Dr. Eric Boerwinkle and his colleagues in the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) consortium have recently demonstrated the feasibility of using whole-genome sequencing to dissect the genetic architecture of high-density lipoprotein cholesterol (HDL-C) levels. The results of the analysis of 962 individuals published in the June issue of *Nature Genetics* suggest that common variants may account for more of the variance for this complex trait than rare variants.

David Gorenstein, Ph.D. was named Chair of the Department of NanoMedicine and Biomedical Engineering at UTHealth, effective April 1, 2013.

The Center for Craniofacial Research has opened at the UT School of Dentistry, and will focus on the identification of genes associated with cleft lip and cleft palate. Jacqueline Hecht, Ph.D. is director of the Center and Associate Dean for Research at the School of Dentistry.

Karen Lu, M.D., principal investigator of an 11-year study of 4,000 women, says results are promising for a new two-stage approach to screening for ovarian cancer. In the first step, women are given repeated blood tests to detect a marker called CA-125. If the CA-125 level is found to have changed over time, the blood test will be followed by an ultrasound examination. Ovarian cancer is usually diagnosed at an advanced stage, and is the fourth-leading cause of cancer mortality among U.S. women.

Dianna Milewicz M.D., Ph.D., and a global team of researchers have identified a *PRKG1* genetic mutation that causes thoracic aortic aneurysms and acute aortic dissections. This discovery will enable individuals found to carry the mutation to be monitored by a cardiologist and undergo regular imaging of the aorta in order to prevent the premature death associated with aortic rupture.

See: *Faculty news . . . page 4*

Congratulations to the 2013-15 GxE Fellows!

*Left to Right:*
Feng Wang, Xiaotian Zhang, Geetali Pradhan, Jaclyn Bravo, Stanley Hooker, Chih-Chun Lin, Shaun Davis, and Cheng-Lin Li.

Eight students from Baylor College of Medicine have joined the Gene-Environment Interaction Training Program this year. We are very pleased to welcome:

**Jaclyn Bravo** — Department of Molecular and Human Genetics. Her mentor is Ignatia Van den Veyver, M.D.

**Shaun Davis** — Department of Molecular and Human Genetics. His mentor is Herman Dierick, M.D.

**Stanley Hooker** — Department of Molecular and Human Genetics. His mentor is Suzanne Leal, Ph.D.

**Cheng-Lin Li** — Department of Molecular and Human Genetics. His mentor is Gad Shaulsky, Ph.D.

**Chih-Chun Lin** — Department of Molecular and Human Genetics. Her mentor is Meng Wang, Ph.D.

**Geetali Pradhan** — Translational Biology and Molecular Medicine. Her mentor is Yuxiang Sun, M.D., Ph.D.

**Feng Wang**. Department of Molecular and Human Genetics. His mentor is Rui Chen, Ph.D.

**Xiaotian Zhang** — Department of Molecular and Human Genetics. His mentor is Margaret Goodell, Ph.D.
ACCOMPLISHMENTS

2011-2013 FELLOWS

Congratulations to the following students upon completing their two-year fellowship!

Tiantian Cai, Rocio Dominguez-Vidaña, Thuy Le, Maria Namwanje, Jessica Sowa, and Bing Yu

Tiantian Cai’s article “Conditional deletion of Atoh1 reveals distinct critical periods for survival and function of hair cells in the organ of Corti” was published in The Journal of Neuroscience 33:10110-10122, 2013. She presented a paper, “The Role of Atoh1 in cochlear development” at the 36th Annual Midwinter Meeting of the Association for Research in Otolaryngology in Baltimore.

Rocio Dominguez-Vidaña presented her abstract, “Discovery of novel regulators of sensitivity and resistance to HER-family targeted therapies” at the Lester and Sue Smith Breast Center Research and Educational Program.

Thuy Le received several awards last spring, including the UT Medical School Dean’s Research Scholarship Award, Department of Biochemistry and Molecular Biology Student Travel Award, and the UT Medical School GSEC Student Travel Award.

Maria Namwanje won a poster award at the Burroughs Wellcome Fund Symposium (see article on page 4).

In June, Jessica Sowa presented “Regulation of C. elegans Reproductive Aging by a Novel Gene-Environment Signaling Mechanism” at the 19th International C. elegans meeting in Los Angeles. She presented a poster, “Gene-Environment Signaling in the Regulation of Caenorhabditis elegans Reproductive Senescence” at the 23rd Rush and Helen Record Neuroscience Forum in Galveston. “Recombination: DNA Helicases and Nucleases” was published in the Encyclopedia of Biological Chemistry, 2nd ed.

Congratulations to Bing Yu on successfully defending her dissertation on August 26th. She was awarded The 2013 Jeremiah and Rose Stamler Research Award for New Investigators— the highest award given by the American Heart Association. She presented a paper, “DNA Sequence Variation and the Human Metabolome among African Americans in the Atherosclerosis Risk in Communities (ARIC) Study” at the AHA/NPAM meeting in New Orleans in March. Her paper, “Genome-Wide Association Study of a Heart Failure-Related Metabolomic Profile Among African Americans in the Atherosclerosis Risk in Communities (ARIC) Study”, was published in Genetic Epidemiology, 2013 Aug 11. She is also first author of “Association of genome-wide variation with highly sensitive cardiac troponin-T levels in European Americans and Blacks; a meta-analysis from atherosclerosis risk in communities and cardiovascular health studies.” Circulation: Cardiovascular Genetics. 6: 82-88, 2013. Bing will continue working with Dr. Boerwinkle.

