BIOGRAPHICAL SKETCH

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NAME Diane Wallace Taylor	POSITION TITLE Professor
eRA COMMONS USER NAME tavlordw	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Hawaii, Honolulu, HI	M.S.	1970	Microbiology
University of Hawaii, Honolulu, HI	Ph.D.	1975	Zoology
University of Hawaii, Honolulu, HI	Post-doc	1978	Tropical Medicine
Laboratory of Microbial Immunity, NIAID, NIH	Staff Fellow	1982	Immunology

A. Personal Statement

The primary focus of my research is on the immunology of malaria, including identification of immune responses associated with protection and pathology. Early studies examined cellular and humoral immune responses to malaria using rodent and primate models. These studies lead to producing monoclonal antibodies (mAb) against *Plasmodium falciparum,* the parasite that causes human malaria. We developed the initial proof-of-concept that mAb against histidine-rich protein 2 (HRP2) could be used for the diagnosis of malaria. As a result, I have worked with several companies on assay development and field testing of various rapid diagnostic tests (RDT) for *P. falciparum*. In 1990, I began collaborating with R. Leke in Cameroon on changes in immune responses to malaria in pregnant women living in urban and rural communities. Our studies have received continuous support from NIH since 1994. More recently, we began evaluating how malaria infections during pregnancy influence acquisition of immunity by their babies to malaria during the first year of life. Since 1994, we have train Cameroonian students in research on malaria and students have had an active role in all of our studies and publications.

B. Positions and Honors

Positions and Employment

1982-1986 Assistant Professor of Biology, Georgetown University
1986-1993 Associate Professor of Biology, Georgetown University
1993- 2010 Professor of Biology, Georgetown University
2005-present Professor of Tropical Medicine, University of Hawaii-Manoa

Other Experiences and Honors

1986-1997 Editorial Board*, American Journal of Tropical Medicine and Hygiene*
1988-1991 Consultant for Beckton Dickinson
1989-90, 1997-99 Consultant for Abbott Laboratories
1991 US patent Serial No. 939,113
1993-1997 Member of Tropical Medicine & Parasitology - Study Section, NIAID, NIH
2000 Dean's Award for Excellence in Teaching
2001 Georgetown University Career Research Achievement Award
2009 Invited Lecturer, Women's Health Lecture Series, Fogarty International Center

C. Selected Peer-reviewed publications

1. Xi G, Leke RG, Thuita LW, Zhou A, Leke RJ, Mbu R, **Taylor DW**. Congenital exposure to P*lasmodium falciparum* antigens: prevalence and antigenic specificity of *in utero*-produced antimalarial immunoglobulin M antibodies. Infect Immun. 71(3):124-26. 2003.

