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## Curriculum Vitae

### **Jennifer F. Friedman, M.D., M.P.H., PhD**

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#### EDUCATION

Undergraduate	Brown University	History of Art	BA, magna cum laude	1992
Medical School	New York University	1992-1994	MD	
	Brown University	1994-1996		1996
Graduate	Harvard School of Public Health	2000-2002	MPH	2002
Graduate	University of Amsterdam	2002-2006	PhD	2006

#### POSTGRADUATE TRAINING

##### **Residency**

Children's Hospital of Philadelphia, Philadelphia, PA, Intern in Pediatrics	1997-1998
Children's Hospital of Philadelphia, Philadelphia, PA, Resident in Pediatrics	1998-2000

##### **Fellowship**

US Fulbright Fellowship (Clinical Epidemiology) Centers for Disease Control, Kenya, East Africa Field Site	1996-1997
Boston Children's Hospital, Boston, MA, HRSA Post-doctoral Fellow in Health Services Research,	2000-2002

#### POSTGRADUATE HONORS AND AWARDS

Graduated Magna cum Laude, Brown University	1992
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Received Pediatric Clinical Honors in Pediatric Sub-Internship, Pediatric Infectious Diseases, Adolescent Medicine, and Pediatric HIV Longitudinal	1995-1996
Honor Award for contribution to Insecticide Treated Bednet Trial	2002
National Center for Infectious Diseases, Atlanta, GA	
Partners in Public Health, Group Honor Award to Insecticide Treated Bednet Trial's Kenya Staff	2002
National Center for Infectious Diseases, Atlanta, GA	
Award for excellence in Teaching and Mentoring from Pediatric Residents	2002
Hasbro Children's Hospital, Providence, R.I.	
Fleet Community Fellow Award for Community Service	2003
\$10,000 Loan Repayment Award	
Fleet Bank, Boston, MA	
Charles C. Shepard Science Award Nomination	2004
Presented to Authors of most outstanding peer-reviewed research papers published by Centers for Disease Control	
Dean's Teaching Excellence Award	2004, 2006, 2007
for exemplary teaching of medical students in pre-clinical years	2008, 2009
Dean's Teaching Excellence Award	2008
for exemplary teaching of medical students in clinical years	
Triple Board Residency Program Award for Excellence in teaching and mentorship	2009
Certificate of Recognition, for exemplary teaching of medical students in pre-clinical years	2010
Bruce Seyla Award for Research Excellence, Rhode Island Hospital	2012
American Pediatric Society, Elected Member	2015
Elected membership for professionals who have distinguished themselves as child health leaders, scholars, and/or clinicians and whose important contributions are recognized nationally or internationally	
American Society of Clinical Investigation, Elected Member	2018
Elected membership for physician-scientists who have distinguished themselves as outstanding scientists	
Brown University Presidential Faculty Award	2019
Recognizing members of the Brown faculty who are conducting especially and important and innovative scholarship (given to two faculty members annually)	
Triple Board Residency Program Award for Excellence in teaching and mentorship	2020

Dean's Award for Faculty Research Mentoring in the Division of  
Biology and Medicine

2022

### PROFESSIONAL LICENSES AND BOARD CERTIFICATION

Pennsylvania Medical License	1999-2000
Massachusetts Medical License	2000-2003
Rhode Island Medical License	2002-present
Board Certification in Pediatrics	2000
Board Re-certification in Pediatrics	2007
Advance-Clinical and Translational Research Senior Mentoring Training Program	2019

### ACADEMIC APPOINTMENTS

Clinical Fellow in Pediatrics, University of Pennsylvania School of Medicine	1997-2000
Clinical and Research Fellow, Harvard Medical School	2000-2002
Assistant Professor of Pediatrics (Research) Brown University School of Medicine	2002-2004
Assistant Professor of Pediatrics in Research Scholar track Brown University School of Medicine	2004-2009
Associate Professor of Pediatrics in Research Scholar track Alpert Medical School of Brown University	2009-present
Associate Professor of Pediatrics and Associate Professor of Epidemiology in Research Scholar track, Alpert Medical School of Brown University	2015-present
Professor of Pediatrics and Professor of Epidemiology in Research Scholar track, Alpert Medical School of Brown University	2015-present

### HOSPITAL APPOINTMENTS

Fellow in Medicine, Boston Children's Hospital, Boston, M.A.	2000-2002
Staff Pediatrician, Harvard Vanguard Medical Associates, Medford, M.A.	2000-2002
Staff Physician, Hasbro Children's Hospital/Brown University, Providence, R.I.	2002-
Director of Clinical Studies, Center for International Health Research	2005-2017
Director, Center for International Health Research	2017-

Division Director, Primary Care Pediatrics, Hasbro Children's Hospital	2016-
Vice Chair for Faculty Affairs, Department of Pediatrics, Hasbro Children's Hospital	2022-

### HOSPITAL COMMITTEES

Resident Selection Committee	2007-2009
RIH Institutional Review Board Member	February 2007-
RIH Institutional Review Board Associate Chair	January 2008-
Brown Residency International/Global Health Track (BRIGHT), Executive Committee member	2009-
Brown Residency International/Global Health Track (BRIGHT), Faculty leader	2010-2014
Department of Pediatrics Research Cabinet Member	2015-
Lifespan Research Advisory Council	2016-
Lifespan Physician's Group, Academic Committee	2018-

### UNIVERSITY COMMITTEES

Institutional Review Board, Brown University	2002-2005
Brown University Medical School Fleet Community Fellows Selection Committee	2004-2006
Brown University Foreign Studies Fellowship Selection Committee	2006-
Brown University Wide, Committee on Global Health Member	2007-08
Brown University Medical School, Scholarly Concentration in Global Health, Selection Committee	2008-2009
Brown University Medical School, Member of Executive Committee for the Scholarly Concentration in Global Health	2008-2009
Brown University Medical School, Scholarly Concentration in Global Health, Director	2009-2018
Brown University Medical School, Member of Executive Committee for the Framework in Global Health	2009-
Chairperson, Search Committee for Division Director of Pediatric Hematology/Oncology in Department of Pediatrics	2015-2017

Member, Search Committee for Tenure Track Faculty Member in Reproductive Epidemiology in Department of Epidemiology	2015
Promotions committee member, Department of Pediatrics, Brown University Co-Chair 2020-	2015-
Committee on Medical Faculty Appointments and Promotions, Division of Biology and Medicine, Brown University	2017-2021
Division of Biology and Medicine, International Affiliation Steering Committee	2018
Chairperson, Search Committee for Division Director of Pediatric Cardiology in Department of Pediatrics	2022
Search Committee, Provost, Brown University Invited member of a search committee of eight led by Brown President Christina Paxson to identify and recruit Brown's 14 <sup>th</sup> Provost (Francis J. Doyle, PhD)	2022
Tenure Committee, Incoming 14 <sup>th</sup> Provost of Brown University, Francis J. Doyle, PhD	2023

#### NATIONAL COMMITTEES

American Academy of Pediatrics, Section on International Child Health, Nominating Committee for Executive Committee	2004-2005
NIH-NIAID Consultative Conferences, " <i>Enrolling pregnant women in clinical trials of antimicrobials and vaccines.</i> " Infant Adverse Events Working Group	2013
American Society of Tropical Medicine and Hygiene Scientific Program Committee member (2014-15) and Chair (2015-2018) Schistosomiasis-Helminths Subcommittee.	2014-2018
Safety Monitoring Committee, NIH/NIAID Division of Microbiology and Infectious Diseases' Protocol "A Phase 1 Trial to Assess Safety and PK of Multiple Ascending Doses of Oxfendazole in Healthy Adults"	2017
American Society for Clinical Investigation, Abstract review for annual meeting	2018