2012-14 FELLOWS

Zongxiao He presented “Rare variant extension of the transmission disequilibrium test detects associations with autism exome sequencing data” at the Student Research Seminar at Baylor.

This past spring, Ruchi Masand presented “Drosophila VDAC: Model for Pathogenetic Insights into Mitochondrial Disease” at the Annual Student Seminar.


In April 2013, Shiuan Wang attended the Annual Drosophila Research Conference in Washington, D.C. and

See Fellows . . . Page 3
Congratulations to Gregory Aird, Hannah Chen, Lucy Gao, Daniel Harrison, Mai Huynh, Daron Jacob, Holly Merta, Kristen Schultz, Nishita Soneji, Eleanor Summers, Teresa Tse, Dennis Wu, and William Wu for completing the nine-week program.

The students were placed with researchers at Baylor College of Medicine, M.D. Anderson Cancer Center, and UT Health. Several informal lunch gatherings provided time for the students to meet with each other, and an opportunity for the staff to get to know the students. Many took advantage of the lunch seminars offered to them throughout the Texas Medical Center. They also attended the Graduate Program Fair hosted by the Baylor SMART Program, and UTHSC Gene-Environment Interaction Summer Research Training Program, funded by Burroughs Wellcome.

The highlight of the summer was the student presentations which were attended by the mentors, lab supervisors, and GxE staff. The presentations demonstrated how much these remarkable students accomplished in such a short time.

A big THANK YOU to the mentors, their assistants, and lab personnel for making the students’ experience such a success!

**FORMER SUMMER RESEARCH TRAINEES**

**Evan Jones (2012)** is a first year graduate student in the Department of Molecular and Human Genetics at Baylor College of Medicine and is focusing on Bioinformatics, Genomics and Systems Biology. He has been appointed as a trainee to an NIH T32 Training Grant awarded to his Department.

**Lucas Sanor (2012)** graduated from Olivet Nazarene University in May and is now at Yale University pursuing a doctoral degree in Genetics.

**Emily Serna (2011)** graduated from UT-Austin in May 2012 and is teaching 11th grade chemistry with the AmeriCorps Program in Rio Grande City, Texas.

**Tony Tzeng (2011)** graduated with honors in Biology from Stanford University in June 2013 and is now working as a Clinical researcher at Southern Illinois University and he is applying to medical school.

**Karina Vasquez (2010)** is a graduate research assistant in the Department of Pathology at the University of Utah and plans to defend her thesis in December 2013.

**WANTED**

**SUMMER UNDERGRADUATE RESEARCH STUDENTS!**

**APPLICATIONS WILL BE ACCEPTED:**

**November 15, 2013—January 27, 2014**

Program dates: May 27—July 25, 2014

For more information about this nine week program please see: [https://go.uth.edu/gxeSummer](https://go.uth.edu/gxeSummer)
Faculty news—continued from pg. 1:

Professor of Pediatrics at the UT Medical School at Houston, Hope Northrup, M.D., has just published a paper describing new diagnostic criteria for tuberous sclerosis complex (TSC) in the journal Pediatric Neurology. TSC, a genetic disease which causes tumors in vital organs including the brain, heart, kidneys, liver, and lungs, is the leading genetic cause of epilepsy and autism.

Heinrich Taegtmeyer, M.D., D.Phil., Professor of Medicine at the UT Medical School at Houston, has been inducted as a fellow of the International Society of Heart Research. His most recent research has revealed that elevated levels of sugar and/or starch can damage the heart and lead to heart failure. The study has opened doors to possible new treatments using an immunosuppressant and a diabetes drug.

Baylor College of Medicine
Human Genome Sequencing Center Tour

Established in 1996, the Baylor College of Medicine Human Genome Sequencing Center (BCM-HGSC) was chosen in 1999 as one of three U.S. sites to complete the final phase of the Human Genome Project. Today, the Center operates multiple sequencing platforms. The data is analyzed and deposited into public databases at the National Center for Biotechnology Information (NCBI), in an effort to ensure that the worldwide research community has timely access to the data.

Richard Gibbs, Ph.D., holds the Wofford Cain Chair in Molecular and Human Genetics and is the Director of the Center.

Thank you to Dr. Steve Scherer for leading us on a very informative tour of the Center!

BURROUGHS WELLCOME FUND SYMPOSIUM—ATLANTA, GA

The Burroughs Wellcome Fund—Programs Unifying Population (PUP) and Laboratory Based Sciences Symposium was held in Atlanta, Georgia last May on the beautiful campus of Emory University. Program directors, administrators, and fellows from University of California, Los Angeles; University of Texas Health Science Center at Houston; Boston University; Johns Hopkins University; Albert Einstein College of Medicine of Yeshiva University; and Emory University attended the three-day meeting.

All of the students were required to present a poster and participate in case studies groups. There were panel discussions, tours, and time for networking and fun. Several fellows from the Gene-Environment Interaction program won awards at the Symposium: Maria Namwanje received the Best Poster Presentation Award for “Loss of growth differentiation factor 3 (GDF3) protects from diet-induced obesity by enhancing lipolysis.” Tiantian Cai’s poster, “The role of Atoh1 in cochlear development” was also a winner in the poster presentations.

Zongxiao He, Ruchi Masand, and Yijie Zhai received awards in the case study competition. Two fellows from Emory University, and one from UCLA received supplemental awards as well.

Congratulations all!

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