CURRICULUM VITAE

Jefferson Archer Vaughan
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PERSONAL INFORMATION

Home Address:	402 Grassy Hills Lane, Grand Forks, ND 58201
Home Telephone:	(701) 772 - 6878
Date of Birth:	2 February 1955
Place of Birth:	Alpena, Michigan
Marital Status:	Married, 2 daughters

EDUCATION

1985	Ph.D.	Entomology	Virginia Polytechnic Institute & State University
1982	M.S.	Entomology	Virginia Polytechnic Institute & State University
1977	B.S.	Biology	Colorado State University

PROFESSIONAL EXPERIENCE

2004-Present	Associate Professor. Department of Biology, University of North Dakota, Grand Forks, ND
2001-2004	Assistant Professor. Department of Biology, University of North Dakota, Grand Forks, ND
1999-2001	Research Assistant Professor. Department of Biology, University of North Dakota, Grand Forks, ND
1996-1999	Visiting Assistant Professor. Department of Microbiology & Immunology, University of Maryland at Baltimore, Baltimore, MD
1996-1998	Visiting Scientist. Virology Division, U.S. Army Medical Institute of Infectious Diseases, Fort Detrick, Frederick, MD
1995-1998	Research Associate. Department of Molecular Microbiology & Immunology, Johns Hopkins School of Hygiene & Public Health, Baltimore, MD
1994-1996	Senior Fellow, National Research Council, Diagnostic Systems Division, U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Frederick, MD
1990-1993	Research Associate, Department of Molecular Microbiology & Immunology, Johns Hopkins School of Hygiene & Public Health, Baltimore, MD
1986-1989	Post-doctoral Fellow, Department of Microbiology & Immunology, University of Maryland School of Medicine, Baltimore, MD
1982-1985	Ph.D. Graduate Research/Teaching Assistant, Virginia Polytechnic Institute & State University
1979-1982	M.S. Graduate Research/Teaching Assistant, Virginia Polytechnic Institute & State University

HONORS AND AWARDS

National Research Council Senior Fellowship 1994

Cunningham Dissertation Fellowship 1984

Graduate Tuition Scholarship 1985

TEACHING AND STUDENT MENTORSHIP

CLASSROOM TEACHING ACTIVITIES AT UNIVERSITY OF NORTH DAKOTA

Course: "General Entomology" (Course # BIOL 363 undergraduate level, 2 units, Fall 2004, 2006). Role: Instructor

Course: "Entomology Laboratory" (Course # BIOL 363L undergraduate level, 2 units, Fall 2004, 2006). Role: Instructor

Course: "Parasitology" (Course # BIOL 364 undergraduate level, 2 units, Spring, Fall 2001, Spring 2002, Fall 2002, 2003, 2005. 2007). Role: Instructor

Course: "Parasitology Laboratory" (Course # BIOL 364L undergraduate level, 2 units, Fall 2001, Spring 2002, Fall 2002, 2003, 2005. 2007). Role: Instructor

Course: "Medically Important Arthropods" (Course # BIOL 522 graduate level, 2 units, Fall 2004, 2007)

Course: "Ecology of Wildlife Diseases" (Course # BIOL 503/590 graduate level, 2 units, Fall 2003). Role: Co-instructor.

Course: "General Biology" (BIO 151 – undergraduate level, 3 units, last half of semester, University of North Dakota, Spring 2002). Role: Instructor

Course: "Medical Microbiology" (Block VIII, 2nd year medical students, University of North Dakota, Fall 1998, Spring 2001, 2002, 2003, 2004, 2005, 2006, 2007). Role: Lecture (skin ectoparasites).

PRIOR CLASSROOM TEACHING EXPERIENCE

Course: "Vector Biology & Vector-borne Diseases" (Course # 260.650, graduate level, 3 units, Johns Hopkins School of Hygiene & Public Health, Spring 1998, 1999). Role: Co-Instructor

Course: "Vector Biology Laboratory" (Course # 260.261, graduate level, 4 units, Johns Hopkins School of Hygiene & Public Health, Spring 1998). Role: Course Instructor

Course: "Special Studies in Parasitology" (upper level undergraduate, University of Maryland at College Park, Spring 1997 &1998). Role: Laboratory session (topic: filariasis).