#### INTERNATIONAL COMMITTEES

Expert Panel Member, Bill & Melinda Gates Foundation, Assessing health and education benefits of interventions to control soil-transmitted helminths and schistosomiasis. London, England.	February 2016
Expert panel member, World Health Organization, Department of Control of Neglected Tropical Diseases, Technical working group to finalize the manual	December 2019

on Schistosomiasis morbidity management, Geneva, Switzerland

INTERNATIONAL AND NATIONAL GRANT REVIEWS

Competitive Research Proposals from the US Army Medical Research and Material Command	2003
Federal Drug Administration, Orphan Products Development, competitive research Proposal, ad hoc committee	2005 & 2023
National Institutes of Health, National Institute of Child Health and Human Development Review panel, U01 request for applications for “Global Network for Women’s and Children’s Health”	2006
National Institutes of Health, National Institute of Allergy and Infectious Diseases, Special Emphasis Panel for “NIAID Clinical Trials”	2008
Wellcome Trust Expert Review panel for Pathogens, Immunology & Population Health	2008
NIH, National Institute of Child Health and Human Development, review panel, U01 request for applications (RFA HD-09-029), “Considerations for the safe and effective use of iron interventions in the context of malaria”	2009
Thrasher Research Fund Reviewer, Clinical Pediatric Research Grant	2010
Wellcome Trust Fellowship Application	2010
NIH, Population Sciences and Epidemiology (PSE) Integrated Review Group, Ad Hoc Grant reviewer	May, 2011
NIH, Infectious, Reproductive, Asthma, and Pulmonary Conditions (IRAP) Study Section, mail reviewer (2/12) and ad hoc/temporary member 10/12 and 6/14	Feb & Oct 2012 June of 2014
Wellcome Trust Enhancement Funding Review	March 2012
NIH/NIAID Loan Repayment Grant Review, Special Emphasis Panel	April, 2012
NIAID Clinical Trial Implementation Cooperative Agreement (U01), Grant Review	September, 2014
Thrasher Research Fund Reviewer, Clinical Pediatric Research Grant	September, 2014
NIH, Special Emphasis Panel grant review (ZRG1 Infectious diseases and microbiology (S02)).	December, 2014
Thrasher Research Fund Reviewer, Clinical Pediatric Research Grant	April of 2015
NIH/NIAID Loan Repayment Grant Review, Clinical Research and Pediatric Research	April 2013 & 2016
NIH/NIAID Grant Review for Tropical Medicine Research Centers P01 grants	October 2016

NIH, Infectious, Reproductive, Asthma, and Pulmonary Conditions (IRAP) Study Section, Small grants review	October 2017
Thrasher Research Fund Reviewer, Clinical Pediatric Research Grant	November, 2017
Medical Research Council, Research Board, Nutrition and Obesity, Grant Review	January 2018
NIH/NIAID Grant Review for Vaccine and Treatment Evaluation Units UM1 grants	June 2019
NIH/NIAID Grant Review Investigator Initiated Program Project Applications (P01)	August 2019
Wellcome Trust/ DBT India Alliance Fellowship Award review	August 2019
NIH/NIAID Grant Review for Coordinating Center for the Emerging Infectious Disease Research Centers	October 2019
NIH/NIAID Special Emphasis Panel (ZAI1-MFH-M-J1): Clinical Trials Review	December 2019
NIH/NIAID Microbiology and Infectious Diseases Study Section, Ad Hoc Reviewer	February 2020
NIH, NIAID Clinical Trial Implementation Cooperative Agreement (U01) and Investigator Initiated Extended Clinical Trial (R01) grant review panel member	June 2020
NIH, Pregnancy and Neonatology (PN) Study Section Endocrinology, Metabolism, Nutrition and Reproductive Sciences IRG, Ad Hoc Reviewer	October 2020
NIH, Infectious, Reproductive, Asthma, and Pulmonary Conditions (IRAP) IRG	March, 2022
Patterson Trust Mentored Research Grants Review Committee	October, 2022
NIH, Etiology, Diagnostic, Intervention and Treatment of Infectious Diseases (EDIT) IRG, Ad Hoc Reviewer	October, 2022
NIH Cardiovascular and Respiratory Diseases IRG, Ad Hoc Reviewer	February 2023
Federal Drug Administration, Orphan Product Infectious Disease Grant Review Panel	March 2023
Co-Chair, Patterson Trust Mentored Research Grants Review Committee	October, 2023

## EDITORIAL BOARDS

### **Editor Roles**

Guest Associate Editor	<i>PLoS Neglected Tropical Diseases</i> 4 manuscripts	2011, 2013, 2014, 2016
Associate Editor	<i>PLoS Neglected Tropical Diseases</i> Handle 1-2 manuscripts per month	2017-

Editorial Board	<i>Parasitology</i>	2020-
<b>Ad Hoc Reviewer Roles</b>		
Ad Hoc Reviewer	<i>Nature Reviews</i>	2018
Ad Hoc Reviewer	<i>Nature Medicine</i> Two manuscripts reviewed	2022
Ad Hoc Reviewer	<i>The Lancet Infectious Diseases</i>	2022
Ad Hoc Reviewer	<i>The Lancet Child &amp; Adolescent Health</i>	2019
Ad Hoc Reviewer	<i>Journal of Infectious Diseases</i> Two manuscripts reviewed	2012, 2019
Ad Hoc Reviewer	<i>Clinical Infectious Diseases</i> Five manuscripts reviewed	2012-2017
Ad Hoc Reviewer	<i>New England Society of Medicine</i> Three manuscripts reviewed	2015-2017
Ad Hoc Reviewer	<i>PLoS Pathogens</i> One manuscript reviewed	2021
Ad Hoc Reviewer	<i>PLoS Neglected Tropical Diseases</i> 37 manuscripts reviewed	2008-2023
Ad Hoc Reviewer	<i>Society of Nutrition</i>	2018
Ad Hoc Reviewer	<i>PLoS Medicine</i>	2007
Ad Hoc Reviewer	<i>Am. J. of Tropical Medicine &amp; Hygiene</i> 24 manuscripts reviewed	2002-2020
Ad Hoc Reviewer	<i>Ambulatory Pediatrics</i> Six manuscripts reviewed	2004-2008
Ad Hoc Reviewer	<i>Pediatrics</i> 24 manuscripts reviewed	2005-2020
Ad Hoc Reviewer	<i>European Society of Clinical Nutrition</i>	2005
Ad Hoc Reviewer	<i>BMC Medicine</i> Two reviews	2018
Ad Hoc Reviewer	<i>Tropical Medicine and International Health</i>	2005, 2006, 2010



Ad Hoc Reviewer	<i>Society of Pediatric Gastroenterology and Nutrition</i>	2006
Ad Hoc Reviewer	<i>Trends in Parasitology</i>	2006
Ad Hoc Reviewer	<i>BioMed Central</i>	2006
Ad Hoc Reviewer	<i>International Society of Parasitology</i> Four manuscripts reviewed	2008-2014
Ad Hoc Reviewer	<i>Human Immunology</i>	2002
Ad Hoc Reviewer	<i>American Journal of Clinical Nutrition</i> Three manuscripts reviewed	2009, 2021
Ad Hoc Reviewer	<i>Academic Pediatrics</i> Four manuscripts reviewed	2009, 2015, 2022
Ad Hoc Reviewer	<i>Acta Tropica</i>	2011
Ad Hoc Reviewer	<i>PLoS One</i> Five manuscripts reviewed	2013-2022
Ad Hoc Reviewer	<i>Transactions of the Royal Society of Tropical Medicine and Hygiene</i>	2013
Ad Hoc Reviewer	<i>Pediatric Allergy and Immunology</i>	2017

#### MEMBERSHIP IN SOCIETIES

Member, American Academy of Pediatrics	1997-
Fellow, American Academy of Pediatrics	2000-
Member, American Society of Tropical Medicine and Hygiene	2001-
Member, Ambulatory Pediatric Association	2000-2002
Member, American Pediatric Association	2015-

#### ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS

- 1) **Friedman, JF**, Kurtis, JD, Correa, R, McGarvey, S, LoVerde, P. (2001) A comparison of children's self-reported to observed water contact in an *S. mansoni* endemic village in Brazil. *Acta Tropica*. Vol 78, p 251-259.
- 2) Pinzon-Ortiz, C, **Friedman, JF**, Esko, J, Sinnis, P. (2001) The binding of the circumsporozoite protein to cell surface heparan sulfate proteoglycans is required for *Plasmodium* sporozoite attachment to target cells. *Society of Biological Chemistry*. Vol 276 (29), p 26784-91.

