Kim Van Vliet
8124 SW 57th Place
Gainesville, Florida 32608
(352) 281-4240 (cell)
email: kimvanvliet2@gmail.com

Work Experience:

9/11 to present – University of Florida – Department of Biochemistry and Molecular Biology
Research Scientist in the laboratory of Dr. Mavis Agbandje-McKenna – research addresses development of improved gene therapy vectors with a focus on AAV9 for therapeutic purposes.

9/09 to 9/11 – University of Florida – Department of Biochemistry and Molecular Biology
Postdoctoral Associate in the laboratory of Dr. Mavis Agbandje-McKenna – research addresses adeno-associated virus assembly and packaging. A primary goal of this research is developing better gene therapy vectors for therapeutic purposes.
American Chemical Society Member
American Society for Microbiology (ASM) Member

8/07 to 09/09 – University of Florida – Department of Molecular Genetics and Microbiology
Postdoctoral Associate in the laboratory of Dr. Grant McFadden – research addresses using proteomic approaches to identify novel cowpox virus-host protein interactions that may be useful for therapeutic purposes. Translational research.
F1000 Associate Member

8/01 to 08/07 - University of Florida – Department of Molecular Genetics and Microbiology
Graduate Research Assistant in the laboratory of Dr. Richard Snyder – research addresses questions related to adeno-associated virus (AAV) assembly and packaging. Adeno-Associated Virus is not known to cause disease in humans; therefore, it is a promising candidate as a gene therapy vector. An increased understanding of assembly and packaging may allow for improved virus production methods, as well as provide information regarding areas of the viral capsid that may be altered to target the viral vectors to specific cells. Developed important tools for AAV capsid serotype identity testing which will provide additional tests to ensure patient safety.
American Society for Virology (ASV) Member 2006 - present

1/97 to 8/01 - Florida Atlantic University – Department of Biological Sciences
Graduate Research Assistant in the laboratory of Dr. Michael Roner – research addressed questions related to Mammalian Reovirus Serotype 3 assembly. This project primarily involved protein expression and purification of the Reovirus nonstructural proteins mu NS and sigma NS using a vaccinia virus expression system to study their role in reovirus genome assortment. Cell culture techniques, as well as virus purification, chromatography, and western blots were performed. Course work in the Department of Biology included Flora of South Florida. In addition, as a Biology undergraduate at the University of Central Florida, prior coursework included Botany (Dr. Whittier), as well as Florida Wildflowers (Dr. Walter Kingsley Taylor). As an undergraduate research student at UCF in the Laboratory of Dr. Mike Sweeney, my initial research studies involved evaluating lymphocyte blast transformation in response to plant antigens from Bahia grass, Bottlebrush and Melaleuca.
Teaching Assistant for the Department of Biology – responsible for teaching undergraduate laboratories, including Biology I, Biology II, and General Microbiology. Participated in the Peer-Led Team Learning (PLTL) Project, which is a National Science Foundation (NSF) project that establishes peer-led team learning groups to improve teaching and increase student success in undergraduate science and math courses. Wrote an NSF subcontract grant for the Department of Biology at FAU, to enable them

to become a Workshop Project Associate (WPA), which was funded for $6,000. The PI on the grant was Randy Brooks, DSR#01-316, submitted 3/24/2001.
Teaching Assistant for the Math Department - responsible for teaching statistics discussion sections.
American Association for the Advancement of Science Member (AAAS)
Sigma Xi Member

8/97 to 1/98
State of Florida Game and Freshwater Fish Commission – Lab Technician, Boca Raton, FL
Mitochondrial DNA extraction from fin clips of fish, PCR amplification, restriction enzyme digestion and gel analysis of samples.

6/93 to 8/97
Seminole Community College – Adult High School Division, Sanford, FL – responsible for teaching Biology, Environmental Science and Oceanography.

Education:
8/07 Ph.D. Medical Science – Molecular Genetics and Microbiology, University of Florida, College of Medicine, Gainesville FL (Qualifying Exam passed 11/2003; Ph.D. conferred 08/14/07)
8/02 M. S. Degree in Biological Sciences from Florida Atlantic University, Boca Raton, FL
6/93 B. S. Degree in Biology from the University of Central Florida, Orlando, Florida
6/93 B. S. Degree in Psychology from the University of Central Florida, Orlando, Florida

Publications:
Judd, J., Ho, M.L., Tiwari, A., Gomez, E.J., Dempsey, C., **Van Vliet, K.**, Igoshin, O., Silberg, J.J., Agbandje-McKenna, M., Suh, J. Tunable virus nanoperceptrons programmed to compute proteolytic inputs. Submitted to **Nature Nanotechnology** (11/2013).

Tellez, J., **Van Vliet, K.**, Tseng, Y.S., Finn, J.D., Tschernia, N., Almeida-Porada, G., Arruda, V.R., Agbandje-McKenna, M., Porada, C.D. 2013. Characterization of Naturally-Occurring Humoral Immunity to AAV in Sheep. PLoS One, 8 (9) : e75142.