Course: "Medical Microbiology" (MMIC 520, 2nd year medical students, Univ. Maryland at Baltimore, Fall 1996 - 1998). Role: lecture & laboratory session (topic: vector-borne diseases).

Course: "Vector Biology & Vector-borne Diseases" (graduate level, Johns Hopkins School of Hygiene & Public Health, Spring 1991-96. Role: 1-3 lectures (various topics)

Course: "Malariology" (graduate level, Johns Hopkins School of Hygiene & Public Health, Spring 1991 & 1992). Role: lecture (topic: plasmodial development in mosquitoes).

Course: "Biological Basis of Public Health" (graduate level, Johns Hopkins School of Hygiene & Public Health, Fall 1990). Role: lecture (topic: malaria).

POST-DOCTORAL TRAINEES

Dr. Gabriel E. Zollner (2003 – 2005; stationed in Bangkok, THAILAND)

UNIVERSITY OF NORTH DAKOTA GRADUATE COMMITTEES

Committee **Chair**: Erika Olson, candidate for Master of Science, University of North Dakota Department of Biology (2007 – present)

Committee **Chair**: Joseph Mehus, candidate for Master of Science, University of North Dakota Department of Biology (2007 – present)

Committee **Chair**: Jay Schroeder, candidate for Master of Science, University of North Dakota Department of Biology (2006 – present)

Committee **Chair**: Gabriel Garman, candidate for Master of Science, University of North Dakota Department of Biology (2002 – 2007; Graduated Spring 2007)

Committee **Chair**: Shreekanta Poudel, candidate for Master of Science, University of North Dakota Department of Biology (2003 – 2006; Graduated Summer 2006)

Committee **Chair**: Christina Brewer, candidate for Master of Science, University of North Dakota Department of Biology (2003 – 2006; Graduated Spring 2006)

Committee Member: Tom Henderson, candidate for Ph.D., University of North Dakota Department of Microbiology and Immunology (2004 – present)

Committee Member: Sara Fischer, candidate for Master of Science, University of North Dakota Department of Biology (2003-2005; Graduated Fall 2005)

Committee Member: Matthew Hahn, candidate for Master of Science, University of North Dakota Department of Biology (2001 – 2002; Graduated Spring 2002)

Committee Member: Allison Poff, candidate for Master of Science, University of North Dakota Department of Biology (2001 – 2002; Graduated Spring 2002)

Committee Member: James Maskey, candidate for Ph.D., University of North Dakota Department of Biology (2004 – present)

Committee Member: Anne M. Coyle, candidate for Ph.D., University of North Dakota Department of Biology (2003 – present)

UNDERGRADUATE RESEARCH AND DIRECTED STUDIES (BIO 492 & 493).

Spring 2006. Jared Glick (bird parasite studies)

Summer 2005. Amber Huls, Eric Homstad (rodent malaria studies)

Summer 2004. Nathonia Ruud (mosquito identification)

Summer 2004. Pablo Oleiro, International Programs, Minnesota State University (neorickettsia)

Spring 2004. Ryan Goedecke (neorickettsia), Todd Dupong (mosquito biology)

Fall 2003. Carrie Hendrix, Lisa Maus (screening for rickettsial DNA within Digenea trematodes)

Spring 2002. Christina Brewer, Nathan Mickelson, Abby Byzewski (mosquito and rodent malaria)

MENTOR FOR EPSCoR ADVANCED UNDERGRADUATE RESEARCH AWARD (AURA)

Summer 2003. Joseph Mehus, Mayville State University (mosquito behavior)

Summer 2007. Rachel Krein, University of North Dakota (endosymbionts of trematode parasites)

Summer 2007. Eric Strand, University of North Dakota (endosymbionts of trematode parasites)