- 3) **Friedman, JF**, Lee, G, Kleinman, K, Finkelstein, J. (2003) Acute care and antibiotic seeking for URIs for children in day care: Parental knowledge and day care center policies. *Archives of Pediatric and Adolescent Medicine*. Vol 157, p 369-374.
- 4) Lee, G, **Friedman, JF**, Ross-Degnan, D, Hibberd, PL, Goldmann, DA. (2003) Misconceptions about colds and predictors of health service utilization. *Pediatrics*. Vol 111(2), p 231-236.
- 5) **Friedman, JF**, Phillips-Howard, PA, Hawley, WA, Duggan, C, Terlouw, DJ, Kolczak, MS, Barber, M, Okello, N, Oloo, AJ, Nahlen, BL, Ter Kuile, FO. (2003) Impact of insecticide treated bednets on growth, nutritional status, and body composition of primary school children in western Kenya. *Am J Trop Med Hyg*. Vol 68(4S), p 78-85.
- 6) Ter Kuile, FO, Terlouw, DJ, Phillips-Howard, PA, Hawley, WA, **Friedman, JF**, Kolczak, MS, Kariuki, SK, Shi, YP, Kwena, AM, Vulule, JM, Nahlen, BL. (2003) Impact of permethrin-treated bednets on malaria and all cause morbidity in young children in an area of intense perennial malaria transmission in western Kenya: Cross-Sectional survey. *Am J Trop Med Hyg*. Vol 68(4S), p 100-107
- 7) Ter Kuile, FO, Terlouw, DJ, Kariuki, SK, Phillips-Howard, PA, Mirel, LB, Hawley, WA, **Friedman, JF**, Shi, YP, Kolczak, MS, Lal, AA, Vulule, J, Nahlen, BL.(2003) Impact of permethrin-treated bednets on malaria, anemia and growth in infants in an area of intense perennial malaria transmission in western Kenya. *Am J Trop Med Hyg*. Vol 68(4S), p 68-77.
- 8) Ter Kuile, FO, Terlouw, DJ, Phillips-Howard, PA, Hawley, WA, **Friedman, JF**, Kariuki, SK, Shi, YP, Kolczak, MS, Lal, AA, Vulule, JM, Nahlen, BL. (2003) Permethrin-treated bednets reduce malaria in pregnancy in an area of intense perennial malaria transmission in western Kenya. *Am J Trop Med Hyg*. Vol 68(4S), p 50-60.
- 9) Kwena, AM, Terlouw, DJ, de Vlas, SJ, Phillips-Howard, PA, Hawley, WA, **Friedman, JF**, Vulule, J, Nahlen, BL, Sauerwein, RW, ter Kuile, FO. (2003) Prevalence and severity of malnutrition in pre-school children in a rural area of western Kenya. *Am J Trop Med Hyg*. Vol 68(4S), p 94-99.
- 10) **Friedman, JF**, Kurtis, JD, Mtalib, R, Opollo, M, Lanar, DE, Duffy, PE. (2003) Malaria is related to decreased nutritional status among adolescents and adults in the setting of intense perennial transmission. *J Infect Dis*, Vol 188(3), p449-57.
- 11) **Friedman, JF**, Lee, G, Kleinman, K, Finkelstein, J. (2004) Child Care Center Policies and Practices for Management of Ill Children. *Ambulatory Pediatrics*. Vol 4(5), p 455-60
- 12) Lee, G, Solomon, JA, **Friedman, JF**, Hibberd, PL, Ross-Degnan, D, Zasloff, E, Bediako, S, Goldmann, DA (2005) Factors Associated with Reduced Transmission of Daycare-Associated Illnesses in the Home: A possible role for alcohol-based hand gels. *Pediatrics*. Vol 115 (4), p 852-860.
- 13) Kanzaria, HK, Acosta, LP, Langdon, GC, Manalo, DL, Olveda, RM, McGarvey, ST, Kurtis, JD, **Friedman, JF**. (2005) *Schistosoma japonicum* and occult blood loss in endemic villages in Leyte, The Philippines. *Am J Trop Med Hyg*, Vol 72(2), p 115-118.
- 14) **Friedman, JF\***, Ezeamama, A\*, Acosta, LP, Langdon, GC, Bellinger, D, Manalo, DL, Olveda, RM, Kurtis, JD, McGarvey, ST (2005) Helminth infection and cognitive impairment among Filipino children. *Am J Trop Med Hyg*, Vol 72(5), p540-548.  
\*These authors contributed equally to this work
- 15) **Friedman, JF\***, Kanzaria, HK\*, Acosta, LP, Langdon, GC, Manalo, DL, Wu, H, Olveda, RM, McGarvey, ST, Kurtis, JD. (2005) Relationship between *Schistosomiasis japonicum* and nutritional status among children and young adults in Leyte, The Philippines. *Am J Trop Med Hyg*. Vol 72(5), p 527-533. \*These authors contributed equally to this work
- 16) **Friedman, JF**, Kanzaria, HK, McGarvey, ST. (2005) Human schistosomiasis and anemia: the relationship and potential mechanisms. *Trends in Parasitology*, Vol 21(8), p.386-92.
- 17) **Friedman, JF**, Phillips-Howard, PA, Mirel, LB, Terlouw, DJ, Hawley, W, Nahlen, B, Okello, N, Vulule, JM, ter Kuile, FO. (2005) Progression of stunting and its predictors among school-aged children in western Kenya. *Eur J. Clin Nutr.*, Vol 59(8), p. 914-22.
- 18) Coutinho, HM, McGarvey, ST, Acosta, LP, Manalo, DL, Langdon, GC, Leenstra, T, Kanzaria, HK, Solomon, J, Wu, H, Olveda, RM, Kurtis, JD, **Friedman, JF**. (2005) Nutritional status and serum

- cytokine profiles in children, adolescents and young adults with *S. japonicum*-associated hepatic fibrosis in Leyte, the Philippines. *J Infect Dis*, Vol 192(3), p. 528-36
- 19) Nixon, CP, **Friedman, JF**, Treanor, K, Knopf, PM, Duffy, PE, Kurtis, JD. (2005) Antibodies to Rhoptry-Associated Membrane Antigen Predict Resistance to *Plasmodium falciparum*. *J Infect Dis*, Vol 192(5), p. 861-9.
  - 20) Nixon, CP, **Friedman, JF**, Treanor, K, Knopf, PM, Duffy, PE, Kurtis, JD. (2005) Protective human immunity as a vaccine discovery tool for *falciparum* malaria. *Transfusion*, 45(2 Suppl), p 81S-87S.
  - 21) **Friedman, JF**, Kwena, A, Mirel, L, Kariuki, S, Terlouw, DJ, Phillips-Howard, P, Hawley, W, Nahlen, B, Shi, YP, Ter Kuile, FO. (2005) Malaria and nutritional status among pre-school children: results from cross-sectional surveys in western Kenya. *Am J Trop Med Hyg*, Vol 73(4) p. 698-704.
  - 22) Ezeamama, A, **Friedman, JF**, Olveda, RM, Acosta, LP, Kurtis, JD, Mor, V, McGarvey, ST (2005) Functional Significance of Low Intensity Polyparasitism in Anemia. *J Infect Dis*, Vol 192(12), p. 2160-70.
  - 23) Coutinho, HM, Acosta, LP, McGarvey, ST, Jarilla, B, Jiz, M, Pablo, AO, Su, L, Manalo, DL, Olveda, RM, Kurtis, JD, **Friedman, JF**. (2006) Nutritional status improves after treatment of *Schistosoma japonicum* infected children and adolescents. *Society of Nutrition*, Vol 136(1), p. 183-8.
  - 24) Leenstra, T, Acosta, L, Wu, H, Langdon, G, Solomon, J, Manalo, D, Su, L, Jiz, M, Jarilla, B, Pablo, A, McGarvey, S, Olveda, R, **Friedman, JF** & Kurtis, J. (2006) T-helper 2 cytokine responses to Sj97 predict resistance to reinfection with *Schistosoma japonicum*. *Infection and Immunity*, Vol 74(1), p. 370-81.
  - 25) Leenstra, T, Acosta, LP, Langdon, GC, Manalo, DL, Su, L, Olveda, RM, McGarvey, ST, Kurtis, JD, **Friedman, JF**. (2006) Schistosomiasis *japonica*, anemia and iron status in children, adolescents and young adults in Leyte, the Philippines. *Am J Clin Nutr*, Vol 83(2), p. 371-9.
  - 26) Kurtis, JD, **Friedman, JF**, Leenstra, T, Langdon, GC, Wu, H, Manalo, DL, Su, L, Jiz, M, Jarilla, B, Pablo, AO, McGarvey, ST, Olveda, RM, Acosta, LP. (2006) Pubertal development predicts resistance to infection and re-infection with *Schistosoma japonicum*. *Clinical Infectious Diseases*, Vol 42, p. 1692-98.
  - 27) Coutinho, HM, Leenstra, T, Acosta, LP, Su, L, Jarilla, B, Jiz, M, Langdon, G, Olveda, RM, McGarvey, ST, Kurtis, JD, **Friedman, JF**. (2006) Proinflammatory cytokines and CRP are associated with under-nutrition in the context of *Schistosoma japonicum* infection. *American Society of Tropical Medicine and Hygiene*, Vol 75(4), p. 720-726.
  - 28) Leenstra, T, Coutinho, HM, Acosta, LP, Langdon, GC, Su, L, Olveda, RM, McGarvey, ST, Kurtis, JD, **Friedman, JF**. (2006) *Schistosoma japonicum* reinfection after praziquantel treatment causes anemia associated with inflammation. *Infection and Immunity*, Vol 74(11), p. 6398-6407.
  - 29) Coutinho HM, Acosta LP, Wu HW, McGarvey ST, Su L, Langdon GC, Jiz MA, Jarilla B, Olveda RM, **Friedman JF**, Kurtis JD. (2007) Th2 Cytokines Are Associated with Persistent Hepatic Fibrosis in Human *Schistosoma japonicum* Infection. *Society of Infectious Diseases*. Vol 195(2), p. 288-95.
  - 30) Coutinho, H, Leenstra, T, Acosta, LP, Olveda, RM, McGarvey, ST, **Friedman, JF**, Kurtis, JD (2007) DHEAS predicts improved nutritional status in helminth infected children, adolescents and young adults in Leyte, the Philippines. *Society of Nutrition*, Vol 137(2):433-9.
  - 31) **Friedman, JF**, Mital, P, Kanzaria, HK, Olds, GR, Kurtis, JD. (2007) Schistosomiasis and pregnancy. *Trends in Parasitology*, Vol 23(4):159-64.
  - 32) Tolentino, K. and **Friedman, J.** (2007) An Update on Anemia in Lesser Developed Countries. *American Society of Tropical Medicine and Hygiene*, Vol 77(1), p. 44-51.
  - 33) **Friedman, JF**, Kurtis, JD, and McGarvey, ST. (2007) The Dual Burden of Infectious and Non-Communicable Diseases in the Asia-Pacific Region: Examples from The Philippines and the Samoan Islands. *Rhode Island Medicine and Health*, Vol 90 (11), p. 346-350.
  - 34) Ezeamama, A, McGarvey, ST, Acosta, LP, Manalo, DL, Wu, H, Kurtis, JD, Mor, V, Olveda, RM, **Friedman, JF**. (2008) The Synergistic Effect of Concomitant Schistosomiasis, Hookworm & *Trichuris* Infections on Anemia. *PLoS Neglected Tropical Diseases*, Vol 2(6), p. e245

