



FOR IMMEDIATE RELEASE

Friday, April 25, 2008

CONTACT:

ASHG Press Office
301-634-7307 (o)

press@ashg.org

American Society of Human Genetics Hosts Third Annual DNA Day Essay Contest, Supports Genetics Education Efforts

*ASHG Announces High School and Middle School Essay Contest Winners
In Celebration of National DNA Day on April 25*

BETHESDA, MD – April 25, 2008 – In celebration of National DNA Day, the [American Society of Human Genetics \(ASHG\)](#) and the [Genetics Society of America \(GSA\)](#) have combined efforts to educate students and teachers about the importance and implications of genetic research by hosting the third annual National DNA Day Essay Contest. For the first time, high school and middle school student essays were judged in two separate contests, with each group having their own set of essay questions and cash prizes for the winners named in each of the two groups. [Applied Biosystems](#) (NYSE:ABI), an Applera Corporation Business, sponsored the contest for high school students grades 9-12, and the [HudsonAlpha Institute for Biotechnology](#) provided funding for the contest open to middle school students grades 7-8.

[National DNA Day](#), celebrated annually on April 25, commemorates the discovery of DNA's double helix and the completion of the Human Genome Project in April 2003. The essay contest is just one of the many DNA Day activities designed to excite students about human genetics and help them gain a better understanding of the underlying scientific principles and research methods that are involved.

“[ASHG's National DNA Day Essay Contest](#) is a collaborative intergenerational scientific effort that brings students and their teachers together with some of the best geneticists in the world,” said Joann Boughman, Ph.D., executive vice president of ASHG. “Our organization coordinates the essay contest and other educational activities because, as the largest society for genetics professionals, we feel that it is important for us to raise awareness about the value of genetics education and research. ASHG is also committed to sharing a broader understanding of human genetics by reaching out to students in science classrooms across the U.S., in an effort to increase their excitement about and interest in the field.”

The National DNA Day Essay Contest challenges middle and high school students to write an original essay that provides a critical examination of the importance and implications of genetic research. This year, ASHG received an impressive combined total of 1,037 submissions from high school and middle school students residing in 43 U.S. states, Canada and China. Nearly 450 geneticists from ASHG and GSA volunteered to judge the students' essays on the basis of critical thinking, scientific accuracy, creativity and organization.

Today, in celebration of National DNA Day, ASHG and the essay contest co-sponsors have announced the middle and high school student winners of the 2008 DNA Day Essay Contest on the Society's Genetics Education Network Web site at <http://www.GenEdNet.org/>.

For both the middle and high school essay contests, first place winners in each category are awarded \$350; second place winners, \$250; and third place winners, \$150. Teachers of the students who won first place for their essays will receive \$2,000 for new science classroom equipment.

HIGH SCHOOL ESSAY CONTEST:

This year, for the third annual high school DNA Day Essay Contest, students in grades 9-12 were invited to submit written essays on one of the following two questions; the first asked students to discuss the practical implications that genetics research is playing in our lives today and where it might lead us in the next 10 years, and the other question asked students to explain the type of genetic research they would be interested in pursuing if they were to become a scientist in the human genetics field.

For the first essay question, ASHG and GSA judges awarded first place to [Kristin Young](#), a junior from *Athol High School* in *Athol, Mass.*, for her response, which provided a thorough explanation of the practical implications of human genetics research and where it might lead us in the next ten years. Young's essay impressed the geneticist judges by displaying an in-depth knowledge of the scientific process. In her essay, Young wrote, "I firmly believe that the one thing genetics research requires most for more significant advances is time. It doesn't seem as if we don't know things because we don't have the proper tools or knowledge to figure them out. I think that they just haven't been discovered yet." She concluded with her insightful observation that, "It takes time to notice patterns and draw proper conclusions, which is exactly what scientific discovery is all about."