STUDENTS PREVIOUSLY SUPERVISED AT OTHER INSTITUTIONS FOR RESEARCH PROJECTS

* Bruce Noden, Ph.D. candidate. 1990-1993. Johns Hopkins School of Hygiene.
  Ibrahim El-Sasaam, Ph.D. candidate. Rotation Spring 1993. Johns Hopkins School of Hygiene.
* Lisa Hensley, B.S. candidate. Summer 1993. Johns Hopkins School of Hygiene.
* Aya Madani, M.S. candidate. Rotation Spring 1991. Johns Hopkins School of Hygiene.
  Inca Ghosh, Ph.D. candidate. Rotation Winter 1990. Johns Hopkins School of Hygiene.
  Ruth Barrett, Ph.D. candidate. Rotation Winter 1990. Johns Hopkins School of Hygiene.
* David Narum, Ph.D. candidate. Rotation Winter 1989. University of Maryland School of Medicine.

** indicate projects that have resulted in refereed publications with students listed as co-authors.*

SERVICE ACTIVITIES

DEPARTMENTAL COMMITTEES

Fall 2004 – 2007. Departmental Research Committee, UND Biology Department.

Spring 2002 – Spring 2005. Steering Committee, RNEST Biocomplexity project.

Fall 2003 – May 2004. Chair, faculty search committee, Infectious Disease position.

Spring 2003 – present. Curator, Invertebrate Museum, UND Biology Department.

Fall 2002 – Fall 2003. Member, faculty search committee, Infectious Disease position.

UNIVERSITY COMMITTEES

2002-present Institutional Biosafety Committee
2004- present Invention and Disclosure Committee
1999-2001. Institutional Animal Care and Use Committee

PROFESSIONAL MEMBERSHIPS

American Society of Tropical Medicine and Hygiene
Entomological Society of America
Midwestern Conference of Parasitologist

JOURNAL PEER REVIEW ACTIVITIES (32 total articles reviewed)

Acta Tropica (2)
Journal of Medical Entomology (8)
American Journal of Tropical Medicine and Hygiene (5)
Journal of American Mosquito Control Association (1)
Journal of Insect Physiology (1)
Journal of Parasitology (3)
Parasitology (2)
Trends in Parasitology (1)
Infection and Immunity (2)
Insect Molecular Biology (1)
International Journal of Parasitology (2)
Journal of Agricultural Entomology (1)
FMES Microbiology Letters (1)
Vector Borne and Zoonotic Diseases (1)
Bulletin of Entomological Research (1)

GRANT PROPOSAL PEER REVIEW ACTIVITIES

Chair, Peer Review Panel for US Military Vector Control Research, Joint Medical Technology Workshop 2003.

National Science Foundation (FastLane)

SCIENCE OUTREACH

2007. Entomology demonstration "Bug show!", Head Start Program (3 – 5 year old children)
2007. Entomology demonstration Cub Scouts, Northwood, ND
2006. Television interview, WDAZ. Topic: Testing mosquitoes for West Nile virus.
2004. Red River High School, Topic "Parasites: What's eatin' you?" (three 1-hour lecture/demo)
2005. Biology Department "Bug show!", Head Start Program (3 – 5 year old children)

2004. Newspaper interview; Prairie Voices, Grand Forks Herald: "UND's Mosquito Man".

2004. Red River High School, Topic "Parasites: What's eatin' you?" (30 minute demonstration)

2004. Call-in radio interview (20 minutes), KNOX, Topic; Mosquitoes.

2003. Entomology demonstration for UND foreign exchange students. American Language Academy, Grand Forks, ND (30 minute demonstration)

2002. Guest on Studio One, University of North Dakota television show (Topic: Mosquitoes)

2000. Career Day. Kelly Elementary School, Grand Forks, ND (Topic: Being a scientist)

1994-1998. Annual entomology demonstrations for elementary school children, Grades K through 5, Immanuel Lutheran School, Baltimore, MD (Topic: Bugs!)

RESEARCH ACTIVITIES

INVITED RESEARCH PRESENTATIONS

Title: The worms crawl in, the worms crawl out: a new paradigm for arbovirus transmission by mosquitoes. The University of Winnipeg Department of Biology, Winnipeg, CANADA, 26 March 2007.

