

Ellen E. Quillen
Curriculum Vitae
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**Contact
Information**

Department of Genetics, Texas Biomedical Research Institute
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**Education
and Training**

Texas Biomedical Research Institute
(formerly Southwest Foundation for Biomedical Research)
Postdoctoral Scientist, January 2011 – present
Advisor: Laura Almasy

Pennsylvania State University, University Park, PA
PhD, Anthropology, December 2010
Dissertation Title: *Identifying genes related to Indigenous American-specific changes in skin pigmentation.*
Dissertation Advisor: Mark D. Shriver

MA, with distinction, Anthropology, May 2007
Master's Paper: *Population-level variation in human iris texture shows ancestry association.*
Thesis Advisor: Mark D. Shriver

University of Kansas, Lawrence, KS
BS, with honors, Genetics, May 2005
Thesis Title: *Genetic differentiation in Newfoundland outports.*
Thesis Advisor: Michael H. Crawford

**Professional
Memberships**

American Society of Human Genetics
American Association of Physical Anthropology
American Association of Anthropological Genetics
International Genetic Epidemiology Society

**Grants and
Awards**

2012 Wenner-Gren Foundation Post-PhD Research & Osmundsen Initiative Grant
2010 Aleš Hrdlička Award for Outstanding Student Paper at AAPA Meeting
2010 American Association of Anthropological Genetics Outstanding Student Presentation
2009 NSF Doctoral Dissertation Improvement Grant # 0925976
2009 Research and Graduate Studies Office Dissertation Support Grant, Penn State Univ
2009 William S. Pollitzer Student Travel Award from American Assoc. of Physical Anthro
2009 Post-Comprehensive Baker and Hill Fellowships from PSU Department of Anthro
2008 Pre-Comprehensive Baker and Hill Fellowships from PSU Department of Anthro

**Research
Interests**

Current research focuses on the genetic and epigenetic underpinnings of schizophrenia and alcoholism with an emphasis on endophenotypes. Ongoing projects also include the evolution of skin pigmentation in Indigenous-American populations with particular interest in the genetics of tanning and burning in response to ultra-violet radiation. Additionally, I am interested in the role of stratification in apparent pleiotropic interactions, MHC variability and hormone levels, comparisons of traditional and modern methods of quantifying skin pigmentation, and the distribution of genetic ancestry in Brazil and Colombia.

- Publications** **Quillen EE**, Chen X-D, Almasy L, Yang F, He H, Li X, Wang X-Y, Liu T-Q, Deng H-W, Kranzler HR, Gelernter J. Genome-wide association of alcohol dependence and related traits in an isolated rural Chinese sample. *Submitted*.
- Swiatoniowski AK, **Quillen EE**, Shriver MD, Jablonski NG. Comparing von Luschan skin color tiles and modern spectrophotometry for measuring human skin pigmentation. *Submitted*.
- Quillen EE**, Bauchet M, Bigham AW, Delgado-Burbano ME, Faust FX, Klimentidis YC, Mao X, Stoneking M, and Shriver MD. (2012) OPRM1 and EGFR contribute to skin pigmentation differences between Indigenous Americans and Europeans. *Human genetics*. 131(7):1073-1080.
- Quillen EE**, Rainwater DL, Dyer TD, Carless MA, Curran JE, Johnson MP, Göring HHH, Cole SA, Rutherford S, MacCluer JW, Moses EK, Blangero J, Almasy L, Mahaney MC. (2012) Novel associations of nonstructural loci with paraoxonase activity. *Journal of Lipids* 2012: 1-7.
- Quillen EE** and Shriver MD. (2011) Unpacking human evolution to find the genetic determinants of human skin pigmentation. *J Invest Dermatol* 131: E5-E7.
- Quillen EE**, Guiltinan JS, Beleza S, Rocha J, Pereira RW, Shriver MD. (2011) Iris texture traits show associations with iris color and genomic ancestry. *Am. J. Hum. Biol.* 23:567-569.
- Quillen EE** and Shriver MD. (2008) *SLC24A5*: exchanging genetic and biochemical knowledge. Pigment Cell and Melanoma Research. *Pigment Cell Melanoma Res.* 21(3):344-5.
- Bauchet M, McEvoy B, Pearson LN, **Quillen EE**, Sarkisian T, Hovhannesyan K, Deka R, Bradley DG, Shriver MD. (2007) Measuring European population stratification with microarray genotype data. *American Journal of Human Genetics*. 80(5): 948-56.
- Quillen EE**, Haslam GC, Samra HS, Amani-Taleshi D, Knight JA, Wyatt DE, Bishop SC, Colvert KK, Richter ML, Kitis PA. (2006) Ecto-adenylate kinase and plasma membrane ATP synthase activities of human vascular endothelial cells. *Journal of Biochemistry*. 281(30):20728-37.
- Invited Talks** Race and Ancestry in the Era of Personalized Genomics. April 2012. Department of Sociology and Anthropology, University of Rhode Island.
- The genetics of skin pigmentation. November 2011. Hampton University Skin of Color Research Institute Symposium. Hampton, VA.
- Abstracts** **Quillen EE**. Beyond Melanoma: Skin Color and Disease Risk. Podium Presentation. 2013 American Association for the Advancement of Science Annual Meeting. Boston, MA.
- Quillen**, Carless MA, Neary J, Kos MZ, Gur RC, Pogue-Geile MF, Prasad K, Blangero J, Nimgaonkar VL, Gur RE, Almasy L. Variation in Gene Expression Related to Schizophrenia-Associated Neurocognitive Endophenotypes. Poster Presentation. 2012 American Society of Human Genetics Annual Meeting. San Francisco, CA.
- Quillen EE**, Göring HHH, Drigalenko E, Johnson MP, MacCluer JW, Dyer TD, Moses EK, Mahaney MC, Curran JE, Blangero J, Almasy L. Evidence for HDL-associated variation in T-cell receptor gene expression. Poster Presentation. 2012 International Genetic Epidemiology Society Annual Meeting. Stephenson, WA.

