Michael Boivin, PhD, MPH
Associate Professor, Psychiatry and Neurology/Ophthalmology

Research Interests

A former Fulbright research scholar to the Democratic Republic of Congo (1990-91) and to Uganda (2003-04), as well as an adjunct associate professor of psychiatry at the University of Michigan Medical School. Dr. Boivin presently leads NIH-NICHD sponsored studies in Uganda pertaining to the neurocognitive rehabilitation in children surviving severe malaria and early caregiver training to enhance cognitive and psychosocial development in children with HIV. This includes the NIMH R34 study on the cognitive rehabilitation of children with HIV in an impoverished area of rural Uganda. He is serving as Protocol Chair of an NIH-sponsored substudy in IMPAACT 1060 RCT protocol (p1104s) to conduct a neuropsychological evaluation of HIV-infected children on different antiretoviral treatment arms in resource limited African settings. He is also collaborating on studies evaluating the neurcognitive effects cerebral malaria in Malawian and in Ugandan children, as well as on a recently completed R21 study on the developmental effects of maternal anemia in very young children in Benin. Dr. Boivin presently directs the neuropsychological assessment program in an NIH/NIEHS-sponsored study of konzo, a neurotoxic disease from poorly processed cassava in the DR Congo. Over the past 25 years he has pioneered the application of neuropsychological assessment in gauging the neurocognitive impact of public health risk factors and interventions in African children. Much of this work is encapsulated in a co-edited book on the *Neuropsychology of Children in Africa: Perspectives on Risk and Resilience* (New York: Springer Publishing, 2013).

Recent Funding Received

RO1 HD073296 (Boivin, Fowler) 08/01/2012 – 07/30/2017
Developmental and Growth Outcomes for ARV Exposed HIV Uninfected African Children.
Role: PI

R03HD070723 (Boivin, Bass) 03/01/2013 – 02/30/2017
Type 3 Supplemental Grant: Enhancing Ugandan HIV-affected child development with caregiver training. Role: PI

R01HD070723 (Boivin, Bass) 08/01/11 – 07/31/16
Enhancing Ugandan HIV-affected child development with caregiver training. Role: PI

D43TW009082 (John) 06/01/11 - 05/31/16
R*esearch training in infection and neurodevelopment in Uganda.* Role: Mentor

R01HD064416 (Boivin, Nakasujja) 04/01/2011-03/31/2016
Computerized cognitive rehabilitation in children after severe malaria. Role: PI

R01ES019841 (Tshala-Katumbay) 04/01/2011-03/31/2016
Toxicodietary and genetic determinants of susceptibility to neurodegeneration. Role: Co-I

R34MH084782 (Boivin) 03/01/2010 – 02/28/2014.
Neuropsychological Benefits of Cognitive Training in Ugandan HIV Children. Role: PI

MSU Discretionary Funding Initiative (DFI) (Boivin) 09/01/2012 – 08/21/2014
Office of the Vice President for Research and Graduate Studies $60,000

*Neuropsychological Benefits of Cognitive Training in Ugandan and Kenyan HIV Children.*Role: PI

University of Michigan Global Reach Faculty-Mentored Structured Summer Overseas Projects for Medical Students. (Giordani, Boivin) 06/01/2010-8/31/2013
Cognitive Rehabilitation with HIV positive Children in Uganda. Role: Co-PI

RO1NS055349 (John) 5/01/2008-4/30/2013
NIH/NINDS $2,660,830
Pathogenesis of Cognitive/neurologic Deficits in Central Nervous System Malaria (Uganda). Role: Co-I

U01HD064698 (John) 10/01/2009 – 01/30/2014
Acute vs. Delayed Iron Therapy: Effect on Iron Status, Anemia and Cognition. Role: Other Significant Contributor

UM1 AI068632 (Boivin) 06/01/2012 – 05/31/2015
A Longitudinal Developmental and Neuropsychological Assessment of the P1060 Clinical Trial Cohorts and HIV-uninfected Controls. Role: Protocol Chair

R01HD074261 (Butler) 08/01/2012 – 06/30/2016
Comparative Effectiveness of Pediatric HIV Disclosure Interventions in Uganda. Role: Consultant

R01HD071664 (van der Kouwe, Willem, Meintje, Laughton) 09/01/11-06/30/16
Longitudinal Neuroimaging and Cognitive Study of HIV-Infected Children. Role: Consultant

R21MH097115 (Huang) 3/01/2013-2/30/2015
Disseminating a School Based Child Mental Health Prevention Program in Uganda. Role: Consultant

R34MH082663 (Boivin) 4/01/2008-2/28/2012
Cognitive and psychosocial benefits of caregiver training in Ugandan HIV children. Role: PI

Templeton Advanced Research Program (Boivin) 6/01/2006-11/28/2010
*Breast cancer disease and treatment: modeling the relationships among spiritual and emotional well-being, quality of life, neuropsychological function, and immunological resilience.*Role: PI

R21HD060524 (Bodeau-Livinec) 03/01/2010 – 02/28/2012
Anemia in pregnancy in Benin and impact on cognitive function in childhood. Role: Consultant

R21MH083166 (Wong) 5/01/2008-4/30/2010
Variation in neurocognitive impairment of HIV Ugandan children by HIV subtype. Role: Co-I

Recent Selected Publications

- **Boivin, M.J.**, Okitundu, D., Makila-Mabe, B., Sombo, M-T., Mumba, D., Tylleskar, T., Page, C., Tamfum-Muyembe, J-J., & Tshala-Katumbay, D. (2013). Neuropsychological effects of konzo: a neuromotor disorder associated with cassava. *Pediatrics*, in press. (IF = 5.44).