Title: Estimating the efficiency of *Plasmodium vivax* sporogony in western Thailand. Vivax Malaria Research: 2005 and Beyond. Rockville, MD, 9-10 December 2005

Title: Neorickettsial endosymbionts of Digenea. 56th Annual Midwestern Conference of Parasitologists, Mankato, MN; 10-12 June 2004.

Title: Mosquito research at the University of North Dakota. UND Chapter of Sigma Xi, November 2002.

Title: Microfilarial enhancement of arboviral transmission. Yale University Epidemiology Division, New Haven, CT April 2002.

Title: Antibodies directed against the mosquito midgut can block transmission of malaria. Vivax Malaria Research: 2002 and Beyond, Bangkok, THAILAND, February 2002

Title: Malaria parasite development in mosquitoes: implications for malaria vaccines. Department of Biology, University of North Dakota, February 2001

Title: Mosquito-borne parasites can facilitate transmission of mosquito-borne viruses Department of Entomology. North Dakota State University, November 2001.

Title: Do parasites enhance mosquito transmission of viruses? Department of Biology, University of North Dakota, March 2000

Title: Can mosquito-borne parasites enhance transmission of mosquito-borne viruses? Department of Microbiology & Immunology, University of Maryland at Baltimore, Baltimore MD May 1999

Title: The effect of mosquito-borne parasites on the ability of mosquitoes to transmit arboviruses. Symposium at the Entomological Society of America National meeting, Nashville, TN, Dec. 1997.

Title: Fate of host blood components in bloodsucking insects: influence on pathogen receptivity. Department of Entomology, North Carolina State University, Raleigh, NC April 1997.

Title: Passage of host IgG from bloodmeal to hemolymph: implications for vaccine design. Fourth International Symposium on Ectoparasites of Pets. Riverside, CA, April 1997.

Title: Parasite enhancement of arboviral transmission by mosquitoes: a new paradigm. U.S.Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD Dec. 1995.

Title: Microfilarial enhancement of arboviral transmission by mosquitoes. Vector Biology Forum, Johns Hopkins University. Baltimore, MD Feb. 1995.

Title: Ecology of larval *Culicoides variipennis* at Saltville, VA. 26th Annual Biting Fly Workshop. Horsehead Wildlife Sanctuary, Easton, MD, June 1994.

Title: Malaria: mosquito-parasite interactions. Tropical Medicine Dinner Club of Baltimore. April 1994.

Title: Population dynamics of malarial sporogony. Universidade Nova de Lisboa, PORTUGAL. Nov. 1993.

Title: Digestive physiology of bloodsucking insects and ticks: influence on vector competence. Universidade Nova de Lisboa, Lisbon, PORTUGAL. Nov. 1993.

Title: Population dynamics of malarial parasites within mosquitoes. Department of Immunology & Infectious Diseases, Johns Hopkins University, Baltimore, MD Feb. 1993.

Title: Bloodmeal processing by bloodsucking arthropods and its implications for vector competence. University of Maryland at College Park, Oct. 1992.

Title: Development of malaria parasites in mosquitoes. Department of Entomology, Virginia Tech, Blacksburg VA March 1992.

Title: *Plasmodium falciparum* sporogonic development in vectors: one in a million odds for success? Joint meeting of the Tropical Medicine Dinner Club of Baltimore and the Helminthological Society of Washington. Baltimore, MD April 1991.

Title: Ingested anti-malarial antibodies can affect malaria development within the mosquito vector. Department of Entomology, Virginia Tech, Blacksburg VA Oct. 1988.

Title: *Plasmodium falciparum* sporogonic development within the mosquito vector is affected by ingested anti-sporozoite antibodies. Department of Preventive Medicine, New York University, NY May 1987.