- Quillen EE**, Duggirala R, Curran JE, Carless MC, Dyer TD, Göring HHH, Almasy L, Lehman DM, Blangero J. Neurological and signaling pathways are associated with variation in skin color. Poster Presentation. 2012 American Association of Physical Anthropology Annual Meeting. Portland, OR.
- Quillen EE**, Rainwater DL, Dyer TD, Carless MA, Curran JE, Johnson MP, Göring HHH, MacCluer JW, Moses EK, Blangero J, Almasy L, Mahaney MC. Novel associations of SNPs and transcripts with paraoxonase activity in Mexican American families. Poster Presentation 2011 International Congress on Human Genetics. Montreal, CA.
- Quillen EE**, Bauchet M, Stoneking M, Shriver MD. *ASIP* and *PAX3* contribute to skin pigmentation differences between European and Native American Populations. Poster presentation, 2011 American Association of Physical Anthropology Annual Meeting. Minneapolis, MN.
- Quillen EE**, Bigham AW, Mei R, Shriver MD. The role of selection-nominated candidate genes in determining Indigenous American skin pigmentation. Podium presentation, 2010 American Association of Physical Anthropology Annual Meeting. Albuquerque, NM.
- Quillen EE**, Bigham AW, Mei R, Shriver MD. Evidence of Indigenous American specific selection in skin pigmentation genes. Poster Presentation, 2009 American Society of Human Genetics Annual Meeting. Honolulu, HI.
- Quillen EE**, Beleza S, Kingsley DM, Kittles RA, Shriver MD. The effect of *Kitlg* on human skin pigmentation. Poster presentation, 2009 American Association of Physical Anthropology Annual Meeting. Chicago, IL.
- Quillen EE**, Beleza S, Kittles RA, Periera RW, Rocha J, Frudakis T, Shriver MD. Estimating pleiotropy in pigmentation traits using admixed populations. Podium Presentation, 2008 American Society of Human Genetics Annual Meeting. Philadelphia, PA.
- Quillen EE**, Beleza S, Parra EJ, Pereira RW, Shriver MD. Interaction in pigmentation genes creates variation in brown irises. Poster presentation, 2008 American Association of Physical Anthropology Annual Meeting. Columbus, OH.
- Quillen EE**, Beleza S, Parra EJ, Rocha JM, Pereira RW, Araújo I, Shriver MD. Iris color and texture in admixed populations. Poster presentation, 2007 American Association of Physical Anthropology Annual Meeting. Philadelphia, PA.
- Quillen EE**, Koertvelyessy T, Jenkinson C, Crawford MH. Genetic differentiation in Newfoundland outposts. Poster presentation, 2005 American Association of Physical Anthropologists Annual Meeting. Milwaukee, WI.

Teaching Experience

- Pennsylvania State University, Department of Anthropology. Instructor for introductory course in laboratory methods developed independently and including both upper-level undergraduates and beginning graduate students. Taught 5 semesters Fall 2005 – Spring 2009.
- Pennsylvania State University, Department of Anthropology. Instructor for introductory biological anthropology course, oversaw graduate teaching assistants. Taught Summer 2008, Summer 2009, Spring 2010.
- Pennsylvania State University, Department of Anthropology. Teaching assistant for introductory courses in biological and cultural anthropology as well as an upper-level

human genetics course including weekly recitations and writing exams. Assisted 3 semesters Spring 2006 – Fall 2008.

Fieldwork Experience Collection of DNA samples by buccal swab and finger prick, anthropometric measurements, 2D and 3D photographs, skin and hair pigmentation measures, and other data in Brasilia, Brazil; State College, Pennsylvania; Bronx, New York; and among Mennonite populations in rural Kansas.

Laboratory and Analytical Skills DNA extraction, primer design, microarray analysis and design, real-time PCR, and other basic laboratory skills. Population genetics, statistical, and pedigree analysis software including SOLAR, ADMIXMAP, MACH, MERLIN, Arlequin, PHASE, STRUCTURE, and Tagger. Intermediate programming skills in PERL, R, and Linux for statistical analysis including maximum likelihood estimation, ANOVA, and similar.

Professional Service Founding Editor, Human Biology Room, Nature Education Knowledge Project: Biological Anthropology Section, 2011 – present
 Manuscript reviewer for *American Journal of Physical Anthropology*, *The FASEB Journal*, *Annals of Human Genetics*, *Human Genetic*, *Frontiers in Evolutionary and Population Genetics*
 Symposium Co-Organizer. “Beyond Color: How Human Skin Interacts with Our World.” 2013 American Association for the Advancement of Science Annual Meeting. Boston, MA.
 Secretary/Treasurer, American Association of Anthropological Genetics, 2012-2015
 Outreach Chair, American Association of Anthropological Genetics, 2011 – 2012.
 Local Chair, Applications of Genomics to Anthropological Research Workshop, Texas Biomed, 2012 - 2013
 President, Anthropology Graduate Student Association, Pennsylvania State University, 2007

Community Outreach Grant Writer, Spina Bifida Texas, 2011-present
 ASHG DNA Day Essay Contest Judge, 2012-present
 Developed workshops for Women in Science and Engineering Camps for high school girls at Penn State June 2009, November 2010; and at St. Phillip’s College, San Antonio March 2012