BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
O'Connor, David H.	Assistant Professor
eRA COMMONS USER NAME DHOCONNO	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Illinois at Urbana-Champaign	B.Sc.	1997	Biology Honors
University of Wisconsin at Madison	Ph.D.	2001	Immunology

A. Positions and Honors

Positions and Employment

2001-2004 Assistant Scientist in Pathology, University of Wisconsin at Madison
2004-2005 Associate Scientist in Pathology, University of Wisconsin at Madison
2005- Assistant Professor in Pathology, University of Wisconsin at Madison
2005- Affiliate Scientist, Wisconsin Primate Research Center (WNPRC)
2006- Member, IAVI Live Attenuated Vaccine Consortium
2007- Associate Director WNPRC and Head, WNPRC Research Services

Honors and Awards

Deans List (1994-97), UIUC University Scholar (1997), Phi Beta Kappa Inductee (1997), Summa cum laude graduate with departmental distinction (1997), University of Wisconsin Alumni Fellowship (1997-98), William F. Vilas Fellowship (1998), NIH Molecular Biosciences Training Grant (1998-2000), 8th Conference on Retroviruses and Opportunistic Infections Travel Grant (2001), 2nd Vaccine Development and Immunotherapy Travel Grant (2001), XIV International AIDS Conference Young Investigator Travel Grant (2002), XIV International AIDS Conference Young Investigator Award (2002), 3rd IAS Conference on HIV Pathogenesis and Treatment Basic Science Rapporteur (2005), NIH AIDS Immunology and Pathogenesis Study Section Reviewer (2005-06), American Foundation for AIDS Research Reviewer (2006), NIH Integrated Preclinical/ Clinical AIDS Vaccine Development (IPCAVD) Reviewer (2006-2007), NIH IRG Special Emphasis Panel for Non-HIV Microbial Vaccine Development Reviewer (2007-2008), UW-Madison Vilas Associate (2008), NIH Special Emphasis Panel for Research on Primary Immunodeficiency Diseases Reviewer (2008), NIH NCRR Primate Research Center Genetics and Genome Banking Working Group Member (2008-), 26th Annual NHP Models for AIDS Symposium Chair (2008)

B. Selected Publications (selected from 52 total)

Bimber, B. N*., B. J. Burwitz*, S. L. O'Connor*, A. Detmer, E. Gostick, S. Lank, D. A. Price, A. Hughes, and **D. H. O'Connor**. In press. Ultra-deep pyrosequencing detects complex patterns of CD8+ T-lymphocyte escape in SIV-infected macaques. Journal of Virology

Wiseman, R. W., J. A. Karl, B. Bimber, C. E. O'Leary, S. M. Lank, J. J. Tuscher, A. M. Detmer, P. Bouffard, N. Levenkova, C. L. Turcotte, E. Szekeres, C. Wright, T. Harkins, and H. **O'Connor D**. In press. MHC genotyping with massively parallel pyrosequencing. Nature Medicine

Burwitz, B. J., C. J. Pendley, J. M. Greene, A. M. Detmer, J. J. Lhost, J. A. Karl, S. M. Piaskowski, R. A. Rudersdorf, L. T. Wallace, B. N. Bimber, J. T. Loffredo, D. G. Cox, W. Bardet, W. Hildebrand, R. W. Wiseman, S. L. O'Connor, and **D. H. O'Connor**. 2009. Mauritian cynomolgus macaques share two exceptionally common major histocompatibility complex class I alleles that restrict simian immunodeficiency virus-specific CD8+ T cells. J Virol 83: 6011-6019.

Campbell, K. J., A. M. Detmer, J. A. Karl, R. W. Wiseman, A. J. Blasky, A. L. Hughes, B. N. Bimber, S. L. O'Connor, and **D. H. O'Connor**. 2009. Characterization of 47 MHC class I sequences in Filipino cynomolgus macaques. Immunogenetics 61: 177-187.

Bimber, B. N., A. J. Moreland, R. W. Wiseman, A. L. Hughes, and **D. H. O'Connor**. 2008. Complete characterization of killer Ig-like receptor (KIR) haplotypes in Mauritian cynomolgus macaques: novel insights into nonhuman primate KIR gene content and organization. J Immunol 181: 6301-6308

Blasky, A. J., J. A. Karl, R. W. Wiseman, D. S. Read, and **D. H. O'Connor**. 2008. Rapid high-resolution MHC class I genotyping of Chinese rhesus macaques by capillary reference strand-mediated conformational analysis. Immunogenetics 60: 575-584.

Greene, J. M., B. J. Burwitz, A. J. Blasky, T. L. Mattila, J. J. Hong, E. G. Rakasz, R. W. Wiseman, K. J. Hasenkrug, P. J. Skinner, S. L. O'Connor, and **D. H. O'Connor**. 2008. Allogeneic Lymphocytes Persist and Traffic in Feral MHC-Matched Mauritian Cynomolgus Macaques. PLoS ONE 3: e2384.