PUBLICATIONS

1. **Vaughan JA** 2007. Population dynamics of *Plasmodium* sporogony. Trends Parasitol. 23: 63-70.
2. **Vaughan JA**, JA Bell, MJ Turell and DD Chadee. 2007. Passage of ingested *Mansonella ozzardi* (Spirurida: Onchocercidae) microfilariae through the midgut of *Aedes aegypti* mosquitoes (Diptera: Culicidae). J. Med. Entomol. 44: 111-116
3. Coleman RE, J Sattabongkot, S Promstaporm, N Maneechai, B Tippayachai, A Kengluecha, N Rachapaew, G Zollner, RS Miller, **JA Vaughan**, K Thimasarn, and B Khuntirat. 2006. Comparison of PCR and microscopy for the detection of asymptomatic malaria in a *Plasmodium falciparum/vivax* endemic area in Thailand. Malaria J. 5: e121.
4. Zollner GE, N Ponsa, GW Garman, S Poudel, JA Bell, J Sattabongkot, RE Coleman and **JA Vaughan**. 2006. Population dynamics of sporogony for *Plasmodium vivax* parasites from western Thailand developing within three species of colonized *Anopheles* mosquitoes. Malaria J. 5: e68.
5. Bell JA, CM Brewer, NJ Mickelson, GW Garman and **JA Vaughan**. 2006. West Nile virus epizootiology, central Red River valley, North Dakota and Minnesota, 2002-2005. Emerg. Infect. Dis. 12: 1245-1247.
6. Bell JA, NJ Mickelson, and **JA Vaughan**. 2005. West Nile virus in host-seeking mosquitoes within a residential neighborhood in Grand Forks, North Dakota. Vector-Borne and Zoonotic Dis. 5: 373-382.
7. Kuzmin Y, VV Tkach and **JA Vaughan** 2005 *Rhadias kongmongthaensis* sp. n. from *Polypedates leucomystax* (Amphibia, Anura, Rhacophoridae) in Thailand. Folia Parasitologica 52: 339-342.
8. Zollner GE, N Ponsa, RE Coleman, J Sattabongkot, and **JA Vaughan**. 2005. Efficacy of sampling techniques for determining absolute density of *Plasmodium vivax* ookinetes in *Anopheles dirus* mosquitoes. J. Parasitol. 91: 453-457.
9. **Vaughan, JA**, DE Sonenshine and AF Azad. 2002. Kinetics of ingested host immunoglobulin G in hemolymph and whole body homogenates during nymphal development of *Dermacentor variabilis* and *Ixodes scapularis* ticks (Acari: Ixodidae). Exp. Appl. Acarol. 27: 329-340.
10. Lal, A, PS Patterson, JB Sacci, **JA Vaughan**, C Paul, WE Collins, RA Wirtz, and AF Azad 2001. Anti-mosquito midgut antibodies block development of *Plasmodium falciparum* and *Plasmodium vivax* in multiple species of *Anopheles* mosquitoes and reduce vector fecundity and survivorship Proc. Nat. Acad. Sci. 98: 5228-5233.
11. **Vaughan, JA.** 2000. Which routes do *Plasmodium* sporozoites use for successful infections of vertebrates? (Letter to the Editor - Author's Reply). Infection and Immunity 68: 3064-3065.

12. **Vaughan, JA**, M Trpis and MJ Turell 1999. *Brugia malayi* microfilariae enhance the infectivity of Venezuelan equine encephalitis virus to *Aedes* mosquitoes. J. Med. Entomol. 36:758-763.

13. **Vaughan, JA**, Scheller, LF, RA Wirtz and AF Azad 1999. Comparative infectivity of *Plasmodium berghei* sporozoites to mice when delivered by intravenous inoculation versus infectious mosquito bite: implications for sporozoite vaccine trials. Inf. Immun. 67: 4285-4289.

14. **Vaughan, JA**, RE Thomas, GE Silver, N Wisznewski and AF Azad 1998. Quantitation of cat immunoglobulins in the hemolymph of cat fleas after bloodfeeding. J. Med. Entomol. 35(4): 404-409.

15. **Vaughan, JA** and MJ Turell. 1996. Facilitation of Rift Valley fever virus transmission by *Plasmodium berghei* sporozoites in *Anopheles stephensi* mosquitoes. Am. J. Trop. Med. Hyg. 55: 407-409.