Mays, L.E., Wang, L., Tenney, R., Bell, P., Nam, H.J., Lin, J., Gurda, B., **Van Vliet, K.**, Mikals, K., Agbandje-McKenna, M., Wilson, J.M. 2013. Mapping the structural determinants responsible for enhanced T cell activation to the immunogenic adeno-associated virus capsid from isolate rhesus 32.33. J. Virol. 87 (17) : 9473-85.

Kay, C.N., Ryals, R.C., Aslanidi, G.V., Min, S.H., Ruan, Q., Sun, J., Dyka, F.M., Kasuga, D., Ayala, A.E., **Van Vliet, K.**, Agbandje-McKenna, M., Hauswirth, W.W., Boye, S.L., Boye, S.E. 2013. Targeting photoreceptors via intravitreal delivery using novel, capsid-mutated AAV vectors. PLoS One, 8 (4) : e62097.

Aslanidi, G.V., Rivers, A.E., Ortiz, L., Song, L., Ling, C., Govindasamy, L., **Van Vliet, K.**, Tan, M., Agbandje-McKenna, M., Srivastava, A. 2013. Optimization of the capsid of recombinant adeno-associated virus 2 (AAV2) vectors : the final threshold? PLoS One. 8 (3) : e59142.

Bell, C.L., Gurda, B.L., **Van Vliet, K.**, Agbandje-McKenna, M., and Wilson, J.M. 2012. Identification of the galactose binding domain of the AAV9 capsid. J. Virol. 86 (13) : 7326-33.

Dimattia, M.A.*, Nam, H-J.*, **Van Vliet, K.*,** Mitchell, M., Bennett, A., Gurda, B.L., McKenna, R., Olson, N.H., Sinkovits, R.S., Potter, M., Byrne, B.J., Aslanidi, G., Zolotukhin, S., Muzyczka, N., Baker,

T.S., and Agbandje-McKenna, M. 2012. Structural insight into the unique properties of Adeno-associated virus serotype 9. J. Virol. 86 (12) : 6947-58.

Bell, C.L., Vandenberghe, L.H., Bell, P., Limberis, M.P., Gao, G-P., **Van Vliet, K**., Agbandje-McKenna, M., and Wilson, J.M. 2011. The AAV9 receptor and its modification to improve in vivo lung gene transfer in mice. **J. Clin. Invest.** 121 (6) : 2427 – 2435.

Van Vliet, K., et al 2009. Poxvirus Proteomics and Virus-Host Protein Interactions. **Microbiology and Molecular Biology Reviews (MMBR)**, 73(4): 730-749.

Van Vliet, K., Mohiuddin, Y., McClung, S., Agbandje-McKenna, M., and Snyder, R.O. 2009. Adeno-associated Virus Capsid Serotype Identification (AAV-CSI). Journal of Virological Methods, 159(2): 167-77.

Van Vliet, K., Blouin, V., Brument, N., Agbandje-McKenna, M., and Snyder, R.O. 2008. The Role of the AAV Capsid in Gene Transfer. In Drug Delivery Systems Methods in Molecular Biology, Molecular Medicine & Biotechnology, 437: 51-91.

Van Vliet, K. 2007. Studies of the Adeno-associated virus capsid. Dissertation. Copyright © 2007.

Van Vliet, K., Blouin, V., Agbandje-McKenna, and Snyder, R.O. 2006. Proteolytic Mapping of the Adeno-associated Virus Capsid. Molecular Therapy, Vol. 14, No. 6, 809 – 821.

Van Vliet, K. 2002. An Investigation of the Nonstructural Proteins of Mammalian Reovirus Serotype 3: Mu NS and Sigma NS. Thesis. Copyright © 2002.

Presentations:

Van Vliet, K., Diaz, C., Ng, R., Gurda, B., Snyder, R.O., and Agbandje-McKenna, M. Analytical Methods for Capsid Serotype Identification of Gene Therapy Vectors. The Association for Mass Spectrometry Applications to the Clinical Laboratory (MSACL), San Diego, California, February 6, 2010 – February 10, 2010.

Van Vliet, K., Rahman, M.M., Smallwood, S. and McFadden, G. Cowpox Protein Microarrays. American Society for Virology (ASV), Cornell University, Ithaca, New York, July 12, 2008 – July 16, 2008.

Van Vliet, K., Rahman, M.M., Smallwood, S., and McFadden, G. Cowpox virus protein microarray for studies of viral-host protein interactions. Southeastern Regional Virology Conference (SERVC), Atlanta, Georgia, April 4, 2008 – April 6, 2008.

Van Vliet, K., Blouin, V., Brument, N., Mohiuddin, Y., Moullier, P., Agbandje-McKenna, M., and Snyder, R. O. Exploring the Surface Topology of the Adeno-associated Virus Capsid. American Society for Virology (ASV), Oregon State University, Corvallis, Oregon, July 14, 2007 – July 18, 2007.

Van Vliet, K., Blouin, V., Brument, N., Mohiuddin, Y., Moullier, P., Agbandje-McKenna, M., and Snyder, R.O. Exploring the Surface Topology of the AAV Capsid. University of Florida, Celebration of Research, Gainesville, FL, March 20, 2007.