- 35) Jiz, J, Wu, HW, Meng, R, Pond-Tor, S, Reynolds, M, **Friedman, JF**, Olveda, R, Acosta, L, Kurtis, JD. (2008) Pilot Scale Production and Characterization of Paramyosin, a Vaccine Candidate for Schistosomiasis japonica. *Infection and Immunity*, Vol 76(7), p. 3164-9.
- 36) **Friedman, JF** and Acosta, LP. (2008) Toward Comprehensive Interventions to Improve the Health of Women of Reproductive Age. *PLoS Neglected Tropical Diseases*, Vol 2(9), p. e295.
- 37) Jiz, M, **Friedman, JF**, Leenstra, T, Jarilla, B, Pablo, AO, Langdon, G, Pond-Tor, S, Wu, H, Manalo, D, Olveda, RM, Acosta, LP, Kurtis, JD. (2009) IgE responses to Paramosin Predict Resistance to Reinfection with *Schistosoma japonicum* and are opposed by IgG4. *Infection and Immunity*, Vol 77(5), p. 2051-8.
- 38) **Friedman, J**, Kurtis, JD, Kabyemela, E, Fried, M, Duffy, PE. (2009) The iron trap: iron, malaria and anemia at the mother-child interface. *Microbes and Infection*, Vol 11(4), p. 460-6.
- 39) Olson CL, Acosta LP, Hochberg NS, Olveda RM, Jiz M, McGarvey, ST, Kurtis, JD, Bellinger, D, **Friedman, JF**. (2009) Anemia of Inflammation Is Related to Cognitive Impairment among Children in Leyte, The Philippines. *PLoS Negl Trop Dis*, Vol 3(10), p. e533.
- 40) Wu H, Qin Y, Chu K, Meng R, Liu Y, McGarvey S, Olveda, R, Acosta, LP, Ji, M, Fernandez, T, **Friedman, JF**, Kurtis, JD. (2010) High prevalence of *S. japonicum* infection in Philippine water buffalos assessed by qPCR. *Am J Trop Med Hyg*. Vol 82(4), p. 646-52
- 41) Xu, J, Acosta, LP, Hou, M, Manalo, DL, Jiz, M, Jarilla, B, Pablo, AO, Olveda, RM, Langdon, G, McGarvey, ST, Kurtis, J, **Friedman, JF** and Wu, H. (2010) Sero-prevalence of cysticercosis in children and young adults living in a helminth endemic community in Leyte, the Philippines. *Society of Tropical Medicine*, Epub 2010 Mar 29.
- 42) Leeper, SC, Montague, BT, **Friedman, JF**, Flanigan, TP. (2010) Lessons learned from family-centered models of treatment for children living with HIV: current approaches and future directions. *Society of the International AIDS Society*, Vol 13(Suppl 2), p. S3.
- 43) Shaw, JG, Aggarwal, N, Acosta, LP, Jiz, MA, Wu, HW, Leenstra, T, Coutinho, HM, Olveda, RM, Kurtis, JD, McGarvey, ST, **Friedman, JF** (2010) Reduction in hookworm egg counts following praziquantel treatment among children and young adults in Leyte, the Philippines. *Am J Trop Med Hyg*, Vol 83(2), p. 416-21.
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  - 31) Langdon, GC, Coutinho, HM, Leenstra, T, Acosta, LP, **Friedman, JF**, Kurtis, JD. Resistance to *S. japonicum* reinfection in mature women is not mediated by adaptive cytokine responses. American Society of Tropical Medicine and Hygiene annual meeting. Atlanta, GA, November 2006.
  - 32) Coutinho, HM, Leenstra, T, Acosta, LP, Olveda, RM, McGarvey, ST, **Friedman, JF**, Kurtis, JD. DHEAS predicts improved nutritional status in helminth infected children, adolescents and young adults in Leyte, The Philippines. American Society of Tropical Medicine and Hygiene annual meeting, Atlanta, GA, November 2006.
  - 33) Ezeamama, A, McGarvey, ST, Hogan, J, Ryder, KL, Mor, V, Bellinger, DC, Acosta, PL, Coutinho, HM, Leenstra, T, Olveda, RM, Kurtis, JD, **Friedman, JF**. Helminth infections and polyparasitism as predictors of cognitive performance over 18-months of follow-up among school-age children. American Society of Tropical Medicine and Hygiene annual meeting. g, Atlanta, GA, November 2006.
  - 34) Xu, J., Acosta, L., Hou, M., Manalo, D., Jiz, M., Jarilla, B., Pablo, A., Olveda, R., Langdon, G. **Friedman, JF**, McGarvey, ST, Kurtis, JD, Wu, H. Sero-prevalence of cysticercosis in children, adolescents and adults living in a schistosomiasis endemic community in Leyte, the Philippines.

Presented at American Society of Tropical Medicine and Hygiene meeting, Philadelphia, PA, November, 2007.

