

NATIONAL INVENTORS HALL OF FAME FOUNDATION

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UCSF STUDENT INVENTS INSTRUMENT THAT MEASURES PAIN LEVELS

John Dolan wins graduate prize in Collegiate Inventors Competition for his work

Pasadena, CA (November 2, 2007)—John Dolan, a University of California, San Francisco student, is the 2007 graduate winner of the Collegiate Inventors Competition, a program of the National Inventors Hall of Fame Foundation. He was announced as the winner during a Thursday evening ceremony.

Dolan's invention, called the Dolognawmeter, measures pain in animals that are used in the testing of painkillers. He receives a \$15,000 prize, and his advisor, Dr. Brian Schmidt, receives \$5,000.

Dolan, 38, presented his invention to a final panel of eight judges, including inductees of the National Inventors Hall of Fame. His Dolognawmeter came about when he realized that one of the greatest obstacles to improved pain medication was the inability to measure pain in experimental animals.

Dolan created a device that could measure gnawing in animals by taking advantage of an instinct observed in rodents. If a mouse is placed in a narrow tube with an obstacle at the end, it will instinctively gnaw at the obstacle to escape. Dolan's device automatically records the time required for a mouse to gnaw through a series of dowels obstructing exit from a tube. Slower gnawing means greater pain, providing Dolan with a way to study the effectiveness of painkillers.

The apparatus is inexpensive, compact and simple, and multiple Dolognawmeters can be used at the same time. Since mice are nocturnal, the device is employed inside a standard research cage at night since no operator observation is required. Dolan says the device has the potential to revolutionize the way that both analgesics and anxiolytics (anti-anxiety drugs) are tested. "Since confinement anxiety motivates the mouse to gnaw, a Dolognawmeter will also allow for a simple, cheap and objective method to test new anxiolytics in animals. That alone makes the device worth its weight in gold," says Dolan.

Dolan began his education in anthropology, earning a B.S. from Montana State University and an M.A. from the University of California, Berkeley. While working toward his Ph.D. in anthropology he was inspired by studies demonstrating that a person's creativity often peaks by the late

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twenties or early thirties. Upon learning this, he put aside his graduate work, purchased a used Tungsten Inert Gas welder from an Oakland shipyard and became an artist for five years. He says, "My greatest skill since childhood has been artistic mechanical design." In 2003 he combined his passion for material sciences and the application of mechanical principles to human problems and entered dental school. At the same time, he began research into the mechanisms of oral and facial pain. He earned his DDS in 2007 and is currently in a postgraduate program in oral and craniofacial sciences at UCSF.

The additional 2007 winners are:

Corey Centen and Nilesh Patel, CPRGlove: Wearable CPR Training, Testing and Assist Device, McMaster University (Undergraduate Category)

John Dolan, The Dolognawmeter: An Instrument to Quantify Pain Induced Oral Dysfunction, University of California, San Francisco (Graduate Category)

Final judging took place on October 31st, with four undergraduate teams competing for the \$15,000 prize, seven graduate teams competing for a \$15,000 prize, and all eleven teams competing for the \$25,000 grand prize. The eleven teams each made presentations before the final panel of judges. In total, over 100 entries from over 70 colleges and universities were received for this year's competition. A first round of judges evaluated entries in order to select the eleven finalists, assessing each entry on the originality of the new idea, process, or technology, as well as the potential value and usefulness to society.

The Collegiate Inventors Competition is designed to encourage college students to be active in science, engineering, mathematics, technology, and creative invention. This prestigious challenge recognizes and rewards the innovations, discoveries, and research by college and university students and their advisors for projects leading to inventions that can be patented. Introduced by the National Inventors Hall of Fame in 1990, the Collegiate Inventors Competition has annually rewarded individuals or teams for their innovative work and scientific achievement through the help of its sponsors. For more information on this year's sponsors, the Abbott Fund and the U.S. Patent and Trademark Office, visit www.abbott.com and www.uspto.gov For more information on the Competition, www.invent.org/collegiate.

The National Inventors Hall of Fame is a not-for-profit organization dedicated to recognizing, honoring, and encouraging invention and creativity. The primary activity of the Hall of Fame is honoring the men and women responsible for the great technological advances that make human, social, and economic progress possible. Founded in 1973, the Hall of Fame now makes

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its permanent home in Akron, Ohio. In addition to the Collegiate Inventors Competition, another popular program of the Hall of Fame is Camp Invention®, a summer day camp for elementary-aged children. For more information, visit www.invent.org.

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