

## **CAREER ADVICE FOR ASPIRING HEALTH RESEARCHERS**

**By SONIC COACH**

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### **Honesty and Integrity: Critical to a Life in Science**

When was the last time you thought about honesty and integrity; how it relates to your life now, and to your future life as a scientist? Perhaps, like most people, it takes a special occasion to inspire you to pause and reflect. Earlier this month I had such an opportunity while attending the Cell Signals annual meeting and trainee workshop <<http://cellsignals.ca/about/index.php>>. The theme was: "Ethics in Health Research" <[http://cellsignals.ca/news/news\\_details.php?news\\_id=16&details=read+article](http://cellsignals.ca/news/news_details.php?news_id=16&details=read+article)>. What was so special about the event, apart from the sessions themselves, was that the participants included some of the high school students (and their teachers) who are participating in this year's Sanofi-Aventis BioTalent Challenge <<http://sanofibiotalentchallenge.ca/>>. Your peers had much to say about what they learned and how the meeting inspired them to reflect on their own values and behaviour.

#### **The importance of scientific integrity**

The keynote speaker reminded the audience that scientific research is grounded in values such as integrity, honesty, trust, curiosity, and respect for intellectual achievement. This is particularly important in the 21<sup>st</sup> century, when new discoveries and emerging technologies are opening up possibilities that have far-reaching practical and ethical consequences. Stem cell research, cloning and genetic engineering, for example, have the potential to eradicate genetic diseases; yet the same technology can be used for eugenics.

There are as many reasons for scientific misconduct as there are forms. For example, competition for research funding, the pressure to publish, and the financial rewards of commercializing discoveries continue to tempt some scientists to plagiarize, fabricate or falsify data, deliberately misreport their research results, and cut corners in the protection of human (or animal) participants in clinical trials.

#### **Standards of ethical conduct**

To address these issues, science funding agencies,<sup>1</sup> professional academies<sup>2</sup> and associations,<sup>3</sup> research institutes,<sup>4</sup> academic institutions,<sup>5</sup> and others, have developed standards for the ethical conduct of research. But honesty and integrity *begin* with the individual scientists themselves and the choices they make every day.

This last point made a particular impression with the high school students in the audience; they realized that they're already making ethical choices: whether or

not to download music illegally; buy pirated software or video games; plagiarize a wiki article in an essay; cheat on an exam; lie about being sick when they're late with an assignment; etc. This realization inspired them to examine the values and beliefs that are guiding their choices now; I invite you to do the same.

### **Links**

<sup>1</sup> [http://www.nserc.ca/sf\\_e.asp?nav=sfnave&lbi=p9](http://www.nserc.ca/sf_e.asp?nav=sfnave&lbi=p9)

<sup>2</sup> [http://books.nap.edu/openbook.php?record\\_id=1864&page=R1](http://books.nap.edu/openbook.php?record_id=1864&page=R1)

<sup>3</sup> <http://www.asm.org/general.asp?bid=14777>

<sup>4</sup> <http://www.nih.gov/science/irnews.htm>

<sup>5</sup> [http://www.research.utoronto.ca/ethics/e\\_conduct.html](http://www.research.utoronto.ca/ethics/e_conduct.html)

**Our topic next month will be on:** Communicating science

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