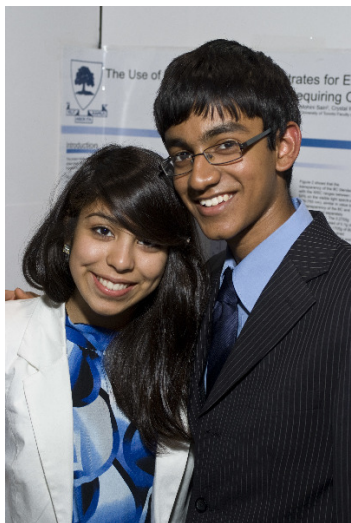


## CWSF 2010 - Peterborough, Ontario



### Samantha Pramanick, Adarsh Gupta

#### Nano-cellulose in Substrates for Electronic Display Systems and Medical Devices

**Division:** Earth & Environmental Sciences

**Category:** Intermediate

**Region:** Toronto

**City:** Markham, ON, Mississauga, ON

**School:** University of Toronto Schools

**Abstract:** A blend of 37% wheat straw cellulose (WSC) and 63% bacterial cellulose (BC) was thermodynamically compatibilized. The sheets produced were impregnated, cured, and hot pressed. The resulting novel transparent substrate is environment-friendly, flexible, transparent, strong, cost-efficient, and uniform. As a result, potential applications include transparent and flexible electronic display systems, medical instruments requiring optical precision, and artificial cardiovascular tissue.

#### Biographies

Samantha - I'm 15 years old, and I attend the University of Toronto Schools in grade 10. My favourite in and out of school activity would definitely have to be photography. I'm on the yearbook committee at UTS as a photographer, and I'd say it's one of my strong points. Not limited to photography, I also love art (painting, drawing), music (I play the drums and piano), and DJing. I'm also on the dance committee at school, where we organized and run all dances that go on at school. My favourite subjects are art and biology, which I can accredit to my interest in biotechnology and science fair. Besides these activities, I volunteer at the local hospital i...

Adarsh - I'm an outgoing, enthusiastic, and analytical student. I enjoy doing many extra-curricular activities. I am on the Secretariat of the Southern Ontario Model United Nations Assembly, giving me a vast array of knowledge in the field of world issues. In addition, I have great public speaking skills, as I have been consistently successful at debating tournaments. However, I also do many things apart from academics - I am also athletic. I play hockey, soccer, tennis, and skiing in organized settings. As well, I am an avid participator in the largest annually student-produced show at my school. I acted and participated in the Indian and Hip-hop d...

Youth Science Canada  
PO Box 297  
Pickering ON L1V 2R4  
[www.youthscience.ca](http://www.youthscience.ca) / [info@youthscience.ca](mailto:info@youthscience.ca)  
416-341-0040