The second question asked students to describe what they would study and why if they were to become a human genetics researcher. The ASHG and GSA judges awarded first place to [Laura Irei](#), a junior from *Arcadia High School* in *Phoenix, Ariz.*, for her thoughtful response to this question. In her essay, Irei wrote about Alzheimer's disease because of her first-hand experience observing the impact that the disease has had on both of her surviving grandparents. Irei described the type of research she would be interested in pursuing if she were to become a genetic scientist. In her essay, Irei wrote that, "I believe the research occurring for Alzheimer's disease is incredibly important. As the baby boomers age, the number of people with the disease will increase. The cost of the disease, both financially and socially, will be overwhelming." Irei concluded by stating, "The more effective treatments developed, the better. Screening processes will also improve, enabling doctors to make accurate diagnoses in the earlier stages of the disease. I think that more will be learned on the inheritance of Alzheimer's disease through genes."

For the first essay question on practical implications of genetics research, ASHG and GSA also named second and third place winners. [Elaine Chung](#), a junior from *Montgomery Blair High School* in *Silver Spring, Md.*, won second place for her response to this question. In her essay, Chung skillfully compared the concept of pharmacogenetics to running shoes, "An ill-fitting running shoe can lead to injury. Likewise, a drug whose dosage is not 'fitted' according to a patient's genes can be dangerous as well." She went on to explain, "As scientists continue to research genes and their effect on how patients react to medications, identifying the right drug for a patient may become as easy as finding the right shoe. Medications tailored to your specific needs are not far in the future."

Likewise, the third place winner for this question also provided an adept description of the practical implications of genetics research. In his prize-winning essay, [Christian Fagel](#), a senior from *Archmere Academy* in *Claymont, Del.*, described that, "Examination of each individual's genetic makeup for problem causing SNPs [Single nucleotide polymorphisms, or DNA sequence variations] in conjunction with careful analysis of their current medical records, family history and lifestyle will provide a more accurate portrayal of the patient's predisposition to disease." Fagel went on to explain, "Armed with this invaluable intelligence, doctors can more effectively promote the health of their patients in the long term through diet management, lifestyle alteration and drug administration."

For the second of the two high school essay contest questions, students were asked to describe what they would study if they were a human genetics researcher. [Briana Skalski](#), who is also a senior at *Archmere Academy* in *Claymont, Del.*, won second place for her response to this question. Skalski adeptly described her vision for the type of genetic research experiment she would design to study Alzheimer's disease. Skalski's essay also demonstrated knowledge of the symptoms and causes of this disease. In her own words, "Some patients may be able to avoid the earlier stages of Alzheimer's through genetic therapy, or by actively using their minds working through crossword puzzles, etc. Although my suggested experiment potentially corrects only one aspect of the disease, it could hopefully preserve someone's memory and improve their quality of life for many more years."

[Razan Dababo](#), a sophomore from *Marcy High School* in *Burlingame, Calif.*, won third place for her response describing the type of research she would be interested in pursuing if she were to become a genetic scientist. In expressing her desire to study how genes are expressed, Dababo stated that, "Mapping the human genome was definitely not the concluding step in understanding human genetics. Genes are far from being unchanging, mechanical units; in fact, they are very interactive. Their interactions with each other and their surrounding environment affect their expression."

MIDDLE SCHOOL ESSAY CONTEST:

For the inaugural middle school DNA Day Essay Contest, students in grades 7-8 were invited to submit written essays on one of the following two questions. The first question asked students to explain why it is important for scientists to discover the patterns of similarity and difference in the genetic makeup and physical traits of all living things; the other question asked students to describe the reasons why it is important for us to learn about our family health history, and explain what the knowledge gained from this information does and does not tell us.

For the first essay question, ASHG and GSA judges awarded first place to [Preethi Padmanaban](#), an eighth grade student at *Chaboya Middle School* in *San Jose, Calif.*, for her response, which provided an outstanding explanation of the importance of genetic diversity. In her essay, Padmanaban illustrated her point by comparing the concept of genetic diversity to the Irish Potato Famine. She conveyed that, "Genetic diversity is important both at the species level and at the ecosystem level." In conclusion, Padmanaban stated her opinion that, "After all, diversity is what sets us apart from each other! It plays a significant role in the survival of populations and ecosystems. Therefore, we must strive to protect our ecosystems with the knowledge of the importance of diversity that we have."