16. Jaworski DC, JA Higgins, S. Radulovic, **JA Vaughan**, and AF Azad. 1996. Presence of calreticulin in vector fleas (Siphonaptera). J. Med. Entomol. 33: 482-489.

17. **Vaughan, JA** and MJ Turell. 1996. Dual host infections: enhanced infectivity of eastern equine encephalitis virus to *Aedes* mosquitoes mediated by *Brugia* microfilariae. Am. J. Trop. Med. Hyg. 54: 105-109.

18. Noden, BH, CB Pumpuni, **JA Vaughan**, and JC Beier. 1995. Noninfectious sporozoites in the salivary glands of a minimally susceptible anopheline mosquito. J. Parasitol. 81: 912-915.

19. Noden BH, **JA Vaughan**, MS Ibrahim and JC Beier. 1994. An immunological factor which affects *Anopheles gambiae* survival. J. Am. Mosquito Control Assoc. 11: 45-49.

20. **Vaughan JA**, L Henley and JC Beier. 1994. Sporogonic development of Plasmodium yoelii in five anopheline mosquitoes. J. Parasitol. 80: 674-681.

21. Noden BH, PS Beadle, **JA Vaughan**, CB Pumpuni, MD Kent and JC Beier. 1994. *Plasmodium falciparum*: the population structure of mature gametocyte cultures has little effect on their innate fertility. Acta Tropica 58: 13-19.

22. **Vaughan JA**, BH Noden and JC Beier. 1994. Prior blood feeding effects on susceptibility of *Anopheles gambiae* (Diptera: Culicidae) to infection with cultured *Plasmodium falciparum* (Haemosporida: Plasmodiidae). J. Med. Entomol. 31: 445-449.

23. **Vaughan JA**, BH Noden and JC Beier. 1994. Sporogonic development of cultured *Plasmodium falciparum* in six species of laboratory-reared *Anopheles* mosquitoes. Am. J. Trop. Med. Hyg. 51: 233-243.

24. **Vaughan JA** and AF Azad. 1993. Patterns of erythrocyte digestion by bloodsucking insects: constraints on vector competence. J. Med. Entomol. 30: 214-216.

25. Beier JC, MS Beier, **JA Vaughan**, CB Pumpuni, JR Davis and BH Noden. 1992. Sporozoite transmission by *Anopheles freeborni* and *Anopheles gambiae* experimentally infected with *Plasmodium falciparum*. J. Am. Mosquito Control Assoc. 8: 1-5.

26. **Vaughan JA**, BH Noden and JC Beier. 1992. Population dynamics of *Plasmodium falciparum* sporogony in laboratory-infected *Anopheles gambiae*. J. Parasitol. 78: 716-724.

27. Beier JC, **JA Vaughan**, A Madani and BH Noden. 1992. *Plasmodium falciparum*: release of circumsporozoite protein by sporozoites in the mosquito vector. Exp. Parasitol. 75: 248-256.

28. Beier JC, RS Copeland, R Mtalib and **JA Vaughan**. 1992. Ookinete rates in afrotropical anopheline mosquitoes as a measure of human malaria infectiousness. Am. J. Trop. Med. Hyg. 47: 41-46.

29. **Vaughan JA**, D Narum and AF Azad. 1991. *Plasmodium berghei* ookinete densities in three anopheline species. J. Parasitol. 77: 758-761.

30. **Vaughan JA**, BH Noden and JC Beier. 1991. Concentration of human erythrocytes by anopheline mosquitoes during feeding (Diptera: Culicidae). J. Med. Entomol. 28: 780-786.

31. Beier JC, JR Davis, **JA Vaughan**, BH Noden and MS Beier. 1991. Quantitation of *Plasmodium falciparum* sporozoites transmitted in vitro by experimentally-infected *Anopheles gambiae* and *Anopheles stephensi*. Am. J. Trop. Med. Hyg. 44: 564-570.

32. **Vaughan JA** and AF Azad. 1990. Acquisition of murine typhus rickettsiae by fleas. Ann. New York Acad. Sci. 590: 70-75.

