

Curriculum vitae
David R. Allred

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Citizenship: U.S.A.

Marital Status: Married; two children

Education

1982 Ph.D. Department of Biology, University of California, Riverside.
1978 M.S. Departments of Biology and Comparative Medicine, Wayne State University, Detroit.
1976 M.T. (A.S.C.P.) Veterans' Administration Wadsworth Hospital, Los Angeles, CA.
1975 B.S. *Magna cum laude*, Microbiology, California State University- Fresno.

Professional Employment and Experience

2020- 2023 *Term Professor of Molecular Parasitology*, College of Veterinary Medicine, University of Florida.
2019- now *Associate Chair for Curriculum and Graduate Studies*, Department of Infectious Diseases and Immunology, College of Veterinary Medicine, University of Florida.
2010- now *Professor*, Department of Infectious Diseases and Immunology, College of Veterinary Medicine, University of Florida (formerly Infectious Diseases and Pathology).
2007- now *Graduate Faculty*, Genetics Graduate Program, University of Florida.
2006- now *Faculty Member*, University of Florida Emerging Pathogens Institute.
2004- now *Affiliate Faculty*, Department of Pathology, Immunology, and Laboratory Medicine, College of Medicine, University of Florida.
2003- now *Graduate Faculty*, Interdisciplinary Program in Biomedical Sciences (Graduate Program; Immunology and Microbiology concentration), University of Florida.
2003- now *Faculty Member*, University of Florida Genetics Institute.
1995-2010 *Associate Professor*, Department of Infectious Diseases and Pathology (formerly Pathobiology), College of Veterinary Medicine, University of Florida.
1990- 1995 *Assistant Professor* (Doctoral Research Faculty), Department of Infectious Diseases, College of Veterinary Medicine, University of Florida.
1988- 1990 *Research Assistant Professor*, Department of Infectious Diseases, College of Veterinary Medicine, University of Florida.
1986- 1988 *Postdoctoral Fellow*, Department of Infectious Diseases, University of Florida.
1983- 1986 *Research Associate*, Department of Molecular, Cellular, and Developmental Biology, University of Colorado.
1978- 1982 *Graduate Research Assistant*; Department of Biology, University of California, Riverside.
1976- 1978 *Graduate Teaching Assistant*; Department of Biology, Wayne State University, Detroit.
1975- 1976 *Medical Technologist trainee*; Veterans' Administration Wadsworth Hospital, Los Angeles.

Professional Societies

American Society for Microbiology (2012- now)
American Society for Cell Biology (1981- now)

Professional Recognition

2020- 2023, University of Florida Term Professorship
2016, 2020, *PLoS Pathogens*, Guest Associate Editor
2019- present, Scientific Review Board, Steven and Alexandra Cohen Foundation.
2014- 2017, Editorial Board, *International Scholarly Research Notices*
2011- 2014, Editorial Board, *ISRN Microbiology*
2010- inducted as Honorary Member, Phi Zeta (Upsilon Chapter)
2008- 2011, Editorial Board founding member, *Eukaryotic Cell*
2007- present, Editorial Board, *Molecular and Biochemical Parasitology*
1999, University of Florida Faculty Research Productivity Award.
1995, C.E. Cornelius Young Investigator Faculty Research Award, University of Florida.
1995, Awarded tenure in the Department of Infectious Diseases, University of Florida.
1990, Outstanding Faculty Achievement and Performance Award, University of Florida.
1975, B.S. *Magna cum laude*, California State University- Fresno.

Research Support and Role

Extramural Funding: Amounts listed are total project costs. My roles are in italics.

"Investigation of a shipworm endosymbiont compound with activity against the AIDS-associated pathogens *Cryptosporidium* and *Toxoplasma*"; *Co-PI* (UF), R.M. O'Connor, PI; National Institutes of Health (NIAID; 1R21AT009174-01); 04/2016-03/2018 (\$484,395).

"Structure and function of VirB6 in the Rickettsiales" *Co-Investigator*; A.F. Barbet, P.I.; B-H. Kang, Co-Investigator; National Institutes of Health (NIAID; R21 AI109469); 2014-2016 (\$412,500).

"Miscellaneous Donors"; *P.I.*; Miscellaneous Donors; 2010-2015; Unrestricted; (\$1938).

"Mechanisms controlling babesial antigenic variation"; *P.I.*; National Institutes of Health (NIAID; R01 AI055864); 2004- 2010 (\$1,370,940).

"Ethyl pyruvate- a very promising treatment for equine endotoxemia"; *Consultant*, R.J. Mackay, PI.; State of Florida Parimutuel Wagering Trust Fund; 2005- 2006 (\$33,236; no remuneration received).

"Combinatorial genetics strategy for immunization against parasite component function despite antigenic variation"; *P.I.*; U.S. Department of Agriculture CSRS; 2003- 2005 (\$240,000).

"Mechanisms controlling babesial antigenic variation"; *P.I.*; National Institutes of Health (NIAID; R21 AI055864); 2003- 2004 (\$290,167).

"Mechanisms of antigenic variation of *Anaplasma marginale* in different environments"; *Co-Mentor*; P.F.M. Meeus, P.I.; NIAID K08 Mentored Clinical Scientist Development Award; 2003- 2006 (\$360,304; no remuneration received).

"Characterization of immunodiagnostic antigens from *Sarcocystis neurona*"; *Co-Investigator*, J.B. Dame, P.I.; State of Florida Pari-mutuel Wagering Trust Fund Research Grant Competition; 2001- 2003 (\$49,965; no remuneration received).

"Genetic basis for antigenic variation in *Babesia bovis*" (renewal); *P.I.*; U.S. Department of Agriculture CSRS; 2000- 2003 (\$300,000).

- "Molecular components responsible for vascular obstruction in babesiosis" (renewal); *P.I.*; American Heart Association, Florida Affiliate; 2000- 2002 (\$120,000).
- "Dose response effects of interleukin-1 and methylprednisolone on equine articular cartilage matrix metabolism"; *Consultant*, D.J. Murphy, *P.I.*; State of Florida Parimutuel Wagering Trust Fund Research Grant Competition; 1998- 1999 (\$14,100).
- "Molecular components responsible for vascular obstruction in babesiosis"; *P.I.*; American Heart Association, Florida Affiliate; 1998- 2000 (\$108,857).
- "Genetic basis for antigenic variation in *Babesia bovis*"; *P.I.*; U.S. Department of Agriculture CSRS; 1997- 1999 (\$154,000).
- "Variant antigen epitope-induced T-cell anergy: Parasite survival mechanism"; *P.I.*, W.C. Brown, Co-PI; U.S. Department of Agriculture CSRS; 1995- 1998 (\$259,000).
- "Antigenic variation by *Babesia bovis* in establishment of chronic infection"; *P.I.*; U.S. Department of Agriculture CSRS; 1993- 1996 (\$148,000).
- "Identification of C3-binding components that facilitate invasion by *B. bigemina*"; *Consultant*, S.A. Kania, *P.I.*; U.S. Department of Agriculture CSRS.; 1992- 1994 (\$135,000; no remuneration received).
- "Control of anaplasmosis and babesiosis in Egypt through biotechnology"; *Investigator*, M.J. BurrIDGE, *P.I.* ; U.S. Agency for International Development; 1992- 1994 (\$1.715 M).
- "Antigenic variation of erythrocyte surface antigens in bovine babesiosis caused by *Babesia bovis*"; *P.I.*; U.S. Agency for International Development Title XII Program Support Grants; FY92 (\$9239).
- "Identification, cloning and immunogenicity of *Anaplasma marginale* invasins"; *P.I.*, A.F. Barbet, Co-*P.I.*; U.S. Department of Agriculture CSRS; 1990- 1993 (\$138,150).
- "Heartwater disease vaccine development project, Zimbabwe"; *Investigator*, M.J. BurrIDGE, *P.I.*; U.S. Agency for International Development; 1989- 1992; (\$2.77 M).
- "Improved animal vaccines through biotechnology, phase II- Anaplasmosis and Babesiosis"; *Investigator*, M.J. BurrIDGE, *P.I.*, A.F. Barbet, Co-*PI.*; U.S. Agency for International Development; 1987- 1992 (\$4.97 M).

Extramural Pending or In Preparation

- "Constrained multi-gene-drive strategy for self-limiting parasite vaccines"; *P.I.*; U.S. Department of Agriculture; 2022-2025 (\$649,511). Pending.
- "Triggering of antigenic variation in *Babesia*- a novel control target" (R01); *P.I.*; National Institutes of Health; 2021-2025 (\$1.77M). Not funded. Under revision for resubmission.

Intramural Funding

- "Triggering of antigenic variation in *Babesia*- a novel control target"; *P.I.*; College of Veterinary Medicine Fall Grants Competition; FY2021-2022 (\$10,000).
- "DNA repair and epigenetic regulation in *Babesia* antigenic variation"; *P.I.*; College of Veterinary Medicine Fall Grants Competition; FY2019-2020 (\$10,000).
- "Genome stability and antigenic variation in *Babesia*"; *P.I.*; College of Veterinary Medicine Fall Grants Competition; FY2017-2018 (\$10,000).
- "Genome stability and antigenic variation in *Babesia*"; *P.I.*; College of Veterinary Medicine Spring Grants Competition; FY2016-2017 (\$10,000).

- "PI3P metabolism and protein trafficking in Apicomplexan parasites"; *P.I.*; College of Veterinary Medicine Kickstart Bridge-funding Grants; FY2013-2014 (\$40,000).
- "RNA roles in babesial antigenic variation"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY 2011- 2012 (\$10,000).
- "Re-sequencing of the *Babesia bovis* genome"; Pain, A. (P.I.), Allred, D.R. (*Co-PI*); King Abdullah University for Science and Technology intramural sources; (no remuneration to U.F.).
- "Epigenetic influence on chromatin structure in antigenic variation"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY 2010 (\$9000).
- "Mechanisms controlling antigenic variation in *Babesia bovis*"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY2008 (\$10,000).
- "Quorum sensing and virulence in babesial parasites"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY2005 (\$7500).
- "Combinatorial genetics strategy for immunization against parasite component function despite antigenic variation"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY2002 (\$7500).
- "Determination of anti-lens crystallin serum antibody titer in dogs with and without cataracts"; H. Whigham, DVM, Resident P.I.; *Faculty Co-sponsor*; College of Veterinary Medicine Resident Research Award Competition; FY99 (\$2500).
- "Genetic basis for antigenic variation in *Babesia bovis*"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY99 (\$6,000).
- "Molecular components responsible for vascular obstruction in babesiosis"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY98 (\$7500).
- "Genetic basis for antigenic variation in *Babesia bovis*"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY97 (\$7500).
- "Identification of parasite *survival-in vivo* genes through reverse genetics"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY96 (\$7500).
- "Variant antigen epitope-induced T-cell anergy: Parasite survival mechanism"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY95 (\$7500).
- "Antigenic variation of cloned *Babesia bovis* in cattle"; R. Cinque, student Co-P.I., *Faculty P.I.*. College of Veterinary Medicine Summer Studentship Competition; FY 92 (\$1250).
- "Evasion of antibody-dependent cellular immune mechanisms by *Babesia bovis*"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY92 (\$7500).
- "Malaria Genome Project, University of Florida"; J. Dame, P.I., *Consultant*; University of Florida Division of Sponsored Research; 1991- 1993 (no remuneration received as Consultant).
- "Antigenic variation of *Babesia bovis*-infected erythrocyte surface antigens"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award; FY91 (\$6715).
- "*In vitro* mimicry of antibody-mediated immunity to babesiosis"; R. Grisel, student Co-P.I., *Faculty P.I.*; Veterinary Medicine Summer Studentship Competition; FY90 (\$1250).
- "Development of a nucleic acid diagnostic probe for *Babesia bigemina*"; D. Griffin, student Co-P.I., *Faculty P.I.*; Veterinary Medicine Summer Studentship Competition; FY90 (\$1250).

"Identification, cloning and immunogenicity of *Anaplasma marginale* invasins"; *P.I.*; College of Veterinary Medicine Consolidated Faculty Research Development Award Competition; FY90 (\$5004).

