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Human Biology Editors

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Holly M. Mortensen, Ph.D.

Since winning the 2004 AAAG student prize in Tempe, AZ, my career has taken some interesting turns that have led me away from academia to a career with the US Federal government at the Environmental Protection Agency (EPA). I completed my Ph.D. at the University of Maryland (UMD), College Park in 2008. My dissertation project started as a collaboration between my MA advisor at Stanford (Joanna Mountain) and my Ph.D. advisor at UMD, College Park (Sarah Tishkoff) to look at genetic variation amongst linguistically diverse Tanzanian populations, and my presentation of this topic earned the AAAG student prize (Knight et al. 2003; Tishkoff et al. 2007). After returning from Tanzania in 2002, I decided to look at genetic variation in the *N-acetyltransferase* loci, three drug metabolizing enzyme loci implicated in the metabolism of the anti-tuberculosis drug isoniazid, in these populations and other African and global population (Mortensen et al. 2011). My desire to become more proficient in the analysis of large datasets led me away from the bench to a postdoctoral fellowship at the EPA's National Center for Computational Toxicology working with Richard Judson. For my postdoctoral project, I was asked to characterize the genes and biological pathways targeted by the hundreds of *in vitro* high-throughput assays carried out by the EPA as part of the ToxCast Project (Judson et al. 2010, 2012). After having our first daughter in 2011, I returned to work in another area of the EPA's Office of Research and Development (ORD). I am currently working as a Research Bioinformatician with the Research Cores Unit of the National Health and Environmental Effects Laboratory, and have happily moved back to the analysis of genomic and proteomic data, where I am working to establish best practices of analysis of next generation sequence data within the EPA's ORD.

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Judson, R.S., H. M. Mortensen, I. Shah, T. B. Knudsen, and F. Elloumi 2012. Using pathway modules as targets for assay development in Xenobiotic screening. *Mol. Biosyst.* 8:531–542.

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Mark Zlojutro, Ph.D.

I received the AAAG student prize in 2004 for my presentation entitled "Mitochondrial DNA variation in Yakutia: The genetic structure of an expanding population." This study explored the molecular signatures associated with demographic expansion by examining mtDNA variation in the Yakuts (Zlojutro et al. 2009b), a Native Siberian population believed to have originated from Central Asia during the rise of the Mongol Empire in the 12th century and rapidly expanding in recent centuries under Russian governance. This research formed the basis for my master's thesis at the University of Kansas, which was honored with the Midwestern Association of Graduate Schools & UMI Dissertation Publishing's Distinguished Master's Thesis Award in 2007. For my Ph.D. dissertation topic, my focus remained in population genetics and the reconstruction of human history via phylogeographic methods, but shifting to the mtDNA and Y-chromosome variation of the Aleuts (Zlojutro et al. 2006, 2009a), the native inhabitants of the Aleutian archipelago off the southwest coast of Alaska, and its implications for the peopling of the New World. This study enabled me to finally participate in fieldwork, collecting DNA samples with my advisor, Dr. Michael Crawford, in the eastern Aleutian Islands in 2005 and 2006, and thus be anointed as a "true anthropologist"! I graduated with my Ph.D. from Kansas in 2008 and now conduct research at the Texas Biomedical Research Institute in San Antonio, working with Dr. Laura Almasy on the genetic architecture of psychiatric disorders, specifically alcohol dependence and schizophrenia (Zlojutro et al. 2011).

Zlojutro, M., N. Manz, M. Rangaswamy, X. Xuei, L. Flury-Wetherill, D. Koller, L. Beirut, R. Cloninger, A. Goate, V. Hesselbrock, S. Kuperman, J. Nurnberger, J. Rice, M. Schucki, T. Foroud, H. J. Edenberg, B. Porjesz, and L. Almasy. 2011. Genome-wide association study of theta band event-related oscillations identifies serotonin receptor gene *HTR7* influencing risk of alcohol dependence. *Am. J. Med. Genet.* 156B:44–58.

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Ellen E. Quillen, Ph.D.

After winning the 2010 student prize for "The role of selection-nominated candidate genes in determining Indigenous American skin pigmentation" (see Quillen et al. 2012a), I completed my Ph.D. in anthropology under Mark Shriver at Penn State in December of 2010 and began my postdoctoral work with Laura Almasy at Texas Biomedical Research Institute. I have continued my work on skin pigmentation in Indigenous-American populations (Quillen and Shriver 2011), with particular interest in the genetics of tanning and burning in response to ultra-violet radiation. Additionally, I have expanded my interests to include biomedical research on the genetic and epigenetic underpinnings of heart disease, schizophrenia, and alcoholism. Uniting these fields is my current focus, applying statistical methods to disentangle the genetic contributors to human variation in admixed populations. Recent efforts have focused on iris texture (Quillen *et al.* 2011), paraoxonase activity (Quillen *et al* 2012b), and the relationship of genetic and phenotypic variation to self-identified ethnicity in Colombia. I joined the AAAG outreach committee, serving as the chair for the past year, which has developed new networking events at the AAPA and ASHG meetings. I am also the founding editor of the Human Biology Room of the Nature Education Knowledge Project Biological Anthropology section.

Quillen, E. E., M. Bauchet, A. W. Bigham, M. E. Delgado-Burbano, F. X. Faust, Y. C. Klimentidis, X. Mao, M. Stoneking, and M. D. Shriver. 2012a. *OPRM1* and *EGFR* contribute to skin pigmentation differences between Indigenous Americans and Europeans. *Hum. Genet.* Epub ahead of print, DOI: 10.1007/s00439-011-1135-1.

Quillen, E. E., J. S. Guiltinan, S. Beleza. J. Rocha, R. W. Pereira, and M. D. Shriver. 2011. Iris texture traits show associations with iris color and genomic ancestry. *Am. J. Hum. Biol.* 23:567–569.

Quillen, E. E., D. L. Rainwater, T D. Dyer, M. A. Carless, J. E. Curran, M. P. Johnson, H. H. H. Göring, S. A. Cole, S. Rutherford, J. W. MacCluer, E. K. Moses, J. Blangero, L. Almasy, and M. C. Mahaney. 2012b. Novel associations of non-structural loci with paraoxonase activity. *J. Lipids*, in press.

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