33. **Vaughan JA**, RA Wirtz, VE do Rosario and AF Azad. 1989. Quantitation of anti-sporozoite immunoglobulins in the hemolymph of *Anopheles stephensi* after bloodfeeding. Am. J. Trop. Med. Hyg. 42: 10-16.

34. **Vaughan JA**, AE Jerse and AF Azad. 1989. Rat leucocyte response to the bites of the Oriental rat flea, *Xenopsylla cheopis* (Siphonaptera: Pulicidae). J. Med. Entomol. 26: 449-453.

35. Ribeiro JMC, **JA Vaughan** and AF Azad. 1989. Characterization of the salivary apyrases of three rodent flea species. Comp. Biochem. Physiol. 95: 215-218.

36. **Vaughan JA** and EC Turner Jr. 1989. Diurnal microdistribution of immature *Culicoides variipennis* (Coq.)(Diptera: Ceratopogonidae) at Saltville, VA, USA. J. Agric. Entomol. 6: 175-182.

37. Azad AF, **JA Vaughan** and RA Wirtz. 1989. Host anti-parasite IgG: Transport across the gut epithelial lining, and its influence on the infectivity of arthropod vectors. Proc. 2nd Symp. Host Regulated Developmental Mechanisms in Vector Arthropods. pp. 163-170.

38. Rosario VE, A Appiah, **JA Vaughan** and MR Hollingdale. 1989. Administration of anti-sporozoite antibodies during sporogony induce *Plasmodium falciparum* sporozoites no longer neutralized by human immune CS vaccine sera. Trans. Royal Soc. Trop. Med. Hyg. 83: 305-307.

39. Rosario VE, **J Vaughan**, M Murphy, V Harrod and R Coleman. 1989. Effect of chloroquine on the sporogonic cycle of *Plasmodium falciparum* and *Plasmodium berghei* in anopheline mosquitoes. Acta Leidensia 57: 53-60.

40. Coleman RE, **JA Vaughan** and VE do Rosario. 1989. Effect of mefloquine and qinghaosu on the sporogonic cycle of *Plasmodium berghei* ANKA in *Anopheles stephensi* mosquitoes. Acta Leidensia 57: 61-74.

41. Rosario VE, **JA Vaughan** and RE Coleman. 1989. A model for analysis of the sporogonic development of *Plasmodium falciparum* and *Plasmodium berghei* in anopheline mosquitoes. Parassitologia 1: 103-113.

42. **Vaughan JA** and AF Azad. 1988. Passage of host immunoglobulin G from bloodmeal into hemolymph of selected mosquito species. J. Med. Entomol. 25: 472-474.

43. **Vaughan JA**, V Rosario, P Leland, A Adjepong, J Light, G Woollett, MR Hollingdale and AF Azad. 1988. *Plasmodium falciparum*: Ingested anti-sporozoite antibodies affect sporogony in*Anopheles stephensi* mosquitoes. Exp. Parasitol. 66: 171-182.

44. Despins JL, **JA Vaughan** and EC Turner Jr. 1988. Interspecific and intraspecific predation in the lesser mealworm, *Alphitobius diaperinus* (Coleoptera: Tenebrionidae). Coleop. Bull. 42: 211-216.

45. **Vaughan JA** and EC Turner Jr. 1987. Seasonal microdistribution of immature *Culicoides variipennis*(Coq.)(Diptera: Ceratopogonidae) at Saltville, Virginia. J. Med. Entomol. 24: 340-346.

46. **Vaughan JA** and EC Turner Jr. 1987. Development of immature *Culicoides variipennis* (Coq.)(Diptera: Ceratopogonidae) from Saltville, Virginia, at constant laboratory temperatures. J. Med. Entomol. 24: 390-395.

47. **Vaughan JA** and EC Turner Jr. 1985. Spatial distribution of immature *Culicoides variipennis* (Coq.). Proc. Internat. Symp. on Bluetongue and Related Orbiviruses. Prog. Clin. Biol. Res. 178: 213-219.