Meeting organization:

3rd International Babesiosis Meeting; held virtually as a Zoom meeting due to COVID-19, on 24-25 April 2021; Co-organizer with Dr. Choukri Ben Mamoun, Yale University.

2nd International Babesiosis Meeting, Yale University, New Haven, CT; 17-18 April 2019; Co-organizer with Dr. Choukri Ben Mamoun, Yale University.

1st Human Babesiosis Meeting, Yale University, New Haven, CT; 12-13 April 2018; Co-organizer with Dr. Choukri Ben Mamoun, Yale University. We subsequently renamed this the "*International Babesiosis Meeting*" to reflect the international diversity of the attendees and the much broader scope of fields actually covered.

Review Activities

Board and Editorial memberships

PLoS Pathogens, Guest Associate Editor (2016, 2020)

The Steven and Alexandra Cohen Foundation, Scientific Review Board, (2019- 2020).

Pathogens, Guest Editor, Special Issue on "Persistence of *Babesia*" (2019)

International Scholarly Research Notices, Editorial Board (2014- 2017)

ISRN Microbiology, Editorial Board (2011- 2014)

Eukaryotic Cell, Editorial Board inaugural member (2008- 2011)

Molecular and Biochemical Parasitology, Editorial Board (2007- present)

I have served as *ad hoc* reviewer or consultant for the following:

Journals

American Journal of Veterinary Research

Animal Health Research Reviews

BioScience

BMC Genomics

BMC Molecular Biology

BMC Veterinary Research

Cellular Microbiology

Clinical and Vaccine Immunology

Clinical Microbiology Reviews

Eukaryotic Cell

Experimental Parasitology

Expert Opinion in Pharmacotherapy

Infection and Immunity

International Journal for Parasitology

ISRN Microbiology

Journal of Cell Biology

Journal of Cell Science

Journal of Clinical Investigation

Journal of Clinical Microbiology

Journal of Experimental Medicine

Journal of Parasitology

Life Science Alliance

Microbial Pathogenesis

Microbiology Spectrum

Microorganisms

Molecular and Biochemical Parasitology

Molecular Microbiology

Nucleic Acids Research

Open Life Sciences

Parasite

Parasite Immunology

Parasites and Vectors

Parasitology

Parasitology Research

Parasitology Today

Pathogens

PLoS Neglected Tropical Diseases

PLoS One

PLoS Pathogens

Proc. National Academy of Sciences (U.S.A.)

Scientific Reports

Trends in Parasitology

Vaccine

Veterinary Microbiology

Veterinary Parasitology

Funding Agencies, foundations, and others

Czech Science Foundation, competitive research grants (2022)
 National Institutes of Health, ZRG1 F07A A 20 Infectious Diseases and Immunology Fellowship Review panel; panel Chair (2022)
 E. Mallinckrodt, Jr. Foundation Grant Program (internal pre-submission reviews) (2021)
 National Institutes of Health, F07C Infectious Diseases and Immunology Fellowship Review panel (2021)
 Puerto Rico Science, Technology, and Research Trust (2015, 2020)
 The Steven and Alexandra Cohen Foundation (2019- 2021)
 National Institutes of Health, F13 Infectious Diseases and Microbiology Fellowship Review panel (2018-2020; Chair, 03/20).
 National Institute for Allergy and Infectious Diseases (NIH), ZRG1 IDM S (81) review panel (2017).
 National Research Foundation (South Africa), Competitive Programme for Rated Researchers: South Africa/ Argentina Joint Science and Technology Research Collaboration (2016).
 University of Wyoming Agricultural Experiment Station Competitive Grants Program (2015).
 National Science Foundation, *Ad hoc* reviewer (2012, 2013).
 Research Opportunity Seed Fund, Basic Biomedical Sciences, University of Florida (2012).
 National Institute of Allergy and Infectious Diseases, IDM-S Study Section special review (2011).
 South African Medical Research Council (2010).
 National Institute of Allergy and Infectious Diseases, Challenge Grants (2009).
 L'Agence Nationale de la Recherche, Programme Blanc, France (2008, 2009).
 The Wellcome Trust, London, United Kingdom (1998, 2001, 2004, 2015).
 U.S.- Israel Binational Agricultural Research and Development (BARD) Fund (2003).
 The Kansas Biomedical Research Infrastructure Network (2003).
 National Heart, Lung, and Blood Institute (NIH) Special Emphasis Panel (2000).
 Life Sciences Foundation (SLW), The Hague, The Netherlands (1997).
 National Heart, Lung and Blood Institute (NIH) Program Project grant site visit team (1992, 1997).
 U.S.A.I.D. Review Committee for Title XII Support Grant Program (1991).
 U.S. Department of Agriculture National Research Initiative Competitive Research Grants Program: Mol. Cell. Basis of Animal Disease, and Animal Health and Well-being (1991- 2003, 2007).
 National Institute of Allergy and Infectious Diseases (NIH) Special Review Committee (1991).
 U.S. Department of Agriculture NRICGP: Animal Molecular Biology and Brucellosis (1989- 1990).
Ad hoc External Reviewer for decisions on hiring, promotion, and tenure for eight different U.S. universities

Publications (*asterisk indicates corresponding author; #pound indicates a graduate student; underline indicates undergraduate student at the time the work was performed)

<https://www.ncbi.nlm.nih.gov/myncbi/david.allred.1/bibliography/public/>

Peer-reviewed manuscripts: published, in press, or submitted

Allred, D.R.* 2022. Integration of DNA repair, antigenic variation, cytoadhesion, and chance in *Babesia* survival: a perspective. *Frontiers in Cellular and Infection Microbiology* 12: 869696 (doi:10.3389/fcimb.2022.869696; PMID: 35493746). Invited contribution to “*Babesia*: Biology, Interactions, and Mechanisms of Pathogenesis in Ticks and its Hosts”.

Crosby, F.L.*, Munderloh, U., Nelson, C., Herron, M., Lundgren, A.M., Xiao, Y-P., **Allred, D.R.**, and Barbet, A.F.* 2020. Disruption of VirB6 paralogs in *Anaplasma phagocytophilum* attenuates its growth. *Journal of Bacteriology* 202: e00301-20 (doi:10.1128/JB.00301-20; PMID: 32928930). This manuscript was chosen for an Editorial Focus commentary and featured on the cover.

- Mack, E.A.#, Tagliamonte, M., Xiao, Y-P., Quesada, S., and **Allred, D.R.*** 2020. *Babesia bovis* Rad51 ortholog influences switching of *ves* genes but is not essential for segmental gene conversion in antigenic variation. *PLoS Pathogens* 16(8): e1008772 (doi.org/10.1371/journal.ppat.1008772; PMID: 32866214).
- O'Connor, R.M.*, Nepveux, F.J., V., Abenoja, J., Bowden, G., Reis, P., Beaushaw, J., Relat, R., Driskell, I., Gimenez, F., Riggs, M.W., Schaefer, D.A., Schmidt, E.W., Lin, Z., Distel, D.L., Clardy, J., Ramadhar, T., **Allred, D.R.**, Fritz, H., Rathod, P., Chery, L., and White, J. 2020. A symbiotic bacterium of shipworms produces a compound with broad spectrum anti-apicomplexan activity. *PLoS Pathogens* 16(5): e1008600 (doi.org/10.1371/journal.ppat.1008600; PMID: 32453775).
- Mack, E.A.#, Xiao, Y-P., and **Allred, D.R.*** 2019. Knockout of *Babesia bovis rad51* ortholog and its complementation by expression from the BbACc3 artificial chromosome platform. *PLoS One* 14(8): e0215882 (doi.org/10.1371/journal.pone.0215882; PMID: 31386669).
- Allred, D.R.*** 2019. Variable and variant protein multigene families in *Babesia bovis* persistence. *Pathogens* 8: 76 (<https://www.mdpi.com/2076-0817/8/2/76>; doi:10.3390/pathogens8020076; PMID: 31212587).
- Gallego-Lopez#, G.M., Lau, A.O.T., O'Connor, R.M., Ueti, M.W., Cooke, B.M., Laughery, J.M., Graça, T., Madsen-Bouters, S.A., Oldiges, D., **Allred, D.R.**, and Suarez, C.E.* 2018. Up-regulated expression of Spherical Body Protein 2 truncated copy 11 in *Babesia bovis* is associated with reduced cytoadhesion to vascular endothelial cells. *International Journal for Parasitology* 49: 127-137. (<https://doi.org/10.1016/j.ijpara.2018.05.015>; PMID: 30367864)
- Mamoun, C.B.* and **Allred, D.R.*** 2018. Babesiosis. *eLS*; <https://doi:10.1002/9780470015902.a0001945.pub2>. (*co-corresponding authors)
- Paul, A.S., Moreira, C.K., Elsworth, B., **Allred, D.R.**, and Duraisingh, M.T.* 2016. Extensive shared chemosensitivity in malaria and babesiosis blood-stage parasites. *Antimicrobial Agents and Chemotherapy* 60: 5059-5063 (doi:10.1128/AAC.00928-16; PMID: 27246780).
- Pellé, K.G., Jiang, R.H.Y., Mantel, P-Y., Xiao, Y-P., Hjelmqvist, D., Gallego-Lopez, G., Lau, A.O.T., Kang, B-H., **Allred, D.R.***, and Marti, M*. 2015. Shared elements of host-targeting pathways among apicomplexan parasites of differing lifestyles. *Cellular Microbiology* 17: 1618-1639 (doi: 10.1111/cmi.12460; PMID: 25996544; *co-corresponding authors).
- Jackson, A.P.* , Otto, T.D., Darby, A., Ramaprasad, A., Xia, D., Echaide, I.E., Farber, M., Gahlot, S., Gamble, J., Gupta, D., Gupta, Y., Jackson, L., Malandrin, L., Malas, T.B., Moussa, E., Nair, M., Reid, A.J., Sanders, M., Sharma, J., Tracey, A., Quail, M.A., Weir, W., Wastling, J., Hall, N., Willadsen, P., Lingelbach, K., Shiels, B., Tait, A., Berriman, M., **Allred, D.R.**, and Pain, A. 2014. The evolutionary dynamics of variant antigen genes in *Babesia* reveal a history of genomic innovation underlying host-parasite interaction. *Nucleic Acids Research* 42: 7113-7131. (doi:10.1093/nar/gku322; PMCID: PMC4066756)
- Huang, Y.#, Xiao, Y-P., and **Allred, D.R.*** 2013. Unusual chromatin structure associated with monoparalogous transcription of the *Babesia bovis ves* multigene family. *International Journal for Parasitology* 43: 163-172. (PMCID: PMC3563878)
- Wang, X.#, Xiao, Y-P., Bouchut, A., Al-Khedery, B., Wang, H.#, and **Allred, D.R.*** 2012. Characterization of the unusual bidirectional *ves* promoters driving VESA1 expression and associated with antigenic variation in *Babesia bovis*. *Eukaryotic Cell* 11: 260-269. (PMCID: PMC3294438)
- Short, M.A.*, Clark, C.K., Harvey, J.W., Wenslow, N., Hawkins, I., **Allred, D.R.**, Knowles, D.P., Corn, J.L., Hennager, S.G., Kitchen, D.L., Traub-Dargatz, J.L. 2012. Outbreak of equine piroplasmiasis in Florida. *JAVMA* 240: 588-595. (PMID: 22332629)
- Xiao, Y-P., Al-Khedery, B., and **Allred, D.R.***. 2010. The *Babesia bovis* VESA1 virulence factor subunit b is encoded by the 1β branch of the *ves* multigene family. *Molecular and Biochemical Parasitology*, 171: 81-88. (PMCID: PMC2856709)