For the second essay question, ASHG and GSA judges awarded first place to [Jason Derby](#), a seventh grade student from *Cuba City Elementary School* in *Cuba City, Wis.*, for his response, which provided an accurate and compelling explanation of the reasons why it is important for us to learn about our family health history. Derby also provided a thorough description of the type of understanding that we can gain about our own genetic disease risk from knowing information about our family's medical history. According to Derby, "Having a family member with a particular disease suggests that you may have a higher chance of developing that disease than someone without that disease in their health history. It does not mean that you will definitely get the disease." He went on to explain, "Genes are only one of many factors that contribute to disease. There are other factors, such as gender, race, age, environmental, and lifestyle habits, such as diet and physical activity, which contribute to many diseases."

For the first essay question on the importance and implications of genetic diversity, ASHG and GSA also named second and third place winners. [Felix Wangmang](#), an eighth grade student at *Robinson Middle School* in *Plano, Texas*, won second place for his response to this question about genetic diversity. In his essay, Wangmang explained, "Due to the HGP [Human Genome Project] and other [human genetics research] projects, scientists are gaining more knowledge about the genotype of both humans and other animals. With all this knowledge, scientists can introduce desirable genes to plant and animal breeders and work to prevent a variety of devastating diseases." He concluded by stating that, "In recent years genetic research has made great progress. Within 20 years, many of today's most devastating illnesses may be curable because of the increasing knowledge of genetics that benefits society daily."

[Elizabeth Cole](#), a seventh grade student who is home schooled in *Fairfax County, Va.*, was awarded third place for her response to the same question about the importance of genetic diversity. Cole took a unique approach to answering this question by describing genetic diversity in terms of its effects and impact on human disease. In her essay, Cole stated that, "Understanding the human genome can help human health care professionals increase the quality of lives, prevent future diseases and reduce medical costs. Gene therapy will be able to treat and prevent the [many different types of] diseases in humans and animals caused by dysfunctional genes."

For the second of the two middle school essay contest questions, students were asked to describe the importance of learning about family health history, and the inferences that we can make about our own

personal health risk based on this information. [Sarah Henderson](#), a seventh grade student from *Kepley Middle School* in *Ulysses, Kan.*, was awarded second place for her response to this question. In her essay, Henderson explained the reasons why it is important for people to find out their family's health history and understand what it means for their individual health and disease risk. Henderson noted how important it is for people to recognize that, "Your lifestyle and the environment around you also play a big role in your health." However, she also acknowledged the fact that, "Some families don't want to talk about their health issues. They might be afraid of what they'll find or just would rather not know." In conclusion, Henderson stated, "I believe knowing your family's health history is a very important thing."

[Keenan Baker](#), an eighth grade student at *Owsley County High School* in *Booneville, Ky.*, was awarded third place for his response to this same question about family health history. In his essay, Baker stressed the importance of finding out all the necessary information about your family's medical history. He described that, "By now you may realize that family history can tell you a lot. What it cannot do is say with a hundred percent certainty that you WILL be afflicted with a particular disease or disorder."

For more information about the National DNA Day Essay Contest, or to read the prize winning essays, please visit the Genetics Education Network Web site at <http://www.GenEdNet.org/>, or the ASHG Web site at <http://www.ashg.org/>.

###

About National DNA Day

National DNA Day occurs annually on April 25 to mark the 50th anniversary of the discovery of DNA's double helix, and to commemorate the completion of the Human Genome Project in April 2003. Genetics researchers, clinicians, hospitals, professional organizations, private companies, advocates, academicians and schools across the U.S. conduct various activities on National DNA Day to help inspire the next generation of scientists who will use the human genome sequence to benefit personal and public health.