Florese, R. H., R. W. Wiseman, D. Venzon, J. A. Karl, T. Demberg, K. Larsen, L. Flanary, V. S. Kalyanaraman, R. Pal, F. Titti, L. J. Patterson, M. J. Heath, **D. H. O'Connor**, A. Cafaro, B. Ensoli, and M. Robert-Guroff. 2008. Comparative study of Tat vaccine regimens in Mauritian cynomolgus and Indian rhesus macaques: Influence of Mauritian MHC haplotypes on susceptibility/resistance to SHIV(89.6P) infection. Vaccine 26: 3312-3321.

Pendley, C. J., E. A. Becker, J. A. Karl, A. J. Blasky, R. W. Wiseman, A. L. Hughes, S. L. O'Connor, and **D. H. O'Connor**. 2008. MHC class I characterization of Indonesian cynomolgus macaques. Immunogenetics 60: 339-351.

Bimber, B., and **D. H. O'Connor.** 2008. KIRigami: the case for studying NK cell receptors in SIV+ macaques. Immunol Res 40: 235-243.

Karl, J. A., R. W. Wiseman, K. J. Campbell, A. J. Blasky, A. L. Hughes, B. Ferguson, D. S. Read, and **D. H. O'Connor**. 2008. Identification of MHC class I sequences in Chinese-origin rhesus macaques. Immunogenetics 60: 37-46.

Wiseman, R. W., and **D. H. O'Connor**. 2007. Major Histocompatibility Complex-Defined Macaques in Transplantation Research. Transplantation Reviews 21: 17-26.

O'connor SL, Blasky AJ, Pendley CJ, Becker EA, Wiseman RW, Karl JA, Hughes AL, **O'Connor DH** (2007) Comprehensive characterization of MHC class II haplotypes in Mauritian cynomolgus macaques. Immunogenetics 59: 449-462.

Wojcechowskyj JA, Yant LJ, Wiseman RW, O'Connor SL, **O'Connor DH** (2007) Control of simian immunodeficiency virus SIVmac239 is not predicted by inheritance of Mamu-B*17-containing haplotypes. J Virol 81: 406-410.

Wiseman RW, Wojcechowskyj JA, Greene JM, Blasky AJ, Gopon T, Soma T, Friedrich TC, O'Connor SL, **O'Connor DH** (2007) Simian immunodeficiency virus SIVmac239 infection of major histocompatibility complex-identical cynomolgus macaques from Mauritius. J Virol 81: 349-361.

Pratt BF, **O'Connor DH**, Lafont BA, Mankowski JL, Fernandez CS, Triastuti R, Brooks AG, Kent SJ, Smith MZ (2006) MHC class I allele frequencies in pigtail macaques of diverse origin. Immunogenetics 58: 995-1001.

Wilson, N. A., J. Reed, G. S. Napoe, S. Piaskowski, A. Szymanski, J. Furlott, E. J. Gonzalez, L. J. Yant, N. J. Maness, G. E. May, T. Soma, M. R. Reynolds, E. Rakasz, R. Rudersdorf, A. B. McDermott, **D. H. O'Connor**, T. C. Friedrich, D. B. Allison, A. Patki, L. J. Picker, D. R. Burton, J. Lin, L. Huang, D. Patel, G. Heindecker, J. Fan, M. Citron, M. Horton, F. Wang, X. Liang, J. W. Shiver, D. R. Casimiro, and D. I. Watkins. 2006. Vaccine-Induced Cellular Immune Responses Reduce Plasma Viral Concentrations after Repeated Low-Dose Challenge with Pathogenic Simian Immunodeficiency Virus SIVmac239. J Virol 80:5875-5885.

Yant, L. J., T. C. Friedrich, R. C. Johnson, G. E. May, N. J. Maness, A. M. Enz, J. D. Lifson, **D. H. O'Connor**, M. Carrington, and D. I. Watkins. 2006. The High-Frequency Major Histocompatibility Complex Class I Allele Mamu-B*17 Is Associated with Control of Simian Immunodeficiency Virus SIVmac239 Replication. J Virol 80:5074-5077.

O'Connor, D. H. 2006. Chinese rhesus and cynomolgus macaques in HIV research. Future Virology 1:165-173.

O'Connor, D. H., and D. R. Burton. 2006. Immune responses and HIV: a little order from the chaos. J Exp Med 203: 501-503.

Krebs, K. C., Z. Jin, R. Rudersdorf, A. L. Hughes, and **D. H. O'Connor**. 2005. Unusually high frequency MHC class I alleles in mauritian origin cynomolgus macaques. J Immunol 175:5230-5239.

Fernandez, C. S., I. Stratov, R. De Rose, K. Walsh, C. J. Dale, M. Z. Smith, M. B. Agy, S. L. Hu, K. Krebs, D. I. Watkins, **D. H. O'Connor**, M. P. Davenport, and S. J. Kent. 2005. Rapid viral escape at an immunodominant simian-human immunodeficiency virus cytotoxic T-lymphocyte epitope exacts a dramatic fitness cost. J Virol 79:5721.