- Allred, D.R.***, Barbet, A.F., Barry, J.D., and Deitsch, K.W. 2009. *varDB*: Common ground for a shifting landscape. *Trends in Parasitology* 25: 249-252. (PMCID: PMC3697053)
- Župańska, A.K., Drummond, P.B., Swetnam, D., Al-Khedery, B., and **Allred, D.R.*** 2009. Universal primers suitable to assess population dynamics reveal apparent mutually exclusive transcription of the *Babesia bovis* *ves1α* gene. *Molecular and Biochemical Parasitology* 166: 47-53. (PMCID: PMC2681252)
- Allred, D.R.*** 2007. Dynamics of anemia progression and recovery in *Babesia bigemina* infection is unrelated to initiating parasite burden. *Veterinary Parasitology* 146: 170-174. (PMID: 17353098)
- Canto, G.J., Figueroa, J.V., Ramos, J.A., Rojas, E.E., Garcia-Tapia, D., Alvarez, J.A., **Allred, D.R.**, and Carson, C.A.* 2006. Evaluation of cattle inoculated with *Babesia bovis* clones adhesive in vitro to bovine brain endothelial cells. *Annals of the New York Academy of Sciences* 1081: 397-404. (PMID: 17135543)
- Allred, D.R.*** and Al-Khedery, B. 2006. Antigenic variation as an exploitable weakness of babesial parasites. *Veterinary Parasitology* 138: 50-60. (PMID: 16517078)
- Al-Khedery, B. and **Allred, D.R.*** 2006. Antigenic variation in *Babesia bovis* occurs through segmental gene conversion of the *ves* multigene family, within a bidirectional site of transcription. *Molecular Microbiology* 59: 402-414. (PMID: 16390438) This manuscript was featured on the journal cover and was the subject of a commentary piece: Dzikowski, R. and Deitsch, K. 2006. Antigenic variation by protozoan parasites: insights from *Babesia bovis*. *Molecular Microbiology* 59: 364-366.
- Allred, D.R.*** and Al-Khedery, B. 2004. Antigenic variation and cytoadhesion in *Babesia bovis* and *Plasmodium falciparum*: different logics achieve the same goals. *Molecular and Biochemical Parasitology* 134: 27-35. (PMID: 14747140)
- Allred, D.R.*** 2003. Babesiosis: persistence in the face of adversity. *Trends in Parasitology* 19: 51-55. (PMID: 12586467) Please also see animations at: <http://archive.bmn.com/supp/part/allred.html>.
- Allred, D.R.*** 2001. Molecular technology and antigenic variation among intraerythrocytic hemoparasites: Do we see reality? *Veterinary Parasitology* 101: 261-274. (PMID: 11707301)
- Allred, D.R.*** 2001. Antigenic variation in babesiosis: Is there more than one why? *Microbes and Infection* 3: 481-491. (PMID: 11377210)
- O'Connor, R.M.# and **Allred, D.R.*** 2000. Selection of *Babesia bovis*-infected erythrocytes for adhesion to endothelial cells co-selects for altered variant erythrocyte surface antigen isoforms. *Journal of Immunology* 164: 2037-2045. (PMID: 10657656)
- Allred, D.R.***, Carlton, J.M-R., Satcher, R.L., Long, J.A., Brown, W.C., Patterson, P.E., O'Connor, R.M.#, and Stroup, S.E. 2000. The *ves* multigene family of *B. bovis* encodes components of rapid antigenic variation at the infected erythrocyte surface. *Molecular Cell* 5: 153-162. (PMID: 10678177)
- O'Connor, R.M.#, Long, J.A., and **Allred, D.R.*** 1999. Cytoadherence of *Babesia bovis*-infected erythrocytes to bovine brain endothelial cells provides an *in vitro* model of sequestration. *Infection and Immunity* 67: 3921-3928. (PMCID: PMC96673)
- O'Connor, R.M.#, Long, J.A., and **Allred, D.R.*** 1999. Selection and recovery of minor parasite populations expressing unique infected-erythrocyte phenotypes. *Molecular and Biochemical Parasitology* 100: 125-129. (PMID: 10377000)
- Allred, D.R.*** 1998. Antigenic variation in *Babesia bovis*: How similar is it to *Plasmodium falciparum*? *Annals of Tropical Medicine and Parasitology* 92: 461-472. (PMID: 9683897)

- O'Connor, R.M.#, Lane, T.J., Stroup, S.E., and **Allred, D.R.*** 1997. Characterization of a variant erythrocyte surface antigen (VESA1) expressed by *Babesia bovis* during antigenic variation. *Molecular and Biochemical Parasitology* 89: 259-270. (PMID: 9364970)
- Allred, D.R.*** 1997. Immunochemical methods for identification of *Babesia bovis* antigens expressed on the erythrocyte surface. *Methods* 13: 177-189. (PMID: 9405201)
- Allred, D.R.*** 1995. Immune evasion by *Babesia bovis* and *Plasmodium falciparum*: Cliff-dwellers of the parasite world. *Parasitology Today* 11: 100-105. (PMID: 15275361)
- Kania, S.A.#, **Allred, D.R.**, and Barbet, A.F.* 1995. *Babesia bigemina*: Host factors affecting the invasion of erythrocytes. *Experimental Parasitology* 80: 76-84. (PMID: 7821413)
- McGarey, D.J. and **Allred, D.R.*** 1994. Characterization of hemagglutinating components on the *Anaplasma marginale* initial body surface and identification of possible adhesins. *Infection and Immunity* 62: 4587-4593. (PMCID: PMC303147)
- McGarey, D.J., Barbet, A.F., Palmer, G.H., McGuire, T.C. and **Allred, D.R.*** 1994. Putative adhesins of *Anaplasma marginale*: Major Surface Polypeptides (MSP) 1a and 1b. *Infection and Immunity* 62: 4594-4601. (PMCID: PMC303148)
- Allred, D.R.***, Cinque, R.M., Lane, T.J., and Ahrens, K.P. 1994. Antigenic variation of parasite-derived antigens on the surface of *Babesia bovis*-infected erythrocytes. *Infection and Immunity* 62: 91-98. (PMCID: PMC186072)
- Allred, D.R.***, Hines, S.A., and Ahrens, K.P. 1993. Isolate-specific parasite antigens of the *Babesia bovis*-infected erythrocyte surface. *Molecular and Biochemical Parasitology* 60: 121-132. (PMID: 8366886)
- Allred, D.R.*** and Ahrens, K.P. 1993. *Babesia bovis*: A non-subjective assay for antigenic modifications of the parasitized erythrocyte surface. *Journal of Parasitology* 79: 274-277. (PMID: 8459338)
- Ahrens, K.P. and **Allred, D.R.*** 1992. Polypeptides reactive with antibodies eluted from the surface of *Babesia bovis*-infected erythrocytes. *Memórias do Instituto Oswaldo Cruz* 87, Suppl. III: 21-26. (PMID: 1343693)
- Barbet, A.F.* and **Allred, D.R.** 1991. The *msh1* multi-gene family of *Anaplasma marginale*: nucleotide sequence analysis of an expressed copy. *Infection and Immunity* 59: 971-976. (PMCID: PMC258354)
- Allred, D.R.**, McGuire, T.C., Palmer, G.H., Lieb, S., Harkins, T.M., McElwain, T.F., and Barbet, A.F.* 1990. Molecular basis for surface antigen size polymorphisms and conservation of a neutralization-sensitive epitope in *Anaplasma marginale*. *Proceedings of the National Academy of Sciences (U.S.A.)* 87: 3220-3224. (PMCID: PMC53867)
- Eriks, I.S., Palmer, G.H., McGuire, T.C., **Allred, D.R.**, and Barbet, A.F.* 1989. Detection and quantitation of *Anaplasma marginale* in carrier cattle using a nucleic acid probe. *Journal of Clinical Microbiology* 27: 279-284. (PMCID: PMC267292)
- Greene, B.A., **Allred, D.R.**, Morishige, D.T., and Staehelin, L.A.* 1988. Hierarchical response of light harvesting chlorophyll-proteins in a light-sensitive chlorophyll b-deficient mutant of maize. *Plant Physiology* 87: 357-364. (PMCID: PMC1054757)
- Allred, D.R.** and Staehelin, L.A.* 1987. Cytochrome f exists as two functionally separate pools in pea thylakoid membranes. *Progress in Photosynthesis Research*, Vol. 2 (Biggins, J., ed.), Martinus-Nijhoff Publishers, Amsterdam, pp. 694-696.

- Camm, E.L.* , Green, B.R., **Allred, D.R.**, and Staehelin, L.A. 1987. Association of the 33kDa extrinsic polypeptide (water-splitting) with PSII particles: Immunochemical quantification of residual polypeptide after membrane extraction. *Photosynthesis Research* 13: 69-80. (PMID: 24435722)
- Greene, B.A., **Allred, D.R.**, Morishige, D.T., and Staehelin, L.A.* 1987. A light-sensitive photoregulatory mutant in maize deficient in LHCI and the "mobile" chlorophyll a/b LHCII. *Progress in Photosynthesis Research*, Vol. 2 (Biggins, J., ed.), Martinus-Nijhoff Publishers, Amsterdam, pp. 697-700.
- Allred, D.R.** and Staehelin, L.A.* 1986. Implications of cytochrome b₆/f location for thylakoidal electron transport. *Journal of Bioenergetics and Biomembranes* 18: 415-432. (PMID: 3533910)
- Allred, D.R.** and Staehelin, L.A.* 1986. Spatial organization of the cytochrome b₆/f complex within chloroplast thylakoid membranes. *Biochimica et Biophysica Acta* 849: 94-103. (PMID: 3955028)
- Allred, D.R.**#, Gruenberg, J.E., and Sherman, I.W.* 1986. Dynamic rearrangements of erythrocyte membrane internal architecture induced by infection with *Plasmodium falciparum*. *Journal of Cell Science* 81: 1-16. (PMID: 3525580)
- Allred, D.R.** and Staehelin, L.A.* 1985. Lateral distribution of the cytochrome b₆/f and coupling factor ATP synthetase complexes of chloroplast thylakoid membranes. *Plant Physiology* 78: 199-202. (PMCID: PMC1064701)
- Gruenberg, J.E., **Allred, D.R.**# and Sherman, I.W.* 1983. Scanning electron microscope-analysis of the protrusions (knobs) present on the surface of *Plasmodium falciparum*-infected erythrocytes. *Journal of Cell Biology* 97: 795-802. (PMCID: PMC2112566)
- Allred, D.R.**# and Sherman, I.W.* 1983. Developmental modulation of protein synthetic patterns by the human malarial parasite *Plasmodium falciparum*. *Canadian Journal of Biochemistry and Cell Biology* 61: 1304-1314. (PMID: 6367909)
- Allred, D.R.**#, Sterling, C.R.* and Morse, P.D. 1983. Increased fluidity of *Plasmodium berghei*-infected mouse red blood cell membranes detected by electron spin resonance spectroscopy. *Molecular and Biochemical Parasitology* 7: 27-39. (PMID: 6302505)

Books or Book Chapters

- Allred, D.R.***, Al-Khedery, B., and O'Connor, R.M. 2003. Chapter 13: Antigenic variation and its significance to *Babesia*. In, *Antigenic Variation* (Craig, A. and Scherf, A., eds), Academic Press (Elsevier Science Ltd.), London, pp. 273-290.
- Zimmermann, C.R.#, **Allred, D.R.**# and Wireman, J.W.*. 1978. *Introduction to Microbiology: Lab Manual*. Morton Publishing, Denver, pp. 1-224.

Published pre-prints (published prior to peer-review)

- Mack, E.A.#, Tagliamonte, M., Xiao, Y-P., Quesada, S., and **Allred, D.R.*** 2020. *Babesia bovis* Rad51 ortholog influences switching of *ves* genes but is not essential for segmental gene conversion in antigenic variation. *bioRxiv* (07/07/20) doi: <https://doi.org/10.1101/2020.07.06.189316>.
- Mack, E.A.#, Xiao, Y-P., and **Allred, D.R.*** 2019. Knockout of *Babesia bovis rad51* ortholog and its complementation by expression from the BbACc3 artificial chromosome platform. *bioRxiv* (04/11/19) doi: <https://doi.org/10.1101/606590>.