- 35) Watts, D, **Friedman, JF**, Vivier, PM, Tompkins, CEA, Alario, AJ. Health status and subspecialty needs of refugee children after resettlement. Pediatric Academic Societies Meeting, Honolulu, HI, May 2008.
- 36) Watts, D, **Friedman, JF**, Vivier, PM, Tompkins, CEA, Alario, AJ. (2008) Immunization Status of Refugee Children After Resettlement. Pediatric Academic Societies Meeting. May 2008. Honolulu, HI
- 37) **Friedman, JF**, Acosta, LP, Jiz, MA, Jarilla, B, Margolius, M, Olson, C, Urbina, MP, Olveda, RM, Kurtis, JD. (2008) Relationship between maternal anemia of inflammation and birth outcomes in *S. japonicum* endemic villages of Leyte, The Philippines. American Society of Tropical Medicine and Hygiene annual meeting. December 2008. New Orleans, LA,
- 38) Olson, CL, Acosta, LP, Hochberg, NS, Olveda, RM, Jiz, M, McGarvey, ST, Kurtis, JD, Bellinger, DC, **Friedman, JF**. Anemia of inflammation is related to cognitive impairment among children in Leyte, The Philippines. American Society of Tropical Medicine and Hygiene annual meeting. Washington, DC, November, 2009.
- 39) Aggarwal, N, McGarvey, ST, Acosta, LP, Jiz, MA, Leenstra, T, Coutinho, HM, Olveda, RM, Kurtis, JD, **Friedman, JF**. Reduction in hookworm intensity of infection following treatment with Praziquantel in Leyte, The Philippines. American Society of Tropical Medicine and Hygiene annual meeting. Washington, DC, November, 2009.
- 40) Fabre, V, Wu, H, Pond-Tor, S, Coutinho, HM, Acosta, LP, Jiz, MA, Olveda, RM, Jarilla, B, McGarvey, ST, Mohan, S, Baylink, D, Alvares, K, Veis, A, **Friedman, JF**, Kurtis, JD. TIMP-1 in response to egg antigens predicts hepatic fibrosis in human *S. japonicum* infection. Presented at American Society of Tropical Medicine and Hygiene meeting, Washington, DC, November, 2009.
- 41) McDonald, EA, Pond-Tor, S, Cheng, L, Olveda, RM, Acosta, LP, **Friedman, JF**, Kurtis, JD. Schistosome egg antigens directly activate human trophoblasts. Presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, December, 2011, Philadelphia, PA. Published in *AJTMH*, Volume 85 (6 supplement).
- 42) E.A. McDonald, F. Gundogan, **J.F. Friedman**, J.D. Kurtis. Schistosomiasis japonica soluble egg antigens interfere with differentiation and invasion of placental trophoblast cells. American Society for Tropical Medicine and Hygiene annual meeting, November, 2013, Washington, DC.
- 43) E.A. McDonald, L. Cheng, S. Pond-Tor, B. Jarilla, M.J. Saglib, A. Gonzal, R. Olveda, L. Acosta, E.S. White, **J.F. Friedman**, J.D. Kurtis. Maternal *schistosomiasis japonica* induces a fibrogenic response in neonates. American Society for Tropical Medicine and Hygiene annual meeting, November, 2013, Washington, DC.
- 44) E.A. McDonald, S. Pond-Tor, B. Jarilla, M.J. Sagliba, A. Gonzal, R. Olveda, L. Acosta, F. Gundogan, L.M. Ganley-Leal, J.D. Kurtis, **J.F. Friedman**. Schistosomiasis japonica during pregnancy is associated with elevated endotoxin levels in maternal and placental compartments. American Society for Tropical Medicine and Hygiene annual meeting, 2013.
- 45) **Friedman, JF**, Acosta, LP, Baltazar, P, Tallo, V, McDonald, EA, Wu, H, Pond-Tor, S, Watson, NL, Kurtis, JD, Olveda, RM. The impact of Praziquantel given at 12-16 weeks gestation on pregnancy outcomes: results of a double blind, placebo controlled trial. Platform presentation at American Society for Tropical Medicine and Hygiene annual meeting, 2014, New Orleans, LA.
- 46) Blake, RA, Baltazar, P, Acosta, LP, Olveda, RM, Tallo, V, **Friedman, JF**. Effect of Intra-Uterine Growth Restriction and Low Birth Weight on Stunting and Wasting during Infancy in a Cohort of Infants in the Philippines. American Society for Tropical Medicine and Hygiene annual meeting, 2014, New Orleans, LA.
- 47) Bennett, BW, Baltazar, P, Acosta, LP, Olveda, RM, Tallo, V, Caraballo, B, Ripp, K, Blake, R, Wu, H, **Friedman, JF**. Biomarkers to define the etiology of anemia at 6 and 12 months of age in a cohort

- of infants in Leyte, The Philippines*. American Society of Tropical Medicine and Hygiene annual meeting. November, 2014, New Orleans, LA. Published in *AJTMH*, Volume 91 (meeting supplement).
- 48) Park S, Pond-Tor S, Kabyemela ER, Fried M, Duffy PE, Kurtis JD and **Friedman JF**. The role of maternally derived antibodies to plasmodium falciparum schizont egress antigen-1 (pfsea-1) and natural exposure in the development of infants' antibodies to pfsea-1 American Society of Tropical Medicine and Hygiene annual meeting. October, 2015, Philadelphia, PA.
  - 49) E.A. McDonald, S. Park, S. Pond-Tor, R. Olveda, L. Acosta, V. Tallo, P. Baltazar, J.D. Kurtis, **J.F. Friedman**. The impact of cord blood adipokine levels on growth in early infancy. International Federation of Placenta Associations annual meeting. 2016.
  - 50) **E.A. McDonald**, R.M. Olveda, L.P. Acosta, V. Tallo, P.I. Baltazar, J.D. Kurtis, J.F. Friedman. Placental expression of iron trafficking genes in an LMIC context. American Society of Tropical Medicine and Hygiene annual meeting. November, 2016. Atlanta, GA.
  - 51) **Friedman JF**, Michelow I, Park S, Raj DK, Nixon CE, McDonald EA, Nixon CP, Pond-Tor S, Jha A, Kabyemela E, Fried M, Duffy PE and Kurtis JD. Cord blood anti-pfsea-1 and protection from severe malaria in infants. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 52) Jiz MA, Acosta LP, Baltazar P, Jarilla B, Tallo V, Sagliba M, Moreno A, Urbina M, Pablo A, Olveda R, Wu H, Kurtis J and **Friedman J**. Impact of maternal praziquantel treatment during pregnancy on offspring immune responses to schistosome antigens at six years of age in Leyte, The Philippines: Results from a randomized controlled trial. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 53) McDonald E, Olveda R, Acosta L, Tallo V, Baltazar P, Kurtis J and **Friedman J**. Placental expression of iron trafficking genes in the context of human helminthiasis. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 54) McDonald EA, McDonald EA, Olveda RM, Acosta LP, Tallo V, Baltazar PI, Kurtis JD and **Friedman JF**. Endotoxin levels at the maternal-fetal interface and the association with intrauterine growth. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 55) Park, S, Srikiatkachorn, A, Kalayanarooj, S, Macareo, L, Green, S, **Friedman, JF**, Rothman, AL. Use of structural equation models to predict dengue illness phenotype. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 56) Michelow IC, Tsai S-W, Nelson S, Park S, Raj DK, Nixon, CP, Nixon CE, Pond-Tor S, **Friedman JF**, Fried M, Duffy PE and Kurtis JD. A novel blood-stage vaccine candidate mediates protection against falciparum malaria in mice and children. American Society of Tropical Medicine and Hygiene annual meeting. November, 2017, Baltimore, MD.
  - 57) A. Joshi, P.I. Baltazar, R.M. Olveda, L.P. Acosta, V. Tallo, J.D. Kurtis, **J.F. Friedman**, E.A. McDonald. Maternal schistosomiasis japonica and the microbial content of breast milk. American Society of Tropical Medicine and Hygiene annual meeting. October, 2018, New Orleans, LA.
  - 58) McDonald EA, Vargas, Z, Baltazar, PI, Olveda RM, Acosta LP, Tallo, V, Kurtis, JD, **Friedman, JF**. Endotoxin at the maternal-fetal interface is associated with elevated expression of tissue inhibitor of metalloproteinases. American Society of Tropical Medicine and Hygiene annual meeting. October, 2018, New Orleans, LA.
  - 59) S. Park, Z. Vargas, A. Zhao, P.I. Baltazar, R. Olveda, **J.F. Friedman**, E.A. McDonald. Cord blood adiponectin and leptin are associated with a lower risk of stunting during infancy. International Federation of Placenta Associations annual meeting. September, 2018, Tokyo, Japan.
  - 60) Huang, A, Neale, M, Sagliba, M, Moreno, AJ, Urbina, MP, Jiz, MA, **Friedman, JF**. Knowledge, Attitudes, Practices, and Beliefs Regarding Prenatal Alcohol Consumption Among Women in Leyte,

The Philippines. American Society of Tropical Medicine and Hygiene annual meeting. November, 2020, Virtual.

- 61) Colt, S, Jiz, MA, Baltazar, R.M. Jarilla, B, Tallo, V, Olveda, L.P. Wu, HW, Kurtis, JD, **Friedman, JF**. Effect of maternal praziquantel treatment for *Schistosoma japonicum* infection on the offspring susceptibility and immunologic response to infection at age six. American Society of Tropical Medicine and Hygiene annual meeting. November, 2020, Virtual.
- 62) McDonald EA, Vargas, Z, Baltazar, PI, Tallo, V, **Friedman, JF**. *In utero* metabolic responses to maternal *S. japonicum* occur in a sex-dependent manner. American Society of Tropical Medicine and Hygiene annual meeting. November, 2020, Virtual.

