

## **EMERGING CAREERS IN HEALTH RESEARCH: NEUROSCIENCE<sup>1</sup>** **By SONIC COACH** *February 2008*

Much of the human brain remains a mystery. A specialized network of 100 billion nerve cells, the brain is the seat of human intelligence, emotion, learning and memory, sensation and perception. It controls movement and regulates sleep. Can you imagine trying to design a computer that can do all this?

Have you ever wondered whether male and female brains are different? What makes us feel happy or sad or angry? Why teenagers need so much sleep? How is it that we can remember your friends' phone numbers but forget answers during exams? What causes diseases such as Alzheimer's, autism or depression, and can they be prevented or cured? These are just some of the many fascinating questions that neuroscientists are investigating in their