2. Suguitan AL Jr, Leke RG, Fouda G, Zhou A, Thuita L, Metenou S, Fogako J, Megnekou R, **Taylor DW**. Changes in the levels of chemokines and cytokines in the placentas of women with *Plasmodium falciparum* malaria. J Infect Dis. 188(7):1074-82. 2003.
3. Suguitan AL Jr, Cadigan TJ, Nguyen TA, Zhou A, Leke RIJ, Metenou S, Thuita L, Megnekou R, Fogako J, Leke RFG, **Taylor DW**. Malaria-associated cytokine changes in the placental of women with pre-term deliveries in Yaounde, Cameroon. Am J Trop Med Hyg. 69(6):574-81. 2003.
4. **Taylor DW**, Zhou A, Marsillio LE, Thuita LH, Leke EB, Branch O, Gowda DC, Long C, Leke RGF. Antibodies that inhibit binding of *Plasmodium falciparum*-infected erythrocytes to CSA and to the C-terminus of merozoite-surface protein 1 (MSP1-19) correlate with reduced placental malaria in Cameroonian Women. Infect Immun. 72(3): 1603-1607. 2004.
5. Muthusamy, A, Achur RN, Bhavanandan VP, Fouda GG, **Taylor DW**, Gowda DC. *Plasmodium falciparum*-cinfected erythrocytes adhere both in the intervillous space and on the villous surface of human placenta by binding to the low-sulfated chondroitin sulfate receptor. Am J Pathol. 164(6):2013-2025. 2004.
6. Walker-Abbey, AW, RRT Djokam, RGF Leke, VPK Titanji, J Fogako, GM Sama, LH Thuita, E Beardslee, G Snounou, A Zhou, and **DW Taylor**. Malaria in pregnant Cameroonian women: The effect of age and gravidity on submicroscopic and mixed-species infections and multiple parasite genotypes. Am J Trop Med Hyg. 72(3): 229-235. 2005.
7. Fouda GG, RF Leke, C Long, P Druilhe, A Zhou, **DW Taylor**, and AH Johnson. Development of a Multiplex Assay for the Simultaneous Measurement of Antibodies to Multiple *Plasmodium falciparum* Antigens. Clin Vaccine Immunol. 13(12):1307-1313. 2006.
8. Metenou, S, AL Suguitan, C Long, RGF Leke, and **DW Taylor**. Fetal immune responses to *Plasmodium falciparum* antigens in a malaria-endemic region of Cameroon. J Immunol. 178(5):2770-7. 2007.
9. Rogerson SJ, L Hviid, PE Duffy, RFG Leke and **DW Taylor**. Malaria in Pregnancy: Pathogenesis and Immunity. The Lancet Infect Dis. 7(2): 105-117. 2007.
10. Thévenon AD, Leke RG, Suguitan AL Jr, Zhou JA, **Taylor, DW**. Genetic polymorphisms of mannose-binding lectin do not influence placental malaria but are associated with preterm deliveries. Infect Immun. 2009 Apr;77(4):1483-91.
11. Pong CK, Thévenon AD, Zhou JA, **Taylor DW**. Influence of human chorionic gonadotropin (hCG) on *in vitro* growth of *Plasmodium falciparum*. Malar J. 2009 May 14;8:101.
12. Chang SP, Kayatani AK, Terrientes ZI, Herrera S, Leke RG, **Taylor DW**. Shift in epitope dominance of IgM and IgG responses to *Plasmodium falciparum* MSP1 block 4. Malar J. 2010 Jan 13;9:14.
13. Silver KL, Zhong K, Leke RG, **Taylor DW,** Kain KC. Dysregulation of angiopoietins is associated with placental malaria and low birth weight. PLoS One. 2010 Mar 1;5(3):e9481.
14. Leke, R, Bigoga J, Zhou A, Fouda G, Leke R, Tchinda V, Megnekou R, Fogako J, Sama G, Gwanmesia P, Bomback G, Nama C, Diouf A, Bobbili N, **Taylor D**. Longituinal studies of *Plasmodium falciparum* malaria in pregnant women living in a rural Cameroonian village with high perennial transmission. Am J Trop Med Hyg. in press.
15. Thévenon AD, Zhou JA, Megnekou R, Ako S, Leke RGF, **Taylor DW**. Elevelated levels of soluble tumor necrosis factor receptors 1 and 2 correlate with *Plasmodium falciparum* parasitemia in pregnant women: Potential markers for malaria-associated inflammation. J. Immunol. 185(11): 7115-7122.

C. Research Support

On-going Research Support

R01 AI071160-01A1 (Taylor) 06/01/2007 – 05/31/2012
NIAID, NIH.
Malarial Immunity in Pregnant Cameroonian Women.
The project seeks to determine if adminstration of antimalarial drugs during the 2nd and/or 3rd trimester influences 1) the acquisition of antibodies that inhibit parasite sequestration in the placenta, 2) placental pathology associated with low birthweight babies, 3) transplacental transfer of antimalarial IgG to vaccine-candidate antigens, 4) *in utero* priming of fetal T and B cells, and 5) the number and severity of *P. falciparum* infections infants have, as well as their rate of acquisition of immunity, during the first year of life.
Role: PI

Major Activity 13: Pathogenesis, Immunity and Burden of Disease (Taylor) 05/01/2008 – 04/31//2012
Bill and Melinda Gates Foundation (Malaria in Pregnancy Consortium)
Through a Subcontract agreement with the University of Melbourne
There are two parts to this subcontract. First, Drs. Leke and Taylor organized an international workshop on Placental Malaria Histopathology, held March 9-13, 2009 in Yaounde Cameroon for ~35 delegates from 22 different countries. The second part is to measure the impact of placental malaria on fetal growth using ultrasound
Role: PI

2 P20 RR018727-06A1 Yanagihara (PI) 9/30/2003-6/30/2015
NIH/NCRR
Pacific Center for Emerging Infectious Diseases Research
The overall goal of this project is to develop a center of research excellence for emerging infectious diseases of relevance to the Asia-Pacific Region.
Role: Mentor

Past

1R21 AI-066184-02 (Taylor) 07/01/05 – 06/31/09
NIAID, NIH
Pregnancy-associated Hormones and Immunity to Malaria.
This exploratory grant tests two hypothetical models on how pregnancy-associated hormones might modulate immunity to *P. falciparum*.
Role: PI