Non-refereed Publications

- Ben Mamoun, C.* and **Allred, D.R.*** 2019. Inaugural meeting of the international babesiosis research community, 2018: A glimpse into the future of an emerging research field. *International Journal for Parasitology* 49: 93-94. (doi: 10.1016/j.ijpara.2019.02.001; PMID: 30827459)
- Barbet, A.F.*, **Allred, D.R.**, McElwain, T.F., McGuire, T.C., and Palmer, G.H. 1991. Progress towards production of vaccines against anaplasmosis. Biotechnology in Kenya; Proceedings of the National Conference on Plant and Animal Biotechnology, Nairobi Initiatives Publishers.
- Barbet, A.F.*, **Allred, D.**, Mahan, S., Palmer, G., McGuire, T., Eriks, I.# and Goff, W. 1991. Development of a nucleic acid probe for diagnosis of bovine anaplasmosis. In, *Achievements in Tropical and Subtropical Agricultural Research*; Caribbean Basin Administrative Group, pp. 62-63.
- Barbet, A.F.*, Mahan, S.M., **Allred, D.R.**, McGuire, T.C., Palmer, G.H., and Yunker, C.E.. 1991. Molecular biology of rickettsiae: Gene organization and structure in *Anaplasma marginale* and *Cowdria ruminantium*. In, *Recent Developments in the Control of Anaplasmosis, Babesiosis, and Cowdriosis: Proceedings of a Workshop held at ILRAD, Kenya*.
- Allred, D.R.**, Oberle, S.M.#, Palmer, G.H., McGuire, T.C. and Barbet, A.F.*. 1989. Molecular basis for polymorphism in an immunoprotective surface antigen of *Anaplasma marginale*. *Proceedings of the 8th National Veterinary Hemoparasite Disease Conference*, pp. 485-490.
- Eriks, I.S.#, Palmer, G.H., Goff, W.L., Kocan, K.M., Stiller, D., **Allred, D.R.**, Gorham, J.R., McGuire, T.C. and Barbet, A.F.* 1989. Review of the development of a DNA probe to detect *Anaplasma marginale* in infected ticks and carrier cattle: a new epidemiological tool. *Proceedings of the 8th National Veterinary Hemoparasite Disease Conference*, pp. 297-304.
- Barbet, A.F., McGuire, T.C., **Allred, D.R.**, McElwain, T.F. and Palmer, G.H.* 1989. Definition of a neutralization-sensitive epitope in a surface antigen of *Anaplasma marginale*. *Proceedings of the 8th National Veterinary Hemoparasite Disease Conference*, pp. 477-484.
- Davis, W.C.*, McGuire, T.C., Palmer, G.H., Barbet, A.F., **Allred, D.R.** and McElwain, T.F.. 1989. Defining the lymphocyte and antigenic determinants required for subunit hemoparasite vaccines. *Proceedings of the 8th National Veterinary Hemoparasite Disease Conference*, pp. 451-464.
- McGuire, T.C.*, Palmer, G.H., **Allred, D.R.**, Davis, W.C. and Barbet, A.F.. 1989. Characterization of an immunoprotective surface protein complex of *Anaplasma marginale* by DNA cloning and expression. *Proceedings of the 8th National Veterinary Hemoparasite Disease Conference*, pp. 465-476.

Manuscripts in preparation for submission, or in progress

- Xiao, Y-P., Liang, C., Raffa, I., Elsworth, B., Keroack, C.#, Ramirez-Ramirez, L., Duraisingh, M., and **Allred, D.R.*** *Babesia bovis* relies heavily upon DNA Pol ζ activity to repair base alkylation damage. In progress.
- Xiao, Y-P. and **Allred, D.R.*** Phenotypes of Bbrad51^{null} *Babesia bovis* complemented with engineered Bbrad51 alleles encoding canonical residues. In progress.

Invited Talks and Other Activities (presenter indicated by asterisk)

- Allred, D.R.*** 2021. “Antigenic variation among *Babesia spp.* and other apicomplexans”. Invited talk, 3rd International Babesiosis Meeting, held virtually via Zoom; 25 April 2021.
- Allred, D.R.*** 2021. “Where do we go from here? Antigenic variation in *Babesia*”. Grant proposal seminar, Department of Infectious Diseases and Immunology, University of Florida; 23 February.

- Mack, E.A., Elsworth, B., Duraisingh, M., Xiao, Y-P., and **Allred, D.R.*** 2019. "Toolbox for genetic manipulation of *Babesia* in the study of antigenic variation". Invited talk, 2nd International Babesiosis Meeting, Yale University, New Haven, CT; 18 April.
- Mack, E., Xiao, Y-P., Quesada, S., and **Allred, D.R.*** 2018. "Genetic tools in the study of babesial antigenic variation". Invited talk, 1st Human Babesiosis Meeting, Yale University, New Haven, CT; 12 April.
- Allred, D.R.** 2017. "The more things change the more they remain the same: antigenic variation in *Babesia*". Invited seminar, University of South Florida, Tampa, FL, 10 January.
- Mack, E.A. and **Allred, D.R.*** 2016. Publication of NCBI BioProject #PRJNA357248; accession numbers SAMN06140550- SAMN06140572.
- Allred, D.R.** 2013. "Trafficking of virulence proteins to the host cell in *Babesia*". Seminar, University of Florida, Department of Infectious Diseases and Pathology.
- Allred, D.R.** 2012. Co-Chair of section on "Recent Advances in Babesiosis Research"; Apicomplexa: Apicomplexa in Farm Animals meeting; Lisbon, Portugal, 26 October.
- Allred, D.R.** 2012. Keynote speaker, "Molecular underpinnings of long-term persistence by *Babesia bovis*"; Apicomplexa: Apicomplexa in Farm Animals meeting; Lisbon, Portugal, 26 October.
- Allred, D.R.** 2012. "Antigenic variation in babesiosis: more possibilities than answers". Seminar, University of Florida, Department of Infectious Diseases and Pathology.
- Allred, D.R.** 2011. "*Babesia*: don't blink or you'll miss it. Or, why we do what we're doing"; Health Oriented Professional Engineering Society, University of Florida, 29 March.
- Allred, D.R.** 2010. "Antigenic variation in babesiosis: where to next?" Seminar, University of Florida, Department of Infectious Diseases and Pathology.
- Allred, D.R.** 2009. "Gene conversion in *Babesia bovis* antigenic variation and its implications for vaccine development"; Fondation Mérieux, Annecy, France, 01 April.
- Allred, D.R.** 2008. "Mechanisms underlying antigenic variation in *Babesia bovis*"; U.F. Genetics Institute, University of Florida, 22 April.
- Allred, D.R.** 2006. "The artful dodger existence of babesial and malarial parasites"; Department of Biology, University of California, Riverside, 19 October.
- Allred, D.R.** 2006. "Survival of babesial parasites in the immune host"; Department of Veterinary Science and Microbiology, University of Arizona, Tucson, 13 October.
- Allred, D.R.** 2004. "Antigenic variation as an exploitable weakness of babesial parasites". International Forum on Babesiosis I; Nice, France, 4 November.
- Allred, D.R.** 2004. "Common basis for dual strategies used by babesial parasites in immune evasion and the establishment of persistent infection". Department of Pathology, Immunology, and Laboratory Medicine, University of Florida, 14 April.
- Allred, D.R.** 2003. "Babesiosis: persistence in the face of adversity". 16th International Scientific Conference on Lyme and other Tick-borne Disorders, 7-8 June, Hartford, CT.
- Allred, D.R.** 2002. "Antigenic variation and cytoadhesion in *Babesia bovis*: contrasts with *Plasmodium falciparum*". Meeting on the Molecular Background to Severe and Complicated Malaria, 6-8 November, Karolinska Institute, Stockholm, Sweden.

- Allred, D.R.** 2001. "The case for *Babesia bovis* as the next protist genome to be sequenced." Talk presented at the "Prospects for Protist Genomics meeting", The Institute for Genomic Research, Washington, D.C., 12 December.
- Allred, D.R.** 2001. "Antigenic variation in *Babesia bovis*: What is the real purpose?" National meeting of the American Society for Microbiology, Orlando, FL, 20- 24 May.
- Allred, D.R.** 2000. "Does immune evasion in babesiosis involve bifunctional components?" Department of Veterinary Pathobiology, University of Missouri, Columbia, 21 March.
- Allred, D.R.**, Long, J.A., and O'Connor, R.M. 1999. Cytoadherence and antigenic variation in *Babesia bovis* may be embodied in a heterodimeric, bifunctional protein. Talk given at the 1999 Molecular Parasitology meeting, Marine Biological Laboratory, Woods Hole, MA.
- Allred, D.R.** 1998. "Antigenic variation and cytoadherence in *Babesia bovis*: two side of the same coin?". Department of Animal Science, University of Florida, 20 November.
- Allred, D.R.** 1997. "Antigenic variation in *Babesia* and *Plasmodium*: How similar is it?" 9th Malaria Meeting of the British Society of Parasitologists, Liverpool, England, 17 September.
- Allred, D.R.** 1996. "Antigenic variation in *Babesia bovis*: Can we hit a moving target?" Department of Parasitology, University of Georgia, Athens; 15 November.
- Allred, D.R.** 1995. Tropical livestock diseases. Talk presented to the 1995 Lay Leader Orientation, Institute of Food and Agricultural Sciences, University of Florida.
- Allred, D.R.**, Lane, T.J., Nassar, A.M., Elsaid, H.M. and Blackwell, J.L.. 1994. Expression of the *Babesia bovis* RAP-1 protein in mammalian cells. Talk presented at the 75th annual meeting of the Conference of Research Workers in Animal Diseases, Chicago, IL.
- Allred, D.R.** 1991. Recent advances in the study of bovine babesiosis. International Laveran Foundation, Annecy, France, November.
- Allred, D.R.*** and K.P. Ahrens. 1991. Parasite-derived antigens of the *Babesia bovis*-infected erythrocyte surface. 4th International Congress on Malaria and Babesiosis, Rio de Janeiro, Brazil.

Abstracts and Other Miscellaneous Communications (presenter indicated by asterisk)

- Mack, E.A., Tagliamonte, M., Xiao, Y., and **Allred, D.R.*** 2020. BbRad51 roles in *Babesia bovis* survival. *Molecular Biology of the Cell* 31: P1033 (presented during *Cell Bio Virtual* online joint meeting of the American Society for Cell Biology and the European Molecular Biology Organization, 2-16 December)
- Gallego-Lopez, G.M.*, Lau, A.O.T., Laughery, J.M., O'Connor, R.M., Ueti, M.W., **Allred, D.R.**, Oldiges, D.P., Knowles, D.P., and Suarez, C.E. 2018. Up-regulated expression of Spherical Body Protein 2 truncated copy 11 is associated with reduced in vitro endothelial cell cytoadhesion by *Babesia bovis*. Poster, 18th International Congress on Infectious Diseases. Buenos Aires, Argentina.
- Elsworth, B.*, Moreira, C., Paul, A., **Allred, D.R.**, and Duraisingh, M. 2016. Development of genetic tools to study *Babesia divergens*. Poster, Molecular Parasitology Meeting, Woods Hole, MA 21 September.
- Mack, E. and **Allred, D.R.*** 2016. *Babesia bovis* Rad51 influences epigenetic regulation of the *ves* multigene family. Poster, Molecular Parasitology Meeting, Woods Hole, MA, 19 September.
- Crosby, F.L.*, **Allred, D.R.**, Xiao, Y-P., Williams, D.S., Lundgren, A.M., and Barbet, A.F. 2016. Structure and distribution of VirB6-4 in *A. phagocytophilum*. Talk, American Society for Rickettsiology, Big Sky, MT, 11-14 June.

