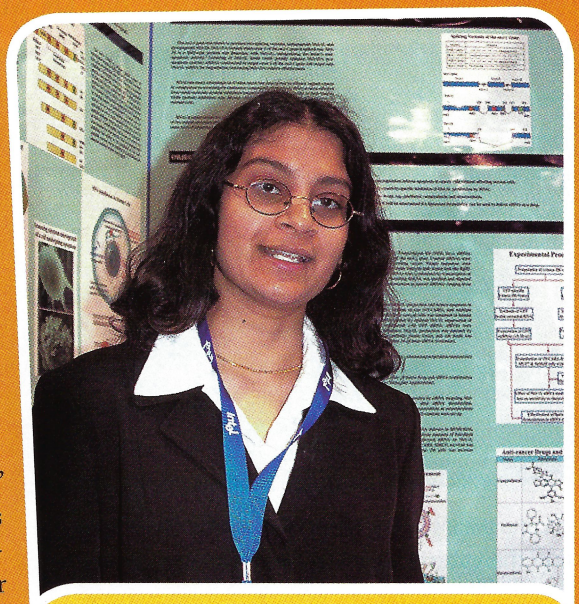
Winning Ways by Anne Renaud

Medicine

Anila Madiraju already knew she wanted to be an oncologist (cancer doctor) when she entered her first science fair in Grade 8. Now, at age 17, the Brossard, Quebec native is contributing to the field of medicine and she hasn't even graduated high school yet!

In May, Anila participated in the 54th Intel International Science and Engineering Fair, held in Cleveland, Ohio. By the end of the week-long event she had walked away with top prizes worth over $50,000 (US) for her project entitled "Silencing Cancer with RNA".

"All cells have a life cycle," explains Anila. "Normal cells die or commit suicide, a process called apoptosis. Cancer cells, however, don't die a regular death and go on to form tumours. My project focused on how cancer cells can be weakened or forced to commit suicide through RNA interference. This would allow physicians to administer less toxic dosages of cancer-fighting drugs to patients, while still ensuring effective treatment."



Courtesy Intel

Quebec's Anila Madiraju, 17, is considered one of the three top scientists in the world by Intel.

Beating out more than 1300 students from 35 countries, Anila's project garnered her an Intel Young Scientist Scholarship, the first place Intel Foundation Achievement Award, the Intel ISEF Best of Category Award, and a trip to the Nobel ceremony in Stockholm, Sweden.

So what are Anila's plans for the future? "I will continue with my research and hope to publish my results in a reputable scientific journal. I also need to decide which university I will attend when I graduate."

One thing is for sure, if Anila keeps on making strides like this in oncology, both she and cancer patients will come out winners.

Changing Pocket Change by Mariana Relós

Math

Spending your allowance is fun, but it has a downside—it can make your pocket heavy.

Think about this: every time you spend $5, you get an average of six coins—5.9 to be exact—as change. After you buy three things using a $5 bill each time, you have accumulated about 18 coins that weigh down and jingle in your pocket. Has anybody thought of a way to make less change?

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Actually, yes! Computer professor Dr. Jeffrey O. Shallit at the University of Waterloo in Ontario has found out that if Canadians had an 83-cent coin, they would have less change in their pockets.

Dr. Shallit used mathematics and a computer to determine which combination of coin values would allow people to make change using fewer coins. Shallit's results showed that by adding an 83-cent coin, Canadians would get an average of five coins—4.6 to be exact—every time they made a purchase using a $5 bill. People's pockets would be lighter because they would carry 14 coins instead of 18 for every three purchases.

Shallit also found that Americans would carry less change if they replaced the 10-cent coin with an 18-cent coin. (Remember, in Canada, we have the $1 and $2 coins.) This would reduce the average change from about five coins to about four. This may not sound like a big change, but after ten purchases people would have lighter pockets because they would carry about eight coins less.

This strategy may help people reduce the weight and jingling in their pockets, but calculating change for 83-cent or 18-cent coins is a little more difficult. But, hey, new coins would make your pocket lighter, and your brain would get the jingle.

Terry Dee