/2013
American Thyroid Association		
Title: Induction of Antigen-Specific Tolerance in Autoimmune Thyroiditis		
The goal of this project is to develop a treatment for Graves' Disease.		

Grant proposal and program review panels

NIH Special Emphasis Panel HIV Vaccine Research and Design (2007-2009)

Peer Reviewed Medical Research Program Listeria Vaccine for Infectious Disease and Cancer Panel (2009-2010)

NIH Special Emphasis Panel, Basic HIV Vaccine Discovery Research (2010)

NIH Special Emphasis Panel, Integrated Preclinical/Clinical AIDS Vaccine Development Program (2011)

DTRA Phase II Technical Panel, Fundamental Research to Counter Weapons of Mass Destruction (2013)

DTRA Basic Research Technical Review Panel (2013)

Honors and Awards

NSF Graduate Research Fellowship Honorable Mention, March 1994

Graduate Student Best Paper Award from the Division for Molecular Pharmacology of the American Society for Pharmacology and Experimental Therapeutics (ASPET). ASBMB/ASPET Joint Meeting, June 2000, Boston, MA

SmithKline Beecham 1996 Graduate Student Award presented at the 25th New England Pharmacologists Annual Meeting, February 1996, Boxborough, MA

University Committees

URI Feinstein Campus Chemical Safety Committee 2008-present

University Teaching Roles

Undergraduate/Graduate Courses

URI MTC594/MLS594 Vaccines for Infectious Disease with A. De Groot, MD.
Course co-leader Spring 2008-2010, 2012-2013

URI MTC195/MLS195 Biotechnology Manufacturing Methods with K. Uhnak, PhD.
Course co-leader Spring 2008-2013

Undergraduate Student Mentoring

INBRE Mentor for Andrew Shumate (Brown University), 2013

Graduate Student Mentoring

Thesis Advisor for Danielle Aguirre, Cell and Molecular Biology Graduate Program (Masters), University of Rhode Island, 2010-present

Thesis Advisor (with Anne De Groot, MD) for Andres Gutierrez, Cell and Molecular Biology Graduate Program (PhD), University of Rhode Island, 2012-present

External Thesis Advisory Committee for Erika Gomez, Experimental Pathology Graduate Program (PhD), University of Texas Medical Branch, 2011-present

External Thesis Advisory Committee for Daniel Osipovitch, Program in Experimental and Molecular Medicine (PhD), Dartmouth College, 2011-2013

External Thesis Advisory Committee for Regina Salvat, Program in Experimental and Molecular Medicine (PhD), Dartmouth College, 2013-present

External PhD Thesis Reader for Andrew Parker, Department of Computer Science, Dartmouth College, 2012

Conference Organizing Committees

Member, Program Committee, International Conference on Bioinformatics, 2011-2012
Member, Organizing Committee, Vaccine Renaissance VI, 2012

Community Service

Member, Juanita Sanchez Educational Complex Biotechnology and Medical Program advisory board, Providence, Rhode Island, 2013-present

Vaccines and careers in biotechnology presentation to North Kingstown High School students, April 2010

Vaccines and careers in biotechnology presentation to Davies Career and Technical High School students, March 2012

Vaccines and careers in biotechnology presentation to Juanita Sanchez Educational Complex students, March, November 2013

Biography

Lenny Moise, PhD is Research Assistant Professor in the Department of Cell and Molecular Biology at the University of Rhode Island in Providence, RI and a founding faculty member of the URI Institute for Immunology and Informatics. Dr. Moise received his PhD from the Department of Molecular and Cellular Biology and Biochemistry at Brown University in Providence, RI in 2002. His research in Dr. Edward Hawrot's laboratory focused on structure-function relationships of snake neurotoxin interactions with the nicotinic acetylcholine receptor. Dr. Moise's postdoctoral training at Brown University involved functional analysis of toxin binding sites engineered into toxin-insensitive ion channels. In 2005, he joined Dr. Anne De Groot's laboratory at Brown University as an Instructor in Medicine in the Department of Medicine (Infectious Disease) to study T-cell epitope-driven vaccination and protein therapeutic immunogenicity. Dr. Moise joined EpiVax, Inc. in Providence, RI in 2006 where he is currently Director of Vaccine Research. He leads T-cell epitope-driven vaccine development projects using a genomes-to-vaccine approach that combines cutting edge immunoinformatic and immunologic methods. His research efforts also include de-immunization of protein therapeutics by epitope modification. In 2008, Dr. Moise accepted a part-time appointment as Research Assistant Professor at URI, where he leads vaccine and immunotherapeutic development projects as a Project Leader in an NIH Cooperative Center of Human Immunology program. Dr. Moise has published over 30 manuscripts and reviews and is supported by funding from the NIH and the American Thyroid Association.