



National Institute on Drug Abuse
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Discovery of Possible Link between Protein Deletion and Addiction Wins Top Honors at ISEF

Texas High School Senior Wins First-Ever NIDA Scholastic Addiction Science Award

An ambitious exploration of the basic mechanisms underlying addiction received top honors in the new Addiction Science category at the Intel International Science and Engineering Fair (ISEF), the world's largest science competition for high school students.

The project, *The Novel Role of the GluCl α ; Ion Channel and Diazepam Binding Genes in Alcohol Addiction*, was developed by Kapil Vishveshwar Ramachandran, a 16-year-old senior from Westwood High School in Austin, Texas.

The new Addiction Science award is co-sponsored by the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health (NIH), and Scholastic, the global children's publishing, education and media company. This is the first series of awards given exclusively for projects that advance addiction science.

The winning young scientist determined that when a specific protein (Diazepam binding inhibitor) is deleted in fruit flies, the flies may lose their tolerance to alcohol. Although the protein had been previously identified, these findings are a strong indication that it may play a role in addiction.

"The judges were particularly impressed with the winner's enthusiasm and innovative approach to exploring the neurological underpinnings of addiction," said NIDA Director Dr. Nora D. Volkow. "He developed a simple, sensitive, elegant instrument to measure tolerance in fruit flies, and ended up possibly contributing to the knowledge needed to find biological changes at the root of addiction."

Winning second place distinction was Ethan Garrett Guinn, from Moore High School in Moore, Okla., for his project, Video Games: The Next Generation's Addiction. The 17-year-old senior chose the topic based on his own observation that video games are often used as babysitting tools, yet can lead to obsessive use.

The third place award was given to freshman Shelby Marie Raye from Manatee High School in Bradenton, Fla. Her project, What's In and What's Out: High Schoolers' Perceptions of Coolness, identified unique parameters that affect life trajectories, and may help scientists better understand peer pressure, a factor in initiation of substance abuse.

"Our second- and third-place winners both took a look at the world around them, used initiative, curiosity, and good science to identify and measure relatively unstudied influences that are going on in the lives of adolescents," said Dr. Volkow.

"This is the first year we have participated in the Intel competition so we did not know what to expect," said head NIDA judge Lucinda Miner, Ph.D., deputy director of NIDA's Office of Science Policy and Communications. "We were thrilled at the quantity and quality of projects that explored addiction science, which gives us great optimism about the future of this important field."

This year, nearly 1,500 students from more than 40 countries competed in Atlanta in the ISEF competition, which is coordinated by the Society for Science and the Public. Winners of the Addiction Science Award received cash awards in a ceremony Thursday night, with a \$2,500 scholarship provided by Scholastic for the first-place honoree.

Scholastic co-sponsored the award as part of its longstanding collaboration with NIDA to provide age-appropriate educational information on substance abuse and the effects that drugs have on the brain, body and behavior for select Scholastic classroom magazines.

"Scholastic is proud to support the young students who received the new Addiction Science Awards," said David Lange, general manager, Scholastic InSchool Solutions. "It is part of our ongoing commitment to support the thousands of teachers who work every day to inspire the next generation of young investigators---inspiration is clearly seen in the projects of this year's three exemplary winners."

The nonprofit organization Society for Science and the Public partners with Intel—along with dozens of other corporate, academic, government and science-focused sponsors—to provide support and awards for the Intel ISEF each year. NIDA has developed a special section on its Web site to help science fair entrants understand the criteria for the awards, which includes other resources on addiction science.

<http://www.drugabuse.gov/sciencefair/>

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The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at www.drugabuse.gov.

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