Loffredo, J. T., J. Sidney, S. Piaskowski, A. Szymanski, J. Furlott, R. Rudersdorf, J. Reed, B. Peters, H. D. Hickman-Miller, W. Bardet, W. M. Rehrauer, **D. H. O'Connor**, N. A. Wilson, W. H. Hildebrand, A. Sette, and D. I. Watkins. 2005. The High Frequency Indian Rhesus Macaque MHC Class I Molecule, Mamu-B*01, Does Not Appear to Be Involved in CD8+ T Lymphocyte Responses to SIVmac239. J Immunol 175:5986-5997.

McDermott, A. B., **D. H. O'Connor**, S. Fuenger, S. Piaskowski, S. Martin, J. Loffredo, M. Reynolds, J. Reed, J. Furlott, T. Jacoby, C. Riek, E. Dodds, K. Krebs, M. E. Davies, W. A. Schleif, D. R. Casimiro, J. W. Shiver, and D. I. Watkins. 2005. Cytotoxic T-Lymphocyte Escape Does Not Always Explain the Transient Control of Simian Immunodeficiency Virus SIVmac239 Viremia in Adenovirus-Boosted and DNA-Primed Mamu-A*01-Positive Rhesus Macaques. J Virol 79:15556-15566.

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O'Connor, D.H., Mothe, B.R., Weinfurter, J.T., Fuenger, S., Rehrauer, W.M., Jing, P., Rudersdorf, R.R., Liebl, M.E., Krebs, K., Vasquez, J., Dodds, E., Loffredo, J., Martin, S., McDermott, A.B., Allen, T.M., Wang, C., Doxiadis, G.G., Montefiori, D.C., Hughes, A., Burton, D.R., Allison, D.B., Wolinsky, S.M., Bontrop, R., Picker, L.J. & Watkins, D.I. Major histocompatibility complex class I alleles associated with slow simian immunodeficiency virus disease progression bind epitopes recognized by dominant acute-phase cytotoxic-T-lymphocyte responses. J Virol 77, 9029-40 (2003).

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Altfeld, M., Allen, T.M., Yu, X.G., Johnston, M.N., Agrawal, D., Korber, B.T., Montefiori, D.C., **O'Connor, D.H.,** Davis, B.T., Lee, P.K., Maier, E.L., Harlow, J., Goulder, P.J., Brander, C., Rosenberg, E.S. & Walker, B.D. HIV-1 superinfection despite broad CD8(+) T-cell responses containing replication of the primary virus. Nature 420, 434-9 (2002).

*Allen, T.M., ***O'Connor, D.H.,** Jing, P., Dzuris, J.L., Mothe, B.R., Vogel, T.U., Dunphy, E., Liebl, M.E., Emerson, C., Wilson, N., Kunstman, K.J., Wang, X., Allison, D.B., Hughes, A.L., Desrosiers, R.C., Altman, J.D., Wolinsky, S.M., Sette, A. & Watkins, D.I. Tat-specific cytotoxic T lymphocytes select for SIV escape variants during resolution of primary viraemia. Nature 407, 386-90 (2000).

*Evans, D.T., ***O'Connor, D.H.,** Jing, P., Dzuris, J.L., Sidney, J., da Silva, J., Allen, T.M., Horton, H., Venham, J.E., Rudersdorf, R.A., Vogel, T., Pauza, C.D., Bontrop, R.E., DeMars, R., Sette, A., Hughes, A.L. &

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*denotes equal contribution by two or more authors

C. Research Support

Ongoing Research Support

1 R01 AI077376-01 (O'Connor) 4/01/2008-3/31/2011 NIH/NIAID
Adoptive Transfer of Immunity Elicited by Attenuated Vaccines
Role: PI

1 R24 RR021745-01A1 (O'Connor) 9/26/2005 – 6/30/2010 NIH/NCRR
Immunogenetics of Primates Used for Bioterror Research
The major goal of this project is to build a library of MHC alleles from cynomolgus macaques of different regional subpopulations and define peptide binding motifs for common alleles.
Role: PI

HHSN266200400088C (Watkins) 10/1/2004 – 9/30/2009 NIH/NIAID
Development of the Immune Monitoring Reagents and MHC Typing Technologies for Non-Human Primates.
The major goal of this contract is to develop improved tools for genotyping nonhuman primates.
Role: Co-investigator

5 P51 RR000167-46 (WNPRC) 5/01/2009 - 04/30/2010 NIH/NCRR
These funds support the Genetics Services Unit at the Wisconsin National Primate Research Center.
Role: Co-investigator

1R21AI082880-01 (O'Connor) 401/2009-3/30/2011 NIH/NIAID
Exploring in vitro and in vivo T cell immunity to SIV with MHC-identical macaques
Role: PI

(O'Connor) 10/01/2007-9/30/2009 MERC
Reconstructing HIV Sequence Histories to Identify Potent Immune Responses
Role: PI

Pending Research Support

1R01AI084787-01 (Friedrich/O'Connor) 7/1/2009-6/30/2014 NIH/NIAID
Defining the importance of CD8+ T Cell Breadth in SIV/HIV protective immunity
Role: Co-PI