- **Boivin, M.J.**, Bangirana, P., Nakasujja, N., Page, C., Shohet, C., Givon, D., Bass, J., Opoka, R.O., & Klein, P. (2013). A year-long caregiver training program to improve neurocognition in preschool Ugandan children affected by HIV. *Journal of Developmental and Behavioral Pediatrics*, in press. (IF = 2.14).

- Bangirana P., Menk J., John C.C., **Boivin M.J.,** & Hodges J.S. (2013). The association between cognition and academic performance in Ugandan children surviving malaria with neurological involvement. *PLoS One,* in press. (IF = 5.68)

- Postels, D.G., Chimalizeni, Y.F., Mallewa, M., **Boivin, M.J**., & Seydel, K.B. (2013). Pediatric cerebral malaria: a scourge of Africa. *Future Neurology*, 8(1), 67–85. (IF = 2.46)

- Tshala-Katumbay, D., Mumba, D., Okitundu, D., Kazadi, K., Banea, M., Tylleskar, T., **Boivin, M.J.,** & Tamfum-Muyembe, J-J. (2013) Cassava food toxins, konzo disease and neurodegeneration in sub-Sahara Africans. *Neurology*, in press. (IF = 8.31).

- Joseph, J., Achim, C., **Boivin, M.**, Brew, B., Clifford, D., Colosi, D., Ellis, R., Heaton, R., Gallo-Diop, G., Grant, I., Kanmogne, G., Kumar, K., Letendre, S., Marcotte, T., Nath, A., Pardo, C., Paul, R., Pulliam, L., Robertson, K., Royal, W., Sacktor, N., Sithinamsuwan, P., Smith, D., Valcour, V., Wigdahl, B., Wood, C., & Rausch, D., (2013). Global NeuroAIDS Roundtable. *Journal of Neurovirology*, in press. (IF = 2.31).

- Bergemann, T.L., Bangirana, P., **Boivin, M.J.,** Connett, J.E., Giordani, B.J., & John, C.C. (2012). Statistical approaches to assess the effects of disease on neurocognitive function over time. *Journal of Biometrics and Biostatistics*, S7:016. doi:10.4172/2155-6180.S7-016. (IF = 1.50).

- Ruel, T.D., **Boivin, M.J.**, Boal, H.E., Bangirana, P., Charlebois, E., Havlir, D.V., Rosenthal, P.J., Dorsey, G., Achan, J., Akello, C., Kamya, M.R., & Wong, J.K. (2012). Impairment of neurocognitive and motor function in HIV-infected Ugandan children with high CD4 Counts. *Clinical Infectious Disease*; doi: 10.1093/cid/cir1037. (IF = 8.19).

- Bangirana, P., Allebeck, P., **Boivin, M.J.**, John, C.C., Page, C., Ehnvall, A., & Musisi, S. (2011). Cognitive rehabilitation in Ugandan children after severe malaria: effects on cognition, academic achievement and behaviour. *BMC Neurology*, *11:96*. http://www.biomedcentral.com/1471-2377/11/96.* (IF = 2.80).

- Bangirana, P., Musisi, S., **Boivin, M.J.,** Ehnvall, A., John, C.C., Bergemann, T.L., & Allebeck, P. (2011). Malaria with neurological involvement in Ugandan children: effect on cognitive ability, academic achievement and behaviour. *Malaria Journal* 10:334; http://www.malariajournal.com/content/10/1/334.* (IF = 3.49).

- **Boivin, M.J.**, Gladstone, M.J., Vokhiwa, M., Birbeck, G.L., Magen, J.G., Page, C., Semrud-Clikeman, M., Kauye, F., & Taylor, T.E. (2011). Developmental outcomes in Malawian children with retinopathy-confirmed cerebral malaria. *Tropical Medicine & International Health,* Mar;16(3):263-271. doi: 10.1111/j.1365-3156.2010.02704.x. Epub 2010 Dec 8. * (IF=2.33*)*

- Blow, A., Swiecicki, P., Haan, P., Osuch, J., Symonds, L., Smith, S., Walsh, K., & **Boivin, M.** (2011). From an out of the blue diagnosis to acceptance/peace: the emotional journey

of women experiencing a breast abnormality. *Qualitative Health Research*, 21. 10 (Oct 2011): 1316-1334.* (IF = 1.66)

- **Boivin, M.J.**, Ruel, T.D., Boal, H.E., Bangirana, P., Cao, H., Eller, L-A., Charlebois, E., Havlir, D.V., Kamya, M.R., Achan, J., Akello, C., & Wong, J.K. (2010). HIV Subtype A is associated with poorer neuropsychological performance compared to subtype D in ART-naïve Ugandan children. *AIDS*. 24(8):1163-1170, May 15, 2010.* (IF = 5.84)

- **Boivin, M.J.**, Busman, R.A., Parikh, S.M., Bangirana, P., Page, C.F., Opoka, R.O., & Giordani, B. (2010). A pilot study of the neuropsychological benefits of computerized cognitive rehabilitation in Ugandan children with HIV. *Neuropsychology*, Vol. 24(5), 667–673.* (IF = 2.99)

- **Boivin, M.J.**, Ryan, K.A., , Aldridge, K.A., & Giordani, B. (2011). Transfer-of-learning effect with the Tactual Performance Test using familiar and unfamiliar shapes with American, Lao, and Senegalese Children. *Developmental Neuropsychology*, 36:1 (in press).* (IF = 1.96)

- **Boivin, M.J.**, Bangirana, P., & Smith, R.C. (2010). The relationship between visual-spatial and auditory-verbal working memory span in Senegalese and Ugandan children. *PLoS ONE,* 5(1):e8914. doi:10.1371/journal.pone.0008914.* (IF = 5.68)