- Mack, E. and **Allred, D.R.*** 2015. Antigenic variation in *Babesia bovis* is unaffected by knockout of Rad51. Poster, Molecular Parasitology Meeting, Woods Hole, MA, 22 September.
- O'Connor, R.M.*, Kelligrew, J., Hazery, A., Hiroaki, N., Haygood, M., **Allred, D.R.**, Zhenjian, L., and Schmidt, E. 2015. A secondary metabolite produced by a shipworm symbiont inhibits growth of *Toxoplasma* and *Cryptosporidium*. Poster, Molecular Parasitology Meeting, Woods Hole, MA, 23 September.
- Mack, E.A.*, Xiao, Y-P., and **Allred, D.R.** 2013. Unexpected role for Rad51 in *Babesia bovis* antigenic variation. Poster (updated and modified), 2013 U.F. Genetics Symposium.
- Mack, E.A.*, Xiao, Y-P., and **Allred, D.R.** 2012. Unexpected role for Rad51 in *Babesia bovis* antigenic variation. Poster, 2012 U.F. Genetics Symposium.
- Mack, E.A.*, Xiao, Y-P., and **Allred, D.R.** 2012. Unexpected role for Rad51 in *Babesia bovis* antigenic variation. Poster, 2012 Molecular Parasitology Meeting, Woods Hole, MA.
- Jiang, R.H.Y. *, Pelle, K., **Allred, D.R.**, Neafsey, D.E., and Marti, M. 2011. Multiple routes to the host-redefining protein trafficking in apicomplexan parasites. Poster, 2011 Molecular Parasitology Meeting, Woods Hole, MA.
- Wang, X., Xiao, Y-P., Huang, Y., and **Allred, D.R.*** 2010. Use of *ves* promoter integration to study bidirectional promoter remodeling. Poster, 2010 Molecular Parasitology Meeting, Woods Hole, MA.
- Huang, Y.*, Wang, X. and **Allred, D.R.** 2009. Unusual promoter structure within the locus of active *ves* transcription of *Babesia bovis*. Talk, 2009 Molecular Parasitology Meeting, Woods Hole, MA.
- Wang, X.* and **Allred, D.R.** 2009. Development of a system to assess *in situ* switching in the *Babesia bovis* locus of active *ves* transcription (LAT). Poster, 2009 Molecular Parasitology Meeting, Woods Hole, MA.
- Bouchut, A.* and **Allred, D.R.** 2008. Identification of sequences interacting with the locus of active *ves* transcription in *Babesia bovis*. Poster, 2008 Molecular Parasitology Meeting, Woods Hole, MA.
- Huang, Y., Ragoonanan, L., and **Allred, D.R.*** 2008. Structural characteristics of transcribed and non-transcribed *ves* genes responsible for antigenic variation in *Babesia bovis*. Poster, 2008 Molecular Parasitology Meeting, Woods Hole, MA.
- Huang, Y.L.* and **Allred, D.R.** 2007. Higher-order structure in the *Babesia bovis* locus of active *ves* transcription. Poster, 2007 UF Genetics Symposium.
- Wang, X.* and **Allred, D.R.** 2007. Development of a system to assess *in situ* switching in the *Babesia bovis* locus of active *ves* transcription (LAT). Poster, 2007 UF Genetics Symposium.
- Huang, Y.L. and **Allred, D.R.*** 2007. Higher-order structure in the *Babesia bovis* locus of active *ves* transcription. Poster, 2007 Molecular Parasitology Meeting, Woods Hole, MA.
- Wang, X. and **Allred, D.R.*** 2007. Development of a system to assess *in situ* switching in the *Babesia bovis* locus of active *ves* transcription (LAT). Poster, 2007 Molecular Parasitology Meeting, Woods Hole, MA.
- Zupanska, A., Drummond, P., Al-Khedery, B., and **Allred, D.R.*** 2007. Conserved structural motifs within the antigenically variant CKRD domain of the VESA1 protein of *Babesia bovis*. Poster, 2007 Molecular Parasitology Meeting, Woods Hole, MA.
- Drummond, P., Al-Khedery, B. and **Allred, D.R.*** 2006. Transcriptional characteristics of antigenically variant *ves* genes in *Babesia bovis*. Poster given at 2006 Molecular Parasitology Meeting, Woods Hole, MA.

- Drummond, P.B.* and **Allred, D.R.** 2005. Transcription of the *ves1 α* gene associated with rapid, clonal antigenic variation in *Babesia bovis* appears to be monoallelic. Poster presented at the "Florida Genetics 2005" symposium, University of Florida, Gainesville.
- Al-Khedery, B.* and **Allred, D.R.** 2005. Antigenic variation in *Babesia bovis*: characterization of an active site of transcription and identification of a novel sub-family of *ves* genes. Poster presented at the "Florida Genetics 2005" symposium, University of Florida, Gainesville.
- Drummond, P.B. and **Allred, D.R.*** 2005. Transcription of the *ves1 α* gene associated with rapid, clonal antigenic variation in *Babesia bovis* appears to be monoallelic. Poster presented at the 2005 Molecular Parasitology Meeting, Woods Hole, MA.
- Al-Khedery, B.* and **Allred, D.R.** 2005. Antigenic variation in *Babesia bovis*: characterization of an active site of transcription and identification of a novel sub-family of *ves* genes. Poster presented at the 2005 Molecular Parasitology Meeting, Woods Hole, MA.
- Al-Khedery, B. and **Allred, D.R.*** 2003. Antigenic variation in *Babesia bovis* may involve generalized 'expression sites'. Poster presented at the 2003 Molecular Parasitology Meeting, Woods Hole, MA.
- Al-Khedery, B. and **Allred, D.R.*** 2002. Organization of the *Babesia bovis ves* multigene family: Insights into possible mechanisms for rapid sequence diversity and antigenic variation. Poster presented at the 2002 Molecular Parasitology Meeting, Woods Hole, MA.
- Al-Khedery, B. and **Allred, D.R.** 2001. The organization of *ves1 α* genes suggests a novel mechanism of variation in *Babesia bovis*. Poster to have been presented at the 2001 Molecular Parasitology meeting, Woods Hole, MA. Cancelled due to terrorist attack on New York, 11 September.
- O'Connor, R.M.* and **Allred, D.R.** 1999. Is there linkage of antigenic variation and cytoadherence in *Babesia bovis*? Talk presented at the 80th Conference of Research Workers in Animal Diseases, Chicago, IL.
- O'Connor, R.M. and **Allred, D.R.*** 1999. Selection of *Babesia bovis*-infected erythrocytes for adhesion to endothelial cells co-selects for altered variant erythrocyte surface antigen isoforms. Poster presented at the Gordon Research Conference on "Parasitism", Newport, RI.
- Allred, D.R.***, O'Connor, R.M., Satcher, R., and Stroup, S. 1998. Probable mosaic gene formation during antigenic variation in *Babesia bovis*. Poster given at the 1998 Molecular Parasitology meeting, Woods Hole, MA.
- O'Connor, R.M.*, Long, J.A., and **Allred, D.R..** 1998. Cytoadhesion of *Babesia bovis*-infected erythrocytes to bovine brain capillary endothelial cells: Is there a linkage with antigenic variation? Presentation made at the 1998 Molecular Parasitology meeting, Woods Hole, MA.
- Allred, D.R.***, O'Connor, R.M., and Stroup, S.E.. 1997. Identification of the *ves1 α* gene encoding antigenic variation in *Babesia bovis*. Poster presented at the 1997 Molecular Parasitology meeting, Woods Hole, MA, 14 September.
- O'Connor, R.M., Lane, T.J., Stroup, S.E. and **Allred, D.R.***. 1997. Characterization of the *Babesia bovis* VESA1 antigen: A variant protein doublet on the surface of infected erythrocytes. Poster presented at the Keystone Symposium on Apicomplexan Parasites, Park City, UT, February 1997.
- O'Connor, R.M., Lane, T.J. and **Allred, D.R.***. 1996. Characterization of variant parasite antigens on the surface of *Babesia bovis*-infected erythrocytes using monoclonal antibodies. Poster presented at the annual Woods Hole Molecular Parasitology meeting, Woods Hole, MA, September 1996.
- O'Connor, R.M.*, Lane, T.J. and **Allred, D.R..** 1996. Characterization of variant parasite antigens on the surface of *Babesia bovis*-infected erythrocytes using monoclonal antibodies. Talk presented to the 49th annual meeting of the Animal Disease Research Workers in Southern States, Auburn, AL.

- Allred, D.R.***, Lane, T.J., Stroup, S.E. and O'Connor, R.M.. 1995. Identification of the variant erythrocyte-surface antigens of *Babesia bovis*. Poster presented at the annual Woods Hole Molecular Parasitology Meeting, Woods Hole, MA.
- O'Connor, R.M., Cinque, R.M. and **Allred, D.R.*** 1995. Antibody-dependent cytotoxicity activity against *Babesia bovis*-infected erythrocytes. Talk presented to the 48th annual meeting of the Animal Disease Research Workers in Southern States, Gainesville, FL.
- O'Connor, R.M., Lane, T.J. and **Allred, D.R.** 1994. Monoclonal antibodies identify variant parasite antigens on *Babesia bovis*-infected erythrocytes. Poster presented at the 75th annual meeting of the Conference of Research Workers in Animal Diseases, Chicago, IL.
- Allred, D.R.***, Lane, T.J., Cinque, R.M. and O'Connor, R.M.. 1994. Antigenic variation at the erythrocyte surface in *Babesia bovis* chronic infections. Poster presented at the annual Woods Hole Marine Biological Laboratory Molecular Parasitology meeting.
- Allred, D.R.***, Cinque, R.M. and Ahrens, K.P.. 1993. Antigenic variation and identification of parasite-derived antigens on the *Babesia bovis*-infected erythrocyte surface. J. Cell. Biochem. (Supplement 17C): HZ201.
- Simbi, B.H.*, Kamper, S.M., Barbet, A.F. and **Allred, D.R.** 1992. Cloning of *Cowdria ruminantium* genes involved in adhesion to cultured bovine endothelial cells. Poster presented at the 73rd annual meeting of the Conference of Research Workers in Animal Diseases, Chicago, IL.
- Simbi, B.H.*, Mahan, S.M. and **Allred, D.R.** 1992. Cloning of *Cowdria ruminantium* genes involved in adhesion/ invasion of bovine endothelial cells. U.F. College of Veterinary Medicine Resident/ Graduate Student Research Symposium (poster).
- Dame, J.B.*, Reddy, G.R., Chakrabarti, D., Almira, E.C., Schuster, S.M., Ferl, R.J., Yang, T.P., Rowe, T.C., Nick, H.S., Laipis, P.J., **Allred, D.R.** and Cockburn, A.F. 1992. Malaria Genome Project: Sequence analysis of the structural genes of the human malaria parasite, *Plasmodium falciparum*, cloned using the genease activity of mung bean nuclease. Cold Spring Harbor Symposium on Genome Mapping and Sequencing.
- Chakrabarti, D.*, Reddy, G.R., Dame, J.B., Schuster, S.M., Ferl, R.J., Almira, E.C., Yang, T.P., Rowe, T.C., Nick, H.S., Laipis, P.J., **Allred, D.R.** and Cockburn, A.F.. 1992. Malaria Genome Project: Sequence analysis of *Plasmodium falciparum* random cDNA clones. Cold Spring Harbor Symposium on Genome Mapping and Sequencing.
- McGarey, D.J.*, Barbet, A.F. and **Allred, D.R.** 1992. Adhesins of *Anaplasma marginale*. Talk presented at the 1992 national meeting of the American Society for Microbiology, New Orleans, LA.
- McGarey, D.J.*, Barbet, A.F., McGuire, T.C., Palmer, G.H. and **Allred, D.R.** 1991. Hemagglutination of bovine erythrocytes by *Anaplasma marginale* initial bodies. Talk presented to the 72nd Conference of Research Workers in Animal Diseases, Chicago, IL.
- Kania, S.A.*, Barbet, A.F. and **Allred, D.R.** 1991. Factors affecting *Babesia bigemina* merozoite invasion of erythrocytes. Talk; 72nd Conference of Research Workers in Animal Diseases, Chicago.
- Allred, D.R.*** and Ahrens, K.P.. 1991. Parasite-derived antigens of the *Babesia bovis*-infected erythrocyte surface. Talk; 72nd Conference of Research Workers in Animal Diseases, Chicago.
- Barbet, A.F. *, Eriks, I.S., McGuire, T.C., **Allred, D.R.**, Davis, W.C., McElwain, T.F. and Palmer, G.H. 1991. Molecular approaches to the diagnosis of anaplasmosis. Paper presented at the annual national meeting of the American Veterinary Medical Association.

