

**2003 winners of Collegiate Inventors Competition announced in NYC  
Students receive prizes of \$15,000 to \$50,000 for new technologies that will  
change the world**

New York (October 23, 2003)--At a ceremony held at the New York Public Library, the Collegiate Inventors Competition announced its 2003 winners. This year's winners have found ways to generate insulin for diabetics, perform environmental testing with microscopic sensors, and make electronic circuits smaller than ever before.

Two undergraduate winners, two graduate winners, and one grand prizewinner were selected from fifteen finalist teams. Advisors for each winning team were also recognized for their contributions. The 2003 winners are:

Grand Prize Winner, \$50,000

Jamie Link, Smart Dust: Programmable Silicon Particles, University of California, San Diego

Graduate Winner, \$25,000

Rongchao Jin, Yunwei Charles Cao, Gabriella Métraux, Silver Nanoprism Synthesis, Northwestern University

Graduate Winner, \$25,000

Keith Aubin, Robert Reichenbach, Maxim Zalalutdinov, Micromechanical Device for Telecommunications, Cornell University

**Undergraduate Winner, \$15,000**

**Colette Shen, Insulin-secreting Cells, CEM, Harvard University**

Undergraduate Winner, \$15,000

Deborah Loxam-Kohl, Felting Machine for 3-D Forms, Alberta College of Art & Design

In celebration of their great achievements and in recognition of how their work will impact tomorrow's economy, the winners will be taken to the New York Stock Exchange to ring The Opening Bell™ on October 24th. The winners will accompany Stephen Squires, Chief Science Officer of the Hewlett-Packard Company, a sponsor of the competition. Also in attendance will be James E. Rogan, Under Secretary of Intellectual Property for the Department of Commerce and Director of the U.S. Patent and Trademark Office, another sponsor of the competition. The Collegiate Inventors Competition is a program of the National Inventors Hall of Fame.

All fifteen finalist teams made presentations before a final panel of eight judges on Wednesday, including representatives from the U.S. Patent and Trademark Office and inductees of the National Inventors Hall of Fame. In total, 155 entries were received for this year's competition from universities around the world. A first round of judges evaluated entries in order to select the fifteen finalists.

Patricia Hallberg, President and Chief Operating Officer of the National Inventors Hall of Fame, said, "Collectively, these winners are an excellent example of what the Collegiate Inventors Competition encourages--curiosity and inventiveness that have led to ideas that could change our world. It's been an honor to recognize this dedicated, wide-ranging group."

Undergraduate winner Colette Shen, 21, has advanced hope for diabetics with her

discovery of insulin-secreting cells. Her research focuses on prompting liver cells to release insulin in a synthetically-created environment, mimicking cell structures found in a healthy pancreas. Her work has the potential to aid those who suffer from type 1 diabetes. A native of Houston, Shen is a student at Harvard working in unique collaboration with her advisor, Carlos Semino of the Massachusetts Institute of Technology. Semino receives a \$5,000 prize.

Also an undergraduate winner, Deborah Loxam-Kohl, 33, has created a machine that makes three-dimensional forms out of felt. Although industrial felting machines existed, Loxam-Kohl wanted to develop an automated method to produce a three-dimensional object directly from raw materials without cutting and stitching. Her machine has many industrial applications for making stereo speaker cones, panels to insulate against sound, vibration and temperature, cold weather clothing and accessories, sculptures and many other uses. Her machine transforms a 2,000-year old labor-intensive process into an elegant automated process. Her advisor at the Alberta College of Art & Design, Katherine Dickerson, receives a \$5,000 prize.

Graduate winners Rongchao Jin, 32, Yunwei Charles Cao, 35, and Gabriella Métraux, 23, have found a way to synthesize silver nanoprisms, tiny crystals made of silver. One day, the three inventors observed that a beaker of silver colloid, accidentally left out in the lab, changed color. They investigated, and found that the silver interacted with light and formed tiny silver crystals. By changing the light sources they have created nanoparticles of different sizes and colors that can be used in a variety of biological, medicinal, cosmetic, photographic and other consumer applications.

Graduate winners Keith Aubin, 27, Robert Reichenbach, 25, and Maxim Zalalutdinov, 39, of Cornell University know that the drive to make electronic circuits smaller and smaller, especially in telecommunications, is frustrated by certain types of components that are not easily manufactured. The trio found a solution by building a novel type of frequency generator out of silicon compatible with chip manufacturing technologies. The generator is shaped like a dome, and at 1/3 the size and 1/100 the thickness of a human hair, is compatible with conventional chip technology. The invention could replace some of the largest, expensive parts contained in cell phones, computers, radios, and televisions. Their advisor on this project is Harold Craighead, who receives a \$5,000 prize.

Jamie Link, 25, of the University of California, San Diego, is the grand prizewinner of the 2003 competition. She was making a thin multi-layer film of porous silicon on a crystalline substrate when it accidentally broke. Link then observed that each piece--her smart dust--retained the properties of the original. The particles have been found to have a wide range of uses in medical diagnostics and research, environmental testing, drug delivery and countless other uses. For instance, Link can make her particles a particular color, then program them to detect a particular substance, such as a toxin. As the microscopic sensors find the toxin, they join together as a red spot to mark the toxic pollutant. Her advisor on the smart dust project is Michael Sailor, who receives \$10,000.

The Collegiate Inventors Competition is an international competition 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. The competition is now in its fourteenth year.

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 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 <http://www.invent.org>.