## INVITED PRESENTATIONS

### **Local**

- 1) Lifespan and Brown University, “It’s A Small World: an IRB seminar on conducting international research”, December, 2004.
- 2) Invited guest speaker at Brown International Advanced Research Institutes (BIARI). Presentation title: “How to write a grant.” Given June of 2011, 2012, 2013.
- 3) Grand Rounds, Department of Pediatrics, Brown University and Hasbro Children’s Hospital, “Mechanisms of Morbidity in Schistosomiasis,” 2016.
- 4) Grand Rounds, Department of Pediatrics, Brown University and Hasbro Children’s Hospital, “Schistosomiasis and Pregnancy Outcomes, 2019

### **National**

- 1) Invited symposium speaker. Symposium title: “Pediatric Issues in Tropical Medicine.” Presentation title: “Helminth infection and nutrition and development.” At American Society of Tropical Medicine and Hygiene meeting, Washington, DC, December 2005.
- 2) Invited symposium speaker. Symposium title: “Malnutrition and Infection in the Tropics.” Presentation title: “Nutritional Status in Schistosomiasis and Malaria: Resolving the Controversies.” At American Society of Tropical Medicine and Hygiene meeting, New Orleans, LA, December 2008.
- 3) Invited guest speaker. Symposium title: “Global Health: Voices from the Vanguard.” Annual global health lecture series at University of Georgia, sponsored by Center for Tropical and Emerging Global Diseases. April 14<sup>th</sup>, 2009.
- 4) Invited symposium speaker. Symposium title: “The global burden of anemia: bridging pathogenesis and pathology.” Presentation title: “Anemia associated with malaria and schistosomiasis and how to more effectively address best treatment options.” At American Society of Tropical Medicine and Hygiene meeting, Washington, DC, November, 2009.
- 5) Invited symposium speaker. Symposium title: Neglected Tropical Diseases. Presentation title: “Schistosomiasis: Progress and Roadblocks in Eliminating a Major Cause of Childhood Morbidity.” Pediatric Academic Societies (PAS) meeting, Denver, CO, April/May, 2011.
- 6) Invited symposium speaker. Symposium title: “Filling the Treatment Gap in MDA - Individual Case Detection and Management of Clinical Schistosomiasis at the Level of Community Health Care.” Presentation title: “Identification of children with anemia and malnutrition.” At American Society of Tropical Medicine and Hygiene meeting, New Orleans, LA, November, 2014.
- 7) Invited guest speaker.” Mechanisms of adverse pregnancy outcomes in context of *S. japonicum*.” Harvard School of Public Health, Joint monthly seminar with global health and nutrition departments. Boston, MA, October 6, 2014. Hosted by Dr. Christopher Duggan.
- 8) Keynote Address, “The impact of Praziquantel given at 12-16 weeks gestation on pregnancy outcomes: results of a double blind, placebo controlled trial.” Pediatric Infectious Diseases Society Annual Meeting, St. Jude’s Hospital, Memphis, TN, March 10, 2017.

- 9) Davenport Cook Lecture, Yale University School of Medicine, Department of Pediatrics, New Haven, CT, April 24, 2019.
- 10) Grand Rounds, Department of Pediatrics, Columbia University, New York, NY, August 20, 2021
- 11) Department of Epidemiology of Microbial Diseases (EMD) Seminar and visiting scholar, Yale University School of Public Health, November 3, 2021
- 12) Program in International Nutrition Seminar Series and visiting professor, Department of Nutrition, Cornell University, April 17, 2022.

### **International**

- 1) Invited symposium speaker. Symposium title: “*S. japonicum* morbidity and immunology.” Presentation title: “Mechanisms of *S. japonicum* nutritional morbidity.” Presented at Research Institute of Tropical Medicine, Manila, The Philippines, August of 2005.
- 2) Invited symposium speaker. Symposium title: “Tropical Child Health.” Presentation title: “*S. japonicum* infection and pregnancy outcomes.” Presented at University of Amsterdam”, Amsterdam, Holland, May of 2006.
- 3) Invited symposium speaker. Symposium title: “14th International Symposium on Schistosomiasis.” Presentation title: “The impact of Praziquantel given at 12-16 weeks gestation on pregnancy outcomes: results of a double blind, placebo controlled trial.” Bahia, Brazil, August of 2015.
- 4) Invited symposium speaker. International Research Forum on Schistosomiasis. Manila, The Philippines. “PZQ pregnancy trial: Schistosomiasis in pregnancy” and “Evaluation of POC CCA for *S. japonicum*.” March 12-13, 2019

### GRANTS

#### **Current:**

- 1) NIH/NIAID Tropical Medicine Research Centers Award 6/1/22-3/31/27  
U01AI168560  
Tropical Medicine Research Centers Award (TMRC)  
“Biomarkers to Identify Individuals at Risk for Progression of *S. Japonicum* Associated Hepatic Fibrosis with Point of Care Test Development”  
The overall goal of this study is to build research capacity at the partner site (Research Institute for Topical Medicine in The Philippines) and to identify and validate serum biomarkers that identify individuals at risk for current hepatic fibrosis due to *S. Japonicum* and risk for fibrosis progression over three years with ultrasound as the gold standard.  
Role: MPI (Friedman/Jiz)
- 2) NIH/NICHHD 09/05/18-06/30/23  
R01HD095562  
\$412,397 annual direct costs  
“Phase II PK/PD driven dose finding trial of Praziquantel in children under four”  
The major goals of this study are to identify the optimal dose and frequency of dosing of praziquantel for the treatment of schistosomiasis among children ages 1-4. Pharmacokinetic and pharmacodynamic (PK/PD) studies will inform optimal dosing based on key outcomes such as cure rate, egg reduction rate, and morbidity measures. We will also examine the effect of environmental enteropathy on both PK/PD and morbidity measures.  
Role: MPI (Friedman/Bustinduy)
- 3) NIH/NIAID 2/15/15-1/31/25  
2 K24 AI112964-06 (Midcareer Investigator Award in Patient Oriented Research)

“Optimizing interventions to mitigate schistosomiasis-related morbidity among pregnant women and children” (Phase II/Renewal)

\$177,303 annual direct costs

\$14,184 annual indirect costs

The major goals of this study are to provide protected time for Dr. Friedman to mentor junior clinical faculty members in the conduct of patient oriented research and advance her own career development in areas of assessing gut health and characterizing placental microbiome. These activities will address both longitudinal studies and a randomized controlled trial to optimize interventions to mitigate morbidity among pregnant women their offspring, and young children.

Role: Principal Investigator

- 4) NIH/NIAID 08/11/17-07/31/22  
 R01AI127699  
 “Tfh responses to novel vaccine candidates and protection from pediatric falciparum malaria”  
 The goal of this R01 application is to evaluate T-follicular helper cellular responses to PfSEA-1 in a cohort of children and to relate these responses to resistance to malaria.  
 Role: Co-Investigator
- 5) NIH/GM COBRE 05/01/17-04/30/22  
 P20GM121298  
 COBRE “Centers of Biomedical Research Excellence”  
 “COBRE for Reproductive Health”  
 The goals of the COBRE award are to advance studies of women’s reproductive health while fostering the career development of promising junior investigators through the support of cores and mentoring by established NIH funded researchers.  
 Role: Leader of Biostatistics and Data Management Core (Core B)

**Pending:**

- NIH/NIAID Clinical Trials Planning Grant 07/01/22-6/30/23  
 R34AI170444  
Impact score of 18 at February 2022 study section meeting. Just in time requested and in process  
 “An RCT to evaluate treatment modalities to halt the progression of schistosomiasis-related hepatic fibrosis”  
 Role: PI

**Completed**

- 1) Albert Einstein Young Scientist Research Fellowship Summer 1991  
 Laboratory based research investigating B cell somatic hypermutation  
 \$2000 + housing  
 Role: Principal Investigator
- 2) N.I.H. Medical Student Summer Research Grant Summer 1993  
 Laboratory based research investigating malaria parasite invasion of hepatocytes  
 \$2500  
 Role: Principal Investigator
- 3) Brown University Foreign Studies Fellowship to Brazil 1995  
 Validation of a water contact questionnaire in an *S. mansoni* endemic village