National DNA Day is part of a collaborative public outreach initiative sponsored by the American Society of Human Genetics (<http://www.ashg.org>), the National Human Genome Research Institute (<http://www.genome.gov>), the Genetics Society of America (<http://www.genetics-gsa.org>), the American College of Medical Genetics (<http://www.acmg.net>), the National Society of Genetic Counselors (<http://www.nsgc.org>), the Genetic Alliance (<http://www.geneticalliance.org>), the International Society of Nurses in Genetics (<http://www.isong.org>), the HudsonAlpha Institute for Biotechnology (<http://www.hudsonalpha.org>), and Applied Biosystems (<http://www.appliedbiosystems.com>).

All DNA Day activities and events across the country are designed to engage and inform students about genomics, and inspire the next generation of scientists who will use genetic research to further benefit the public health. For more information about National DNA Day, please visit ASHG's Genetics Education Web site (<http://www.GenEdNet.org>).

About The American Society of Human Genetics

Founded in 1948, the American Society of Human Genetics (ASHG) is the primary professional membership organization for human genetics specialists worldwide. The nearly 8,000 members include researchers, academicians, clinicians, laboratory practice professionals, genetic counselors, nurses and others involved in or with a special interest in human genetics. The society's mission is to serve research scientists, health professionals and the public by providing forums to: (1) share research results through the Annual Meeting and in *The American Journal of Human Genetics* (<http://www.ajhg.org>); (2) advance genetic research by advocating for research support; (3) educate future professionals, health care providers, advocates, teachers, students and the general public about all aspects of human genetics; and (4) promote genetic services and support responsible social and scientific policies. For more information about ASHG, please visit <http://www.ashg.org>.

About The Genetics Society of America

Founded in 1931, The Genetics Society of America (GSA) includes over 4,000 scientists and educators interested in the field of genetics. The Society promotes the communication of advances in genetics through publication of the journal *GENETICS*, and by sponsoring scientific meetings focused on key organisms widely used in genetic research. The GSA supports genetic science education for students of all ages and advocates for genetic science research funding via the Joint Steering Committee, an organization of several scientific societies that informs Congress about the importance of scientific research. For more information, please visit <http://www.genetics-gsa.org>.

About Applera Corporation and Applied Biosystems

Applera Corporation consists of two operating groups. Applied Biosystems serves the life science industry and research community by developing and marketing instrument-based systems, consumables, software, and services. Customers use these tools to analyze nucleic acids (DNA and RNA), small molecules, and proteins to make scientific discoveries and develop new pharmaceuticals. Applied Biosystems' products also serve the needs of some markets outside of life science research, which we refer to as "applied markets," such as the fields of: human identity testing (forensic and paternity testing); biosecurity, which refers to products needed in response to the threat of biological terrorism and other malicious, accidental, and natural biological dangers; and quality and safety testing, such as testing required for food and pharmaceutical manufacturing. Applied Biosystems is headquartered in Foster City, CA, and reported sales of approximately \$2.1 billion during fiscal 2007. The Celera Group is a diagnostics business delivering personalized disease management through a combination of products and services incorporating proprietary discoveries. Berkeley HeartLab, a subsidiary of Celera, offers services to predict cardiovascular disease risk and optimize patient management. Celera also commercializes a wide range of molecular diagnostic products through its strategic alliance with Abbott and has licensed other relevant diagnostic technologies developed to provide personalized disease management in cancer and liver diseases. Information about Applera Corporation, including reports and other information filed by the company with the Securities and Exchange Commission, is available at <http://www.applera.com>, or by telephoning 800.762.6923. Information about Applied Biosystems is available at <http://www.appliedbiosystems.com>.

About HudsonAlpha

The HudsonAlpha Institute for Biotechnology in Huntsville, Ala. is the cornerstone of the Cummings Research Park Biotechnology Campus. The campus hosts a synergistic cluster of biotechnology talent – science and business professionals – that promises collaborative innovation to turn knowledge and ideas into commercial products and services for improving human health and strengthening Alabama's progressively diverse economy. The non-profit institute is housed in a state-of-the-art, 270,000 square-ft. facility strategically located in the nation's second largest research park. HudsonAlpha has a three-fold mission of genomic research, economic development and educational outreach. For more information, please visit <http://www.hudsonalpha.org>.

###