The National Society of High School Scholars

The Dublin City University 'Think Science' Challenge

Application Deadline: October 31, 2009

This world-wide competition calls on high school scholars to explore ***Rapid Methods for Disease Analysis*.** All NSHSS members in high school are eligible to apply. Submissions will be judged on practical content, innovation, and quality. Students will identify a particular disease such as swine flu; a particular type of cancer; diabetes; malaria, etc. Scholars will target one disease currently of concern globally or specific to their geographical region on which to focus their research. Students must demonstrate a thorough understanding of the disease and the concept of rapid detection. You may wish to visit http://www.bdi.ie/Diamond/pro1.html for examples of rapid disease detection research projects at DCU.

Two main prizes will be awarded

- Winner 18 years old as of June 1, 2010, will be awarded an all-expense paid trip to Ireland from a major international airport in their home country to spend one week at Dublin City University as part of a Biomedical Diagnostics Research Lab during the summer of 2010 (dates flexible)
- Winner under 18 years of age as of June 1, 2010, will receive a cash prize of $2,000

There will be four further cash prizes of $250 each.

Submissions will be judged by an evaluations team from NSHSS and DCU.
Selection of finalists is based on the following criteria:

- Essay statement examining a particular disease and showing a thorough understanding of the disease and the concept of rapid detection
- Academic performance - minimum of 3.5 GPA (verified by transcript upon finalists' selection)

Membership Identification Number: _____

First Name: _____ Middle: _____ Last: _____

Street Address: _____

City: _____ State/Province: _____ Zip or Postal Code_____

Country _____

Email Address: _____

Telephone: (_____)_____Cell: _ _____

Date of Birth (month, day, year) _____

Graduation Date: _____ GPA: _____ Rating Scale: (4.0; 100 point system, etc)_____

High School Name: _____

High School Address: _____

I certify that this information is correct.

Signed: _____ Date: _____

Instructions:
Develop a concept paper of 5-8 pages long. Identify a particular disease such as swine flu; a particular type of cancer; diabetes; malaria, etc. Each scholar will pick one disease of current importance in their geographical region, or indeed globally, and make it the focus of their research. Students must demonstrate a thorough understanding of the disease and the concept of rapid detection. Any opposing views around existing methods should be discussed. Research may be conducted by reading books or articles, by using research facilities on the internet, by interviewing science teachers or community members involved with related work. In conducting research, students may also seek to contact experts working in local hospitals or universities.

Key questions to be considered:

- Is the disease a local or global issue?
- How does the disease impact the local and / or global population?
- Has fighting the disease been a local / global priority for a long time or has it recently become important?
- Is there disagreement or controversy about the disease or about the solution for its detection or control?
- How does the detection take into account community concerns?
- What local / regional / global bodies are involved in finding a solution and in fighting the disease?
- If the disease is contagious, how does or would a rapid detection method help to contain it or prevent it from spreading?

Innovation is the key in this competition. The document is limited to a 5-8 page concept paper (excluding the reference section).

The sections of the paper should:

- Identify the disease and specify whether it has a local or global impact;
- Define the parameters and scope of the paper;
- Describe those most affected;
- Briefly outline the history of the disease;
- Discuss innovative rapid methods for detection / analysis of the disease; if possible include your own ideas;
- Discuss processes for testing and implementing these methods;
- Conclusion.
- Details of references, resources and interview notes used should be included.

Please submit the following information on separate page(s) and include your name on each page. Essay (5-8 pages)

1. Letter of recommendation from an educator familiar with your academic career.
2. High school transcript.
3. Resume or list of awards, leadership activities, and community service.
4. Color head shot of yourself.

Mail these in one package to the following address postmarked by October 31, 2009
DCU Think Science Challenge
The National Society of High School Scholars
1936 North Druid Hills Road
Atlanta, GA 30319