48. **Vaughan JA**, EC Turner Jr. and PL Ruszler. 1984. Infestation and damage of poultry house insulation by the lesser mealworm, *Alphitobius diaperinus* (Panzer). Poultry Sci. 63: 1094-1110.

49. **Vaughan JA** and EC Turner Jr. 1984. Residual and topical toxicity of various insecticides to the lesser mealworm, *Alphitobius diaperinus* (Panzer)(Coleoptera: Tenebrionidae). J. Econ. Entomol. 77: 216-220.

50. Beck AF, **JA Vaughan** and EC Turner Jr. 1983. Bay Vi-7533 insect growth regulator: effect on house fly emergence and caged layer egg production when administered in layer feed. J. Georgia Entomol. Soc. 18: 159-163.

FUNDING SUPPORT

EXTRAMURAL GRANTS & CONTRACTS

Title: Testing for West Nile virus-infected mosquitoes in Grand Forks
Source: City of Grand Forks Public Health Department
Personnel: **Jefferson Vaughan**, PI
Award Period: 7/5/06 – 9/5/06
Direct Costs: $8,040

Title: Testing mosquitoes for West Nile virus in Grand Forks
Source: City of Grand Forks Public Health Department
Personnel: **Jefferson Vaughan**, PI
Award Period: 6/22/05 – 8/31/05
Direct Costs: $3,690

Title: Microfilarial enhancement of arboviral transmission
Source & identifying no#: National Institutes of Health 1R01AI43678
Personnel: **Jefferson Vaughan**, PI; Michael J. Turell and Dana Focks, Co-Investigators
Duration, Dates & Direct Costs: 04/01/01 - 03/30/04; $250,000
Goals: To use experimentally-derived values in computer simulations in order to predict how differing prevalences of human filariases can alter the transmission dynamics of dengue by *Aedes* spp. mosquitoes.

Title: Population dynamics of sporogony in Thailand
Source & identifying no#: National Institutes of Health 1R01AI48813
Personnel: **Jefferson Vaughan**, PI; Russell E. Coleman, MAJ US Army, Co-Investigator
Duration, Dates & Direct Costs: 09/01/01 - 08/31/05; $600,000
Goals: To identify differences in the population dynamics of sporogony among the various parasite / vector species combinations that contribute to overall malaria transmission in a multi-vectorial, dual parasite system in rural Thailand.

UNIVERSITY GRANTS & AWARDS (INTRAMURAL)

Title: Potential of filarial parasites of birds to enhance the infectivity of West Nile virus to mosquitoes
Source: UND Biology Research Committee
Personnel: **Jefferson Vaughan**, PI
Award Date: 4/28/06
Direct Costs: $7,500

Title: Vivax Malaria Research 2005 and Beyond
Source: UND Research Development and Compliance Travel Award (EPSCoR)
Personnel: **Jefferson Vaughan**
Award Period: 11/07/05
Direct Costs: $380

Title: Potential of avian filarial worms to enhance mosquito transmission of West Nile virus among birds in the northern Great Plains
Source: UND Faculty Research Seed Money
Personnel: **Jefferson Vaughan**, PI
Award Period: 7/01/04 – 06/30/05
Direct Costs: $40,000

Title: Monitoring mosquito dispersal in Grand Forks, ND (**New**)
Source: New Faculty Scholar Award
Personnel: **Jeff Vaughan**, Awardee
Award: 03/25/2003 – 10/30/03
Direct Costs: $5,000

Title: Optical Microscopy Resource
Source: EPSCoR Infrastructure Improvement Program
Personnel: Sally Pyle, PI, Peter Meberg & **Jeff Vaughan**, Co-Investigator
Award: April 22, 2002
Direct Costs: $50,000 for microscopy equipment

Title: Impact of parasitism on the ecology, evolution and conservation of the Northern Great Plains vertebrate fauna
Source: EPSCoR Research Networks for Enhancing Science and Technology (RNEST)
Personnel: Issac Schlosser PI, Chris Austin & **Jeff Vaughan**, Co-investigators
Award: 05/01/2002 – 04/30/05
Direct Costs: $550,000