- Travel cost paid  
Role: Principal Investigator
- 4) US Fulbright Fellowship to Kenya with CDC 1996-1997  
Impact of insecticide treated bednets (ITBNs) on the growth, nutritional status, and body composition of primary school children (Principal Investigator)  
RCT of impact of ITBNs on under 5 morbidity and mortality (co-investigator)  
\$22,000 per year  
Role: Principal Investigator
- 5) Children’s Hospital of Philadelphia Resident Research Grant 1999  
Travel funds to return to Kenya to oversee completion of ITBN project  
Approximately \$1500 in travel funds  
Role: Principal Investigator
- 6) National Institutes of Allergy and Infectious Diseases 8/2002-4/2008  
K23AI52125-01  
Mentored Patient Oriented Research Scientist Development Award  
\$115, 525 annual direct costs  
\$9, 242 annual indirect costs  
“Mechanisms of *S. Japonicum* Associated Anemia and Malnutrition”  
Role: Principal Investigator
- 7) National Institutes of Allergy and Infectious Diseases 09/2005-8/2007  
RO3AI64735  
Small Grants (RO3)  
\$50,000 annual direct costs  
\$23, 591 annual indirect costs  
“Inflammation, Iron, and Cognition in *S. japonicum*”  
Role: Principal Investigator
- 8) NIH/National Institutes of Allergy and Infectious Diseases 10/2003-9/2009  
Pediatric Research Loan Repayment Award  
Annual Repayment of \$13,300-\$28,640  
Role: Principal Investigator
- 9) NIH/National Institutes of Allergy and Infectious Diseases 4/2008-3/2012  
K02 Independent Scientist Award  
K02 4AI077708-01  
\$96,750 annual direct costs  
\$7,740 annual indirect costs  
“Mechanisms mediating adverse birth outcomes in the context of *S. japonicum* infection”  
Role: Principal Investigator
- 10) NIH/National Institutes of Allergy and Infectious Diseases 9/2009-8/2011  
3 K02 AI077708-02S1  
K02 Independent Scientist Award, Administrative supplement  
\$46,030 annual direct costs  
\$3,122 annual indirect costs



“Mechanisms mediating adverse birth outcomes in the context of  
*S. japonicum* infection”  
Role: Principal Investigator

- 11) Thrasher Fund 7/2008-3/2012  
*S. japonicum* and infant morbidity: iron and cognition  
\$57,794 annual direct costs  
The goals of this study are to investigate whether treatment for maternal Schistosomiasis japonicum at 12-16 weeks gestation will improve infant iron status, nutritional status, and cognitive development.  
Role: Principal Investigator
- 12) NIH/National Institutes of Allergy and Infectious Diseases 9/1/2012-8/31/2013  
R56-AI091753-01A1 (Kurtis)  
NIH National Institutes of Allergy and Infectious Diseases  
“Vaccines for human *Schistosomiasis japonica*”  
The major goal of this work was to identify vaccine candidates for using an immuno-epidemiologic approach.  
Role: Co-investigator
- 13) Gates Grand Challenges Explorations Round 8  
5/12-10/13  
Gates Foundation  
\$100,000  
“Fetal inflammation, cachexia, iron uptake, and LBW”  
The major goal of this work was to address the role of fetal inflammation in the pathogenesis of newborn iron insufficiency and low birth weight in the context of *S. japonicum* infection  
Role: Principal Investigator
- 14) NIH/National Institutes of Allergy and Infectious Diseases 09/2008-08/2012  
1R01AI076353 2008-2012  
\$378,274 annual direct costs  
\$166,828 annual indirect costs  
Role: Co-investigator  
“Targeted Vaccine Development for Pediatric Falciparum Malaria”  
The major goal of this work was to identify vaccine candidates for pediatric falciparum malaria using an immuno-epidemiologic approach  
Role: Co-investigator
- 15) NIH/National Institutes of Allergy and Infectious Diseases 04/2006-04/2013  
U01 AI066050 (converted from RO-1AI066050)  
RO1 Investigator Initiated converted to U01 due to clinical trial status  
\$454,721 annual direct costs  
\$165,647 annual indirect costs  
“*S. Japonicum* and pregnancy outcomes: an RCT”  
This study examined the effects of praziquantel treatment during pregnancy of women with *S. japonicum* infection. It will specifically address effects on maternal nutritional status and birth outcomes, with emphasis on both placental and extra-placental mechanisms.  
Role: Principal Investigator

- 16) NIH National Institutes of Allergy and Infectious Diseases 4/1/14-3/31/16  
 R21 AI AI107520-01 (Friedman)  
 \$150,000 annual direct costs  
 “*S.japonicum*, anemia, and iron transport in human pregnancy”  
 The goals of this study are to 1) assess the role of maternal anemia of inflammation and 2) fetal inflammation, in the pathogenesis of newborn iron insufficiency.  
 Role: Principal Investigator
- 17) NIH National Institutes of Allergy and Infectious Diseases 5/10/13-4/30/17  
 R01 AI101274  
 \$348,357 annual direct costs  
 “Schistosome Vaccines”  
 The major goal of this project is to identify and evaluate novel candidate antigens for a vaccine against human schistosomiasis japonica using immuno-epidemiologic approaches.  
 Role: Co-investigator
- 18) NIH/NIAID 08/01/12-07/31/17  
 Tropical Medicine Research Center (TMRC) Program Project  
 TMRC P50 AI098481-01  
 \$21,596 annual direct costs to RIH for Dr. Friedman’s project and Core B  
 “Schistosomiasis vaccine development and morbidity throughout the life course “  
 The major goals of this program project were to 1) investigate the role of fetal immune priming in the context of maternal schistosomiasis and its relationship to risk of infection and morbidity at age five and 2) investigate the efficacy of a caribou vaccine in early stage development on transmission to humans for this zoonotic infection.  
 Role: North American PI for one of two projects and one of three cores
- 19) NIH/GM COBRE 9/1/2013- 5/31/18  
 1P20GM104317-01  
 COBRE “Centers of Biomedical Research Excellence”  
 “Immune Based Interventions Against Infectious Diseases”  
 \$78,712 annual direct costs RIH subcontract for Biostatistics Core  
 ICubed and CIHR researchers will participate in the transformational step of COBRE funding to 1. Establish an integrated research community to provide leadership in translational infectious diseases immunology research to the Rhode Island community, 2. Build infrastructure for immunology research through support for Research Cores in Cellular Analysis and Sorting, Luminex High-Throughput Analysis, and Statistics, 3. Recruit promising junior investigators and provide mentoring by established NIH-funded researchers, and 4. Support a multidisciplinary research program led by junior investigators in translational infectious diseases immunology.  
 Role: Leader of Biostatistics and Data Management Core (Core B)
- 20) Brown Brazil Initiative 6/1/15-5/31/18 (NCE)  
 \$140,000 Total costs  
 “The role of microbial translocation in the pathogenesis of *S. mansoni* associated morbidity”  
 Role: Principal Investigator
- 21) NIH/NIAID P50 Program Project 8/1/13-7/31/18  
 P01 AI034533  
 “Flavivirus Infections: Pathogenesis and Prevention”  
 \$19,535 annual direct costs RIH subcontract for Core B (\$1,818,530 annual direct costs P01)

The major goals of this program project are to understand immunologic and clinical risk factors for severe dengue infection to ultimately identify vaccine targets and patients at greatest risk for severe disease. The Statistics and Data Management Core will provide key support for individual research projects aiding them in management and analysis of complex data.

Role: Leader of Statistics and Data Management Core

- 22) NIH/NIAAA 01/06/17-07/01/21  
 R01AA024092 \$189,325 annual direct costs  
 “Undernutrition-helminth-alcohol interactions, placental mechanisms, and FASD risk”  
 The major goals of this study are to understand how helminthiasis, alcohol, and undernutrition interact to disrupt gut integrity and influence translocation of microbial translocation. These studies will examine these exposure consequently impact placental inflammation, birth outcomes, and infant neurocognitive development.  
 Role: Multiple PI
- 23) NIH/NIAID 02/15/15-1/30/20  
 K24 AI112964 (Midcareer Investigator Award in Patient Oriented Research)  
 \$147,901 annual direct costs  
 \$11,386 annual indirect costs  
 “Microbial translocation, inflammation, and adverse pregnancy outcomes in humans” (Phase 1)  
 Role: Principal Investigator  
 The major goals of this study are to provide protected time for Dr. Friedman to mentor junior clinical faculty members in the conduct of patient oriented research and advance her own career development in areas of sophisticated Path Modeling analyses. These activities will address the role of microbial translocation and other insults in the pathogenesis of adverse pregnancy outcomes.