- Allred, D.R.*** and Ahrens, K.P.. 1991. Controlled presentation of isolate-specific, parasite-synthesized epitopes on the surface of *Babesia bovis*-infected bovine erythrocytes. Gordon Research Conference on "Molecular and Biochemical Aspects of Parasitism". Colby Sawyer College, New London, NH.
- Palmer, G.H.*, Barbet, A.F., McElwain, T.F., Stephens, E.B., **Allred, D.R.** and McGuire, T.C. 1990. Immunization strategies to focus immune responses against the MSP-1a neutralization-sensitive epitope of *Anaplasma marginale*. Proc. 71st Conf. Res. Workers Animal Dis., Chicago, IL.
- Barbet, A.F. *,**Allred, D.R.** , McElwain, T.F., McGuire, T.C. and Palmer, G.H.. 1990. Progress towards production of vaccines against anaplasmosis. Proceedings of the East African Congress on Blood-borne Parasites, Nairobi, Kenya.
- Allred, D.R.***, Palmer, G.H., Oberle, S.M., McGuire, T.C. and Barbet, A.F.. 1989. *Anaplasma marginale*: Strict conservation of a neutralization-sensitive epitope in the tandem repeat region of the polymorphic surface antigen, AmF105. J. Cell. Biochem., Supplement 13E: 98.
- Barbet, A.F. *, **Allred, D.**, McElwain, T., McGuire, T.C. and Palmer, G. 1989. Anaplasmosis, current research towards vaccination. Am. Assoc. Veter. Parasitol. meeting, Orlando, FL.
- Goff, W. *, Palmer, G., Barbet, A., Eriks, I., Stiller, D., Kocan, K., **Allred, D.**, Knowles, D., Myler, P., Roeder, R., Johnson, L., Edwards, W., Ewing, S., Hair, J., Barron, S., Gorham, J., and McGuire, T. 1988. Development and application of a cloned *Anaplasma marginale* specific DNA probe. Proceedings of the 69th Conference of Research Workers in Animal Diseases, Chicago, IL.
- Barbet, A. *, McGuire, T., Palmer, G., **Allred, D.** and McElwain, T. 1988. Definition of a neutralization-sensitive epitope in a surface antigen of *Anaplasma marginale*. Presented as a seminar to research scientists of Norden Pharmaceuticals Company, Lincoln, NE.
- Allred, D.R.***, Oberle, S., Barbet, A.F., Palmer, G. and McGuire, T. 1987. Allelic polymorphism in the rickettsia, *Anaplasma marginale*. J. Cell Biol. 105(4/2): 155a.
- Barbet, A.F. *, Palmer, G.H., **Allred, D.R.**, Myler, P. and McGuire, T.C. 1987. Cloning and expression of *Anaplasma marginale* surface proteins in *E. coli*. Veter. Hemoparasite Res. Workers, national meeting, Los Angeles, CA.
- Allred, D.R.*** and Staehelin, L.A. 1986. Association of separate cytochrome f pools with the plastoquinone: plastocyanin oxidoreductase complex of thylakoid membranes. J. Cell Biol. 103(5/2): 522a.
- Allred, D.R.*** and Staehelin, L.A. 1985. The chloroplast cytochrome b6/f complex is co-distributed in grana and stroma thylakoids. Plant Physiol. 77(4): 38 (abstract).
- Allred, D.R.***, DeWit, M., Seibert, M. and Staehelin, L.A. 1985. Visualization of the O₂-evolving apparatus of Photosystem II. J. Cell Biol. 101(5/2): 72a.
- Allred, D.R.*** and Staehelin, L.A. 1984. Spatial organization of the cytochrome f/b6 complex in chloroplast thylakoid membranes. J. Cell Biol. 99(4/2): 18a.
- Allred, D.R.***, Gruenberg, J.E. and Sherman, I.W. 1983. Internal rearrangements of the erythrocyte membrane by *Plasmodium falciparum*. J. Cell Biol. 97(5/2): 296a.
- Allred, D.R.*** 1983. Morphological and biochemical alterations of human erythrocytes infected with *Plasmodium falciparum*. Diss. Abs. Intl. 44a: 19b.
- Allred, D.R.*** and Sherman, I.W. 1983. Membrane rearrangements associated with knob formation by cultured *Plasmodium falciparum*. (poster and workshop talk presented at the U.C.L.A. Symposium on the "Molecular biology of host-parasite interactions", Park City, UT.

Allred, D.R.* and Sherman, I.W. 1981. Turnover of developmentally- regulated proteins by *Plasmodium falciparum*. (poster presented at the Gordon Research Conference on "Immunological and molecular aspects of parasitism", New London, NH).

Allred, D.R.* and Sherman, I.W. 1981. Protein biosynthesis by *Plasmodium falciparum* is developmentally regulated. J. Cell Biol. 91(2/2): 25a.

Allred, D.R. and Sterling, C.R.* 1978. Evidence of erythrocyte membrane changes in *Plasmodium berghei* malaria. (1978 meeting of Am. Soc. Parasitol.).

Instructional and Supervisory Activities at the University of Florida

Administrative Roles in Graduate Education

Associate Chair for Curriculum and Graduate Studies, Department of Infectious Diseases and Immunology, University of Florida; 2019- present.

Research Group Leader in Molecular Parasitology and Vector-borne Diseases, Department of Infectious Diseases and Pathology, 2007- 2017.

Graduate Coordinator, Department of Infectious Diseases and Pathology (formerly Pathobiology), 2003- 2008; 2019 - now.

Member, Graduate Studies Committee; founding member of departmental Graduate Studies Committee (1997- 2001; 2019- now), representing Molecular Biology and Parasitology track faculty.

Member, *ad hoc* Graduate Studies Revision Committee; committee was created to facilitate revision of departmental graduate activities following the merger of the departments of Infectious Diseases and Comparative and Experimental Pathology into the Department of Pathobiology (1996- 1997).

Acting Graduate Coordinator, Department of Infectious Diseases, 1993- 1994.

Member, *ad hoc* Graduate Studies Committee; joint graduate program of the Department of Infectious Diseases, and Department of Comparative and Experimental Pathology (1991- 1995).

Courses taught

ANS 4911- Undergraduate Research; Department of Animal Sciences. Involves supervision of undergraduate student research projects for one or more semesters. I teach this course on an *ad hoc* basis as interested students are identified.

BSC 4910- Undergraduate Research; Department of Biology. Involves supervision of undergraduate student research projects for one or more semesters. I teach this course on an *ad hoc* basis as interested students are identified.

MCB 4905- Undergraduate Research; Department of Microbiology and Cell Science. Involves supervision of undergraduate student research projects for one or more semesters. I teach this course on an *ad hoc* basis as interested students are identified.

VEM 5131- Veterinary Molecular Biology (Course Coordinator, professional curriculum); College of Veterinary Medicine. This course is intended to provide the veterinary professional students with a familiarity of molecular biology to enable them to make rationale, informed decisions in the future as practicing veterinarians. Rather than discussing molecular technology, this course is taught from the standpoint of the molecular basis for various aspects of the biology of their future patients, the microbes that will present problems, and the interactions between the two. I typically provide 16-20 out of 26 IPs.

VEM 5991- Individualized Investigation (professional curriculum); College of Veterinary Medicine. This multi-year course provides veterinary students the opportunity to pursue research projects. This has resulted in co-authorships for two of my students (Rene' Cinque and Jennifer Long) in which the first unambiguous demonstration of antigenic variation by a *Babesia sp.* parasite was presented, the *ves* multigene family encoding antigenically variant VESA1a polypeptide was identified, and a connection made between antigenic variation and cytoadherence.

VEM 6186- Advanced Topics in Disease Pathogenesis (Graduate-level); Department of Pathobiology. I have participated in this course, leading discussion of the identification and characterization of erythrocyte-binding proteins in human malaria. This was typically limited to 1 IP per offering.

VME 6464- Molecular Pathogenesis (Graduate level); Department of Pathobiology. This is a team-taught course in which each instructor leads the students through an analysis of the literature, from initial accounts to the present, on the molecular basis of various parasite pathogenic mechanisms. I typically provide 10 out of 30 Ips, usually on the molecular basis for antigenic variation, cytoadhesion, and the development of cerebral disease in malaria and babesiosis.

VME 6905- Problems in Veterinary Medical Sciences (Graduate-level); Department of Pathobiology. I have offered this semester-long course to individual graduate and post-baccalaureate students as a means to gain training in molecular biology for use in projects outside my laboratory, or for the opportunity to gain training in the philosophy of research and in the conduct of a limited research project.

VME 6934- Current Topics in Microbial Pathogenesis (Graduate level; Course Coordinator); Department of Pathobiology. This course is taught each semester, and involves the presentation, analysis, and critique of recent published research findings in microbial pathogenesis. I typically coordinate all aspects of the course and participate weekly.

VME 6934- Grantsmanship Rules of Engagement (Graduate level; Instructor); Department of Infectious Diseases and Immunology. This is a graduate course designed to train students in grant preparation, with a focus on fellowship-level applications. I assist with the “grant review” and mock study section portions of the course.

VME6934- Veterinary Molecular Biology (Course Coordinator, professional curriculum); College of Veterinary Medicine. This course number was used temporarily in 2014 for VEM 5131 when the course was reduced to a 1-credit course. I taught 12 out of 18 IPs.

WIS 6910- Master's thesis Supervised Research; College of Agriculture and Life Sciences. I have participated in the training of M.S. students within CALS as a thesis committee member.

XXX 7979 and XXX 7980 Doctoral Research (Graduate level). These course numbers are used to indicate doctoral project research either prior to (7979) or subsequent to (7980) advancement to candidacy. I participate as a full member of both the Veterinary Medical Sciences (VMS 7979, 7980) and Interdisciplinary Program in Biomedical Research (GMS 7979, 7980) graduate programs, and as a committee member in other programs on an ad hoc basis.

ZOO 4232- Human Parasitology (Undergraduate level; Guest Instructor); Department of Microbiology and Cell Science. I have provide instruction on the molecular genetic bases for antigenic variation and other modes of immune evasion in *Babesia spp.* This is typically limited to 1 IP per offering.

Faculty Mentoring

Andrew B. Allison, Ph.D. Assistant Professor (09/18- present); Department of Comparative, Diagnostic, and Population Medicine, University of Florida College of Veterinary Medicine.

Timothy Hamerly, Ph.D. Research Assistant Professor (09/21- present); Department of Infectious Diseases and Immunology, University of Florida College of Veterinary Medicine.

Current graduate Student Supervision and Role (*my role is indicated in italics*)

I am currently not on any active graduate student committees. COVID-19 has decimated our graduate student population.

Graduate students who have finished training, and current occupations (when known)

Christy Waits, Ph.D. applicant (09/20- 2022); Infectious Diseases and Immunology; *Committee member*; "Mode of NS1 interaction with mosquito cells in transmission of Dengue virus". Withdrew from Ph.D. program.

Jeffrey Young, Ph.D. applicant (09/16- 2021); Microbiology and Cell Science; *Committee member*. "Effects of infection with *Leishmania spp.* upon cytokine secretion". Withdrew from Ph.D. program.

Treenate Jirinantask, Ph.D. candidate (09/17- 2021); Infectious Diseases and Immunology; *Committee member*; "Effects of *Burkholderia* on mechanisms of innate immunity". Withdrew from Ph.D. program.

Evan M. Craig, Ph.D. 2020; Microbiology and Cell Science; *Committee member*. "Evaluation of Retro-2 structural activity relationship analogs and polymer encapsulation procedures for improvement of treatment efficacy against *Leishmania sp.* infection". Occupation unknown.

Prachi Khare, M.S. 2020; Biomedical Sciences Program; *Committee member*. "A lymph node-targeted malaria transmission-blocking nanovaccine". Occupation unknown.

Courtney Bounds, M.S. 2016, Department of Wildlife, Ecology, and Conservation; *Committee member*. "Environmental incidence of pseudorabies virus in Florida". Practicing DVM, Florida.

Erin Mack, Ph.D. 2014, Interdisciplinary Program in Biomedical Sciences, Microbiology and Immunology Concentration; *Chair and immediate supervisor*. "Unexpected effects of Rad51 deletion on viability, chromosome repair, and antigenic variation in *Babesia bovis*". Ph.D. Dissertation: <http://ufdc.ufl.edu/UFE0046175/>. Scientist, Department of Biological Sciences, University of Idaho.

Chung-Hsin (Cruz) Fan, Ph.D. Applicant (01/09- 08/14), Department of Infectious Diseases and Pathology; *Committee member*. "Interaction partners of the HIV envelope protein, and effects on host response". Withdrew from graduate program.

Jung-Yoon Kim, Ph.D. Applicant (09/09- 08/13), Interdisciplinary Program in Biomedical Sciences, Microbiology and Immunology Concentration; *Committee member*. "Function and essentiality of aspartyl proteinase 9 of *Plasmodium falciparum*". Withdrew from graduate program.