Van Vliet, K., Brument, N., Blouin, V., Mohiuddin, Y., Moullier, P., Agbandje-McKenna, M., and Snyder, R.O. 2006. Proteolytic Mapping of AAV Serotypes. University of Florida, Genetics Institute Symposium, Gainesville, FL, November 1, 2006.

Van Vliet, K., Blouin, V., Govindasamy, L., Agbandje-McKenna, M., and Snyder, R.O. 2006. Proteolytic Mapping of the Adeno-Associated Virus Capsid. American Society for Virology (ASV), University of Wisconsin, Madison, Wisconsin, July 15, 2006 – July 19, 2006.

Van Vliet, K., Blouin, V., Govindasamy, L., Agbandje-McKenna, M., and Snyder, R.O. 2006. Proteolytic Mapping of AAV Capsids. Southeast Regional Interdisciplinary Symposium (SERIS), Gainesville, FL, May 19, 2006 – May 21, 2006.

Van Vliet, K., Blouin, V., Govindasamy, L., Agbandje-McKenna, M., and Snyder, R.O. 2006. Proteolytic Mapping of AAV Capsids. American Chemical Society, Florida Division Meeting (FAME), Orlando, FL, May 11, 2006 – May 13, 2006.

Van Vliet, K., Blouin, V., Agbandje-McKenna, M., and Snyder, R.O. 2006. Proteolytic Mapping of the Adeno-Associated virus Capsid. University of Florida College of Medicine Celebration of Research, Gainesville, FL, April 11, 2006.

Van Vliet, K., Blouin, V., Govindasamy, L., Agbandje-McKenna, M., and Snyder, R. O. 2005. Proteolytic mapping of the adeno-associated virus capsid. University of Florida, Genetics Institute Symposium, Gainesville, FL, November 30, 2005.

Van Vliet, K., Govindasamy, L., Warrington, K.H., McKenna, R., Muzyczka, N., Agbandje-McKenna, M., and Snyder, R.O. 2005. Studies of Adeno-Associated Virus-2 Assembly. University of Florida, Celebration of Research, Gainesville, FL, April 27, 2005.

Van Vliet, K., Govindasamy, L., Warrington, K.H., McKenna, R., Muzyczka, N., Agbandje-McKenna, M. and Snyder, R.O. 2005. Adeno-Associated Virus-2 (AAV-2) Capsid Assembly. University of Florida, Graduate Student Council Forum, Gainesville, FL, April 1, 2005.

Van Vliet, K., Govindasamy, L., Snyder, R.O., McKenna, R., Tattersall, P., Agbandje-McKenna, M. 2004. Structural Elucidation of ssDNA-Protein Packaging Interactions in Parvoviruses. Xth Parvovirus Workshop, St. Pete Beach, FL, September 8 - 12, 2004.

Van Vliet, K., Govindasamy, L., Snyder, R.O., McKenna, R., Tattersall, P., Agbandje-McKenna, M. 2004. Structural Elucidation of ssDNA-Protein Packaging Interactions in Parvoviruses. FASEB Summer Research Conference, Saxtons River, VT, July 3 - 8, 2004.

Govindasamy, L., **Van Vliet, K.**, Snyder, R. O., McKenna, R., and Agbandje-McKenna, M. 2004. Structural Elucidation of ssDNA-Protein Packaging Interactions in Parvoviruses. University of Florida, Celebration of Research, April 27, 2004.

Grants:
2013 February – Travel Grant – The Association for Mass Spectrometry Applications to the Clinical Lab
2011 February – Travel Grant – The Association for Mass Spectrometry Applications to the Clinical Lab
2010 February – Travel Grant – The Association for Mass Spectrometry Applications to the Clinical Lab

2008 July – Travel Grant – American Society for Virology
2007 July – Travel Grant – American Society for Virology
2006 July – Travel Grant – American Society for Virology
2006 July – Travel Grant – Department of Molecular Genetics and Microbiology
2005 February – Research Grant - GSC Mentoring Opportunity Program Research Grant
2004 September – Travel Grant - Graduate Student Council
2004 September – Travel Grant - Department of Molecular Genetics and Microbiology
2004 July – Travel Grant - Graduate Student Council (GSC)
2001 NSF – wrote WPA subcontract grant DSR#01-316, funded under PI – W. R. Brooks, FAU to improve learning outcomes for undergraduates enrolled in General Biology.

Awards:
2013 – American Society of Microbiology (ASM) **Teaching Fellow** Cohort
2013 – MSACL – Young Investigator Award
2007 – RxEAD Prescription for Knowledge Outstanding Research Student, October 2007. University of Florida Health Science Center Library, Gainesville, FL http://www.library.health.ufl.edu/pub/RxEAD_thumbs1.html
2007 – First Place, Genetics Advanced Concentration, Medical Guild Graduate Student Research Competition, University of Florida, Gainesville, FL
2005 – 2006 AAAS/Science Program for Excellence in Science, American Association for the Advancement in Science (AAAS), University of Florida, Gainesville, FL
2005 – UF President's Award, University of Florida, Gainesville, FL