### HOSPITAL TEACHING ROLES

Introduction to Physical Diagnosis, Neonatal examination, Harvard Medical School, and Brigham and Women’s Hospital, Boston, MA	2000-2001
Medical Student and Resident Preceptor, continuity clinic Two sessions per week	2002-
Medicine in Action Program, Preceptor	2003
Faculty advisor for Pediatrics-Psychiatry-Child Psychiatry Residents 6 residents per year	2003-present
Doctoring Course Mentor for Thelma Alleyne	2005-2007
Longitudinal co-preceptor for Janell Thompson (BIOL 3160)	2005-2006
Longitudinal preceptor for Carly Levy (BIOL 3160)	2006
Women in Medicine mentor to Laura Hacker	2006-2007
Longitudinal Preceptor for Bethany Stafford (BIOL 3160)	2007
Longitudinal Preceptor for Jean Turner (BIOL 3160)	2007-2008

Women in Medicine mentor for two medical students with international health interests (Whitney Eng and Atena Asiaii)	2008-2009
Longitudinal preceptor for Nusrat Zaman (BIOL 3160)	2009
Primary mentor for Dr. Adam Levine's Thrasher Foundation Early Career Award grant entitled "Assessment of severe dehydration in children with diarrhea using ultrasound and clinical exam."	2010-2012
Co-mentor for Dr. Ian Michelow's NIH (K08) Career Development Award	2012-2017
Primary mentor for Dr. Adam Levine's successful NIH (K01) Career Development Award. Dr. Levine awarded an R01 in 2018	2013-2018
Primary mentor for Dr. Emily McDonald's successful NIH (K01) Career Development Award	2014-2019
Longitudinal preceptor for Honora Burnett (BIOL 3160)	2014
Longitudinal preceptor for Jeanne Delgado (BIOL 3160)	2015
Longitudinal Integrated Clerkship preceptor for Abbas Noor	2015-2016
Scholarship Oversight Committee, Susanna Winston, Fellow in Pediatric Infectious Diseases, Hasbro Children's Hospital, Alpert Medical School of Brown University	2014-2015
Scholarship Oversight Committee, Elizabeth Dawson-Hahn, Fellow in General Academic Pediatrics, Seattle Children's Hospital	2015-2016
Scholarship Oversight Committee, Jamie Fierce, Fellow in Neonatology, Women and Infants' Hospital, Alpert Medical School of Brown University	2015-2017
Scholarship Oversight Committee, Daniel Blatt, Fellow in Pediatric Infectious Diseases, Hasbro Children's Hospital, Alpert Medical School of Brown University	2017-2020
Primary mentor for Dr. Silvia Chiang's successful NIH (K01) Career Development Award	2017-2022
Primary research mentor, Eunji Jang, MD, Pediatric Infectious Diseases Fellow	2020-

#### UNIVERSITY TEACHING ROLES

Brown University, "Burden of Global Diseases" (PHP 1070) course Guest Lecturer, one lecture each year.	Fall 2002-present
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Brown University, “Nutritional Problems in the Developing World” (PHP 1680) Guest Lecturer	September, 2002
Brown University, “Health and Human Reproduction” (PHP 0340) Guest Lecturer	February, 2004
Undergraduate independent study professor for Kara Gaston “Mechanisms of Anemia in <i>S. Japonicum</i> ” (BC195/196)	Spring, 2003
Graduate independent study professor for Amara Ezeamama (PHP1970) “Assessment of Reliability of Cognitive tests among Filipino children”	Spring, 2003
Second reader, undergraduate thesis for Christina Mair	Spring, 2003
Second reader, undergraduate thesis for Hemal Kanzaria	Spring, 2003
Graduate independent study professor for Amara Ezeamama (PHP1970) “Cognitive Impairment in <i>S. Japonicum</i> ”	Fall, 2003
Second reader, undergraduate thesis for Erin Gee “Schistosomiasis and Nutritional Status: Infection Induced Cachexia and the Effect of Cytokines”	Spring, of 2004
Graduate independent study professor for Amara Ezeamama “Cognitive Impairment in <i>S. Japonicum</i> ”	Spring of 2004
Small group leader, Pathophysiology for second year medical students, Maternal and Child Health Section (BIO351)	Spring of 2004-2008
Primary research mentor and primary thesis reader for Priya Mital, MPH candidate	Fall of 2004-2006
MPH advisor for Priya Mital and Karine Tolentino	Fall of 2004-2006
Graduate independent study professor for Amara Ezeamama (PHP1970) “Functional significance of polyparasitic helminth infection”	Fall of 2004
PhD thesis committee member for Amara Ezeamama, candidate in Community Health	Fall of 2003-2006
Primary Mentor for PhD student, Hannah Coutinho, MD	Fall of 2004-2006
Primary Mentor for post-doctoral student, Tjalling Leenstra, MD, PhD	Fall of 2004-2006
Undergraduate independent study (BC195/196) advisor for Tereen Alireza	2005-2006
Foreign Studies Fellowship advisor for Lisa Norlander	Fall, 2006

MPH advisor for Laura Gast	Fall of 2006-
PhD thesis committee member for Mario Jiz, candidate in Patho-Biology	Fall of 2006-
MPH advisor for Kristin Fortin	Fall of 2007-2009
MPH advisor for Marc Schaefer	Fall of 2007-2009
MPH thesis committee, second reader, Christine Tompkins (Ambulatory Pediatrics fellow)	Spring of 2008
Global Health Scholarly Concentration advisor and research mentor for Nitin Aggarwal (medical student)	2007-2008
Small group leader for second year medical students, Human Reproduction, Growth & Development (BIOL 3674)	2009-2011
MPH advisor for Kimberly Dickinson, Esther Dorzin, and Julia Shaw	2009-2011
MPH assistantship (summer and academic year) and MPH advisor for Ashley Sohn	Summer 2009-May 2010
Small group leader for second year medical students, Epidemiology	Fall 2009
MPH thesis advisor and first reader for Danielle Eskens and Julia Shaw	Summer of 2010-May 2011
MPH advisor for Amanda Borges, Krithika (Meera) Muruganandan, and Devin Tsai	2010-2012
MPH advisor for Priyanka Joshi and Ampson Hagan	2011-2013
Undergraduate Biology Honors thesis second reader for Lauren Pischel	2011
Primary mentor for Albert Medical Student Rachel Blake. Successful application for Summer Assistantship funding and a recipient of the American Society of Tropical Medicine and Hygiene's Benjamin Keen travel award.	2013
Primary mentor for Albert Medical Student Kelsey Ripp. Successful application for Summer Assistantship funding and a National AOA Research grant awardee	2013
Primary mentor for Albert Medical Student Meredith Adamo. Successful application for Summer Assistantship funding.	2014
Primary mentor and thesis reader for MPH student Brady Bennett	2014-2015
Brown University, "Introduction to Methods in Epidemiological	2013 & 2014

Research” course (PHP2120)

Guest Lecturer, one lecture each year.

Brown University, “Interdisciplinary Perspectives on Disability and Death in the Global South (PHP2710)

2019 & 2020

Guest Seminar speaker, one seminar each year

Primary mentor for MPH student Bianca Falcone

2015-2017

Primary mentor for Alpert medical student Matthew Neale, Successful application for Summer Assistantship funding and a recipient of the American Society of Tropical Medicine and Hygiene’s Benjamin Keen travel award.

2017-21

Primary mentor for Alpert medical student, Alice Huang Successful application for Summer Assistantship funding and a recipient of the American Society of Tropical Medicine and Hygiene’s Benjamin Keen travel award.

2018-

Primary mentor for Alpert medical student Spencer Darveau, Successful application for Summer Assistantship funding, recipient of the American Society of Tropical Medicine and Hygiene’s Benjamin Keen travel award, and Brown University Emerging Infectious Disease Scholar.

2019-

PhD (Epidemiology) Primary Mentor for MD/PhD candidate Christopher Barry

2018-

Faculty advisor for pre-clinical elective “Last Mile Healthcare Delivery”

2018-

Primary Mentor for post-doctoral student, Susannah Colt, PhD

2019-

Primary mentor for Alpert medical student Mackenzie Bruzzio, Successful application for Summer Assistantship funding and recipient of the American Society of Tropical Medicine and Hygiene’s Benjamin Keen travel award

2021-