Melissa Bourgeois, Ph.D. 2010, Department of Large Animal Clinical Sciences; *Committee member*. "Gene expression analysis during West Nile Virus disease, infection, and recovery". Senior Drug Safety Specialist, Merck Animal Health.

Xinyi Wang, Ph.D. 2010, Interdisciplinary Program in Biomedical Sciences, Microbiology and Immunology Concentration; *Chair and immediate supervisor*: "Development of a transfection system for genetic manipulation of *Babesia bovis*". Dissertation: <http://purl.fcla.edu/fcla/etd/UFE0041150>. Homemaker, Madison, WI.

Yingling (Lynne) Huang, Ph.D. 2009, Department of Infectious Diseases and Pathology; *Chair and immediate supervisor*: "Higher-order structure in the *Babesia bovis* locus of active *ves* transcription". Dissertation: <http://purl.fcla.edu/fcla/etd/UFE0024758>. Recipient of Alumni Fellowship, and annual recipient of *International Student Award for Academic Excellence*, 2006- 2009. Technology Transfer Manager, National Cancer Institute, NIH.

Tonya Bonilla, Ph.D. 2008, Department of Infectious Diseases and Pathology; *Committee member*. "Involvement of DNA gyrase in the replication of *Plasmodium falciparum* plastid DNA". Microbiology Specialist, 3M Corporate Research Materials Laboratory, 3M Corporation.

- Kathy Seino, Ph.D.** 2008, Department of Infectious Diseases and Pathology; *Committee member*. "Protective immune responses against West Nile Virus infection in horses". DeClue Equine, LLC.
- Moon-Suhn Ryu, M.S.** 2007, Department of Food Science and Human Nutrition; *Committee member*. "Zinc transporter expression in mature red blood cells and differentiating erythroid progenitor cells". Assistant Professor, University of Minnesota.
- Jorge Alfredo Bonilla, Ph.D.** 2006, Department of Infectious Diseases and Pathology; *Committee member*. "Assessment of the biological function and significance of individual plasmepsins to the survival of *Plasmodium falciparum*". Professor and Chair, Department of Biology, University of Wisconsin-River Falls.
- Heskett, Katherine A., M.S.** 2004, Department of Infectious Diseases and Pathology; *Committee member*. "Investigation of a method to reduce false-positive equine protozoal myeloencephalitis test results".
- Lilian W.M. Waiboci, Ph.D. Applicant.** (2000-2004), Department of Pathobiology; *Chair and immediate supervisor*. Withdrew from graduate program.
- Katie Jensen, M.S.** 2003, Department of Large Animal Clinical Sciences; *Committee member*; "Development of immunodiagnostics for equine protozoal myeloencephalitis".
- Joseph K. Rosentel, DVM/Ph.D.** 2003, Department of Pathobiology; *Committee member*: "Extracellular protease: Potential virulence factor of *Mycoplasma mycoides* subspecies *mycoides*". Executive Director, Global Development and Operations, Zoetis.
- Patrick F. Meeus, DVM/Ph.D.** 2002, Department of Pathobiology; *Committee member*: "Analysis of antigenic variation of *Anaplasma marginale* and its possible impact on the development of vaccines". Executive Director, Research and Development, Elanco, Basel.
- Min (Annie) Lin, Ph.D.** (09/99- 05/00), Department of Pathobiology; *Committee Chair and immediate supervisor*. Individual switched to the UF Statistics graduate program, but remains a collaborator. Mathematical Statistician, Center for Biologics Evaluation and Research, Food and Drug Administration.
- Jianhua He, M.S.** 2000, Department of Pathobiology; *Committee member*: "Transfection and expression of the *map1* gene of *Cowdria ruminantium* in mouse cells".
- Soumya Chari, Ph.D.** 2000, Department of Pathobiology; *Committee member* (1995-1997): "Development of a vaccine for feline immunodeficiency virus".
- Tang Li, Ph.D.** 2000, Department of Pathobiology; *Committee member*: "Studies of structure-function relationships among plasmepsins using the tools of enzyme kinetics, molecular modeling, and protein engineering". Bioinformatics Programmer.
- Roberta O'Connor, Ph.D.** 1999, Department of Pathobiology; *Committee Chair and immediate supervisor*: "Cytoadhesion of *Babesia bovis*-infected erythrocytes to endothelial cells is linked to antigenic variation of the infected erythrocyte surface". Dissertation: <http://wwwlib.umi.com/cr/ufl/fullcit?p9935269>. Associate Professor, Department of Veterinary and Biomedical Sciences, College of Veterinary Medicine, University of Minnesota.
- Ilene Serentill, D.V.M.; M.S. Applicant** (09/95-09/96), Department of Pathobiology; *Committee Chair and immediate supervisor*. Left the graduate program for private practice.
- Nareerat Viseshakul, Ph.D.** 1994, Department of Infectious Diseases; *Committee member*: "Cloning and expression of the MSP-1 β multi-gene family of *Anaplasma marginale*". Professor, Chulalongkorn University, Department of Pathology, Bangkok, Thailand.
- Bigboy H. Simbi, M.S.** 1993, Department of Infectious Diseases; *Committee Chair and immediate supervisor*: "Functional cloning of *Cowdria ruminantium* sequences enabling adhesion of

recombinant *Escherichia coli* to cultured bovine endothelial cells". Research Scientist, Royal Veterinary College, London, U.K.

Stephen A. Kania, Ph.D. 1992, Department of Infectious Diseases; *Committee member and co-supervisor*: "The role of host components in the invasion of erythrocytes by *Babesia bigemina* merozoites". Professor, Department of Biomedical and Diagnostic Sciences, College of Veterinary Medicine, University of Tennessee.

Post-doctoral Fellows, Residents, and Faculty under my supervision (and current positions when known)

Dr. Anne Bouchut, Ph.D. (University of Montpellier II, France), Postdoctoral Fellow, 2007-2009: "Identification of genetic elements interacting with the locus of active *ves* gene transcription in *Babesia bovis*". Life Science Project Manager, SATT Nord, Amiens, France.

Dr. Agata Żupańska, Ph.D. (Nencki Institute of Experimental Biology, Polish Academy of Sciences), Postdoctoral Fellow, 2006-2008: "Transcription behavior of the *ves* multigene family of *Babesia bovis*". Staff Scientist, University of Florida Interdisciplinary Center for Biotechnology Research.

Dr. Liesbeth M. Schmidt, Ph.D. (University of Florida), Postdoctoral Fellow, 2004- 2006: "Identification of endothelial receptors for *Babesia bovis* cytoadhesion through the use of a phage display- functional cloning strategy." Sr. Environmental Scientist, Wildmere Farms/ Consolidated Forest Products.

Dr. Paul B. Drummond, Ph.D. (University of Georgia), Postdoctoral Fellow 2004- 2006: "Assessment of allelic exclusion in the *ves* multigene family of *Babesia bovis*." University of Georgia.

Dr. Basima Al-Khedery, Ph.D. (New York University), Assistant Scientist 2000- 2007: "Molecular mechanisms of antigenic variation in *Babesia bovis*". Sr. Scientist, Curtiss Healthcare, Alachua, FL.

Dr. Roberta M. O'Connor, Ph.D. (University of Florida), Postdoctoral Fellow 1999- 2000: "Molecular components involved in cytoadhesion by *Babesia bovis* to bovine brain endothelial cells". Associate Professor, Department of Veterinary and Biomedical Sciences, University of Minnesota.

Dr. Heidi Whigham, D.V.M. (University of Florida)., Resident 1998- 1999: "Association of anti-lens crystallin antibodies with the development of cataracts in dogs". Practicing veterinary ophthalmologist.

Dr. Donald J. McGarey, Ph.D. (University of South Florida), Postdoctoral Fellow 1991- 1993: "Cloning and characterization of *Anaplasma marginale* adhesin and invasin genes". Professor and Interim Chair, Department of Molecular and Cellular Biology, Kennesaw State University, Kennesaw, GA.

Dr. Mark. K. Haynes, Ph.D. (University of Vermont), Postdoctoral Fellow 1990: "Development of *in vitro* assay for cytoadherence of *Babesia bovis* to bovine endothelial cells". Scientist, University of New Mexico.

Visiting or Sabbatical Scientists and Institutional Affiliations

Dr. Michael Riggs, DVM, Ph.D., University of Arizona (2005): "Identification of the gene encoding the *Cryptosporidium parvum* CSP-like protein involved in movement and invasion".

Dr. Ahmed M. Nassar, Ph.D., Cairo University, Egypt (1993- 1994): "Creation of genomic libraries from *Babesia bigemina* containing intact genes".

Dr. Hassan M. Elsaid, Ph.D., Cairo University, Egypt (1992- 1993): "Creation of genomic libraries from *Babesia bigemina* containing intact genes".

Dr. Jyotika Kapur, Ph.D., Punjab Agricultural University, India (1991- 1992): "Basic training in parasite molecular biology".

Dr. Debdatta Ray, Ph.D., Indian Veterinary Research Institute, India (1991- 1992): "Basic training in parasite molecular biology".

Dr. Gyan Chand Bansal, Ph.D., Indian Veterinary Research Institute, India (1991- 1992): "Basic training in parasite molecular biology".

Dr. Nasr A. Hegazy, Ph.D., Cairo University, Egypt (1990): "Cloning of babesial parasites *in vitro*; application of molecular biology techniques to bovine babesiosis".

Dr. Sathaporn Jittapalapong, DVM, Ph.D., Kasetsart University, Thailand (1989): "Use of DNA probes for *Babesia bigemina*".

Professional, Rotation, Volunteer, and Undergraduate Student Research Advisement (status when in the laboratory and current position when known)

Chengbo (John) Liang: "Complementation of a functional knockout of the translesion DNA polymerase, Pol ζ , in *Babesia bovis* by pol ζ expression from the BbACc3 artificial chromosome". (Summer 2021-now); post-baccalaureate volunteer, University of Florida.

Isabella Raffa: "Knockout of the pol ζ gene encoding the translesion DNA polymerase, Pol ζ , of *Babesia bovis*, and resulting parasite phenotype". (Summer- Fall 2021); undergraduate student honors project in Microbiology and Cell Science, University of Florida.

Gabriela Diaz: "Use of the DARTS strategy to identify a putative Tartrolon-D target in *Babesia bovis*". (Fall 2017); undergraduate student in Biology, University of Florida. Currently a Pharmacy student, University of Florida.

Samantha Quesada: "Bioinformatic characterization of segmental gene conversion divergence sites". (Spring 2017); undergraduate student in Zoology, University of Florida. Currently a DVM student, North Carolina State University.

Courtney Bounds: "Use of inhibitors to discern protein trafficking pathways usage in *Babesia bovis*" (Fall 2014); undergraduate student, University of Florida. Practicing DVM, Florida.

Aishwarya (Vijayan) Pillai: "Synchronization of *Babesia bovis*" (Fall 2012-Spring 2014); "Sensitivity of *Babesia bovis* to HIV anti-protease drugs" (Fall 2014- 2016); undergraduate student and participant in Science for Life program, University of Florida. M.D. student, Yale University.

Lynsi Collins: "*msh2* gene knock-out in *Babesia bovis* by double crossover homologous recombination" (Spring 2012- Spring 2014); undergraduate student, University of Florida. Pharmacy student, UNC Chapel Hill.

Mariko Agena: "Involvement of phosphatidylinositol-3-phosphate in RXLX-mediated exported protein trafficking by *Babesia bovis*" (Spring 2012); DVM student, University of Florida. Practicing veterinarian.

Christie Smesko: "Effects of brefeldin A on trafficking of RXLX-mediated exported protein trafficking in *Babesia bovis*" (Summer 2012); undergraduate student in microbiology, University of Florida. Nurses Aide, Tampa, FL.

Alexis Guevara: "Immunolocalization of plasmepsin 10 within *Plasmodium falciparum*-infected human erythrocytes by immunofluorescence" (Spring 2011); undergraduate in biochemistry, University of Florida. Research Associate, U.F. College of Medicine.

Rachel Ashley: "Immunolocalization of plasmepsin 10 within *Plasmodium falciparum*-infected human erythrocytes by immunofluorescence" (Spring 2011); DVM student, University of Florida. Practicing veterinarian.

- Kinjal Patel:** "Isolation of single-chain antibodies recognizing the CDR binding surface of cytoadhesion-blocking monoclonal antibodies" (Spring 2010); undergraduate in microbiology, University of Florida. Practicing physician.
- Alexia Berg:** "Induction of gametogenesis in *Babesia bovis* with xanthenuric acid, and its effect on *ves* gene transcription" (Summer 2009); undergraduate and DVM student, University of Florida. DVM intern, Louisiana State University.
- Allison Vansickle:** "Effect of histone deacetylase inhibitors on monoparalogous expression of *ves* genes in *Babesia bovis*" (Summer 2009); DVM student, University of Florida. Practicing emergency veterinarian, San Antonio, TX.
- Michael Novo:** "FISH analysis of telomere localization in *Babesia bovis* parasites" (Spring 2009), undergraduate student in microbiology, University of Florida.
- Blaire Eckman:** "Creation of transfection vectors for targeted gene knockouts in *Babesia bovis*" (Spring 2009); student intern. Staff Scientist, Foundation for Applied Molecular Evolution.
- Christina Grinter:** "Expression of fusion protein containing conserved sequences from the SmORF multigene family of *Babesia bovis*" (Spring 2008); undergraduate student, University of Florida. P.A.; practicing Physician's Assistant, Florida.
- Laura Ragannoonan:** "Assessment of *in situ* switching among *ves* gene loci in *Babesia bovis*" (November 2007- June 2008); undergraduate student, University of Florida. M.D.; current occupation unknown.
- Kaleigh McVety:** "Promoter activity potential of intergenic regions from transcriptionally silent *ves* gene pairs of *Babesia bovis*" (Fall 2007, Spring 2008); undergraduate in animal sciences, University of Florida. DVM; practicing veterinarian, Atlanta, GA.
- Alexia Berg:** "Characterization of a novel immunoglobulin-binding activity of *Babesia bovis*-infected erythrocytes" (Spring 2007); undergraduate in animal sciences, University of Florida. DVM intern; Louisiana State University.
- Dawn Keenan:** "Effects of parasite density on population behavior with regard to antigenic variation in *Babesia bovis*" (Summer 2006); DVM student, University of Florida. DVM; practicing veterinarian, Florida.
- Dacia Kwiatkowski:** "Immunolocalization of VESA1 subunits 1a and 1b during trafficking to the surface of *Babesia bovis*-infected erythrocytes" (Spring 2005), graduate student rotation, University of Florida. Postdoctoral Fellow, Cornell University.
- Xinyi Wang:** "cDNA phage display to identify endothelial receptors for cytoadhesion in *Babesia bovis*." (Spring 2005), graduate student rotation, University of Florida. Ph.D.; homemaker, Chicago, IL.
- Christina East:** "Is there an induced shift in antigenic or cytoadhesive phenotypes of *Babesia bovis* after growth in immune serum?" (Fall 2004); DVM student, University of Florida. Practicing veterinarian, New York.
- Matt Tucker:** "Trafficking of VESA1a polypeptide to the infected-erythrocyte surface in *Babesia bovis*." (Fall 2003), graduate student rotation, University of Florida. Ph.D., University of South Florida; current occupation unknown.
- Courtney Malone:** "*En bloc* detection of the *Babesia bovis* VESA1a polypeptide on the infected-erythrocyte membrane" (Fall 2002); undergraduate in microbiology, University of Florida. Occupation unknown.
- Amy McCord:** "Localization of unique *ves*1 α gene sequences among *Babesia bovis* chromosomes". (Fall 2000); undergraduate in microbiology, University of Florida. Ph.D., University of North Carolina-Chapel Hill; current occupation unknown.

- Staci Eaddy:** "Optimization of conditions to resolve *Babesia bovis* chromosomes by pulsed-field gel electrophoresis" (Spring 2000); undergraduate in zoology, University of Florida. High school science teacher, Florida.
- Jennifer Long:** "RT-PCR analysis of *ves1α* transcription in *Babesia bovis*" (1999); undergraduate in microbiology, University of Florida. DVM; practicing veterinarian, Singapore.
- Seth Mendelson:** "RT-PCR analysis of *ves1α* gene transcription by *Babesia bovis* using conserved primers" (Summer 1999); DVM student, University of Florida. Scientist, Genetics Institute, Cambridge, MA.
- Jeni Bansal:** "Mapping of epitopes recognized by monoclonal antibodies on the *Babesia bovis* infected-erythrocyte variant surface antigen" (1997-98); undergraduate in microbiology, University of Florida. DVM; practicing veterinarian, Florida.
- Sachina Lyons:** "Effect of the spleen on the kinetics of *Babesia bovis* antigenic variation" (1994-1995); DVM student, University of Florida. DVM; practicing veterinarian, New York.
- Ilene Serentill:** "Genetic transformation of *Babesia bovis*" (1993-1994); undergraduate in microbiology, University of Florida. DVM; practicing veterinarian, Florida.
- Rene' Cinque:** "Antigenic variation of cloned *Babesia bovis* in cattle" (1991-1992); undergraduate and DVM student, University of Florida. DVM; practicing veterinarian, Jacksonville, Florida.
- George R. Grisel:** "*In vitro* mimicry of antibody-mediated immunity to *Babesia bigemina*" (1990-1991); DVM student, University of Florida. DVM; practicing veterinarian, Florida.
- David Griffin:** "Development of a nucleic acid-based diagnostic probe for *Babesia bigemina*" (1990-1991); DVM student, University of Florida. DVM; practicing veterinarian, Florida.

Professional Student Academic Advisement

Class of 2022: Rebecca Williams, Mingye (Jennifer) Zhang, and Melonie Zuercher
Class of 2020: Natalie Torkelson; Jennifer Turner; Rainey Tyner
Class of 2019: Madison Berger; Douglas Jansen; Chantel Nelson; Catherine Seeds
Class of 2018: Denice Aleman; Hallie Hochman-Johnson; Cynthia Kathir
Class of 2017: Kristin Agatheas; Benjamin Davids; Rosana Garcia; Michael Dibler
Class of 2016: Kaitlin Fiske; Warren Harper; Dorothy Nelson
Class of 2015: Mariko Agena; Brenton Gallas; Geoffrey Landau
Class of 2014: Kimberly Alexander; Kayla Kurtz
Class of 2013: Jennifer Adams; Jocelyn Lyle-Dugas
Class of 2012: Michael Alber; Jessica Scott
Class of 2011: Kristine Aviles; Bonnie Horowitz
Class of 2010: Courtney Varney; Cassandra Zinn
Class of 2009: Candice Manganaro; Andrew Simpson
Class of 2008: Melissa Adorno; Tiffany Holcomb
Class of 2007: Mandy Erickson; Amy McGinness
Class of 2006: Mandy Kleman
Class of 2005: Ruth-Ann Thomashunis
Class of 2004: Kelly Bakas
Class of 2002: Crissy Arellano; Heather Ruebel
Class of 2001: Gwendolyn Lynch; Anthony Pilny

Relevant Service Activities (in reverse chronology, with length and term of membership, and special roles indicated)

University-level service

College of Veterinary Medicine Ph.D. Commencement Marshal; Summer 2021.
University of Florida "Tick-borne Diseases Think Tank" member; 2013.
University of Florida Institutional Animal Care and Use Committee; 2012- 2015.
Emerging Pathogens Institute Seminar Committee; 2008.
Emerging Pathogens Institute/ CVM joint faculty Search and Screen Committee; 2008.
U.F. Health Science Center Library Advisory Committee; 2005- 2006.
U.F. Health Science Center Student Conduct Standards Committee; 2003- 2008.
University of Florida Institutional Biosafety Committee; 1992- 1996.
Ad hoc Grant Review Committee, U.S.A.I.D. Program Support Grants; 1992.
Institute of Food and Agricultural Sciences Certificate in Tropical Agriculture Steering Committee; 1991- 1993.
University of Florida Interdisciplinary Center for Biotechnology Research Malaria Genome Project Advisory Group; 1991- 1994.

College-level service

College of Veterinary Medicine Administrative Council; 2020- 2023.
College of Veterinary Medicine Faculty Council; 2020- 2023.
College of Veterinary Medicine Graduate Studies Committee; 2019- 2023 (Chair, 2019- 2020).
Department of Physiological Sciences, Teacher-Scholar Neurobiologist Search and Screen Committee, 2018- 2019.
College of Veterinary Medicine Admissions Committee; 2018- 2020.
College of Veterinary Medicine Information Technology Advisory Committee; 2017- 2020 (Asst. Chair, 2018- 2019; Chair 2019- 2020).
College of Veterinary Medicine Curriculum Committee; 2017- 2023 (Chair, 2021- 2022).
College of Veterinary Medicine Research Committee; 2011- 2012.
College of Veterinary Medicine Faculty Council; 2010- 2012 (Chair 2010- 2011).
College of Veterinary Medicine Information Technology Advisory Committee; 2009- 2012.
College of Veterinary Medicine Promotion and Tenure Committee; 2009- 2012.
College of Veterinary Medicine Admissions Committee; 2006- 2009.
Chair, College of Veterinary Medicine Library Committee; 2003- 2006.
College of Veterinary Medicine Graduate Studies Committee; 2003- 2008.
College of Veterinary Medicine Academic Advancement Committee; 2003- 2006.
College of Veterinary Medicine Library Committee; 2003- 2006 (Chair, 2003- 2005).
College of Veterinary Medicine Research Committee; 2000- 2003.
College of Veterinary Medicine, Dept. Physiological Sciences Pentannual Review Committee; 2000.
College of Veterinary Medicine Awards and Scholarships Committee; 1996- 1999 (Chair, 1997- 98).
College of Veterinary Medicine Promotion and Tenure Committee; 1995- 1998.
College of Veterinary Medicine Teaching Improvement Program Committee; 1994- 1997.
College of Veterinary Medicine Faculty Council; 1996- 98 (Secretary, 1996- 97).
College of Veterinary Medicine Library Committee; 1993- 1996.
College of Veterinary Medicine Faculty Council; 1993- 1995.
College of Veterinary Medicine Research Committee; 1992- 1995 (Secretary, 1993- 1994; Chair 1994- 1995).

Department-level service

Chair, Search and Screen Committee for tenure-track Assistant Professor position in AI- Genome Editing; 2021.

Chair, Search and Screen Committee for Research Assistant Professor of Malaria Transmission Biology position; 2021.

Associate Chair for Curriculum and Graduate Studies, Department of Infectious Diseases and Immunology; 2019- now.

Graduate Coordinator, Department of Infectious Diseases and Immunology; 2019- now.

Parasitologist Search and Screen Committee; 2014.

Immunoparasitologist Search and Screen Committee; 2012.

Chair, Research and Graduate Studies Committee, Department of Pathobiology; 2003- 2008.

Microbiologist Faculty Search and Screen Committee, Department of Pathobiology; 2003.

Graduate Coordinator, Department of Infectious Diseases and Pathology; 2003- 2008.

Molecular Parasitologist Faculty Search Committee, Department of Pathobiology; 2000- 2001 (Chair).

Parasite Molecular Genomicist Search and Screen Committee, Department of Pathobiology; 1999.

Professor of Prokaryotic Genetics Search and Screen Committee, Department of Pathobiology and Division of Comparative Medicine; 1999- 2000.

Department Chair Faculty Search and Screen Committee, Department of Pathobiology; 1997- 1999.

Acting Graduate Coordinator, Department of Infectious Diseases (Graduate Program in Infectious Diseases and Experimental Pathology); 1997.

Experimental Pathologist Faculty Search and Screen Committee, Department of Pathobiology, College of Veterinary Medicine; 1995- 1996.

Acting Graduate Coordinator, Department of Infectious Diseases (Graduate Program in Infectious Diseases and Experimental Pathology); 1993- 1994.

Molecular Biologist Search and Screen Committee (for the U.F. Malaria Genome Project); Department of Infectious Diseases; 1992.

Graduate Studies Committee, Department of Infectious Diseases, 1991- 1995; Department of Pathobiology, 1996- present.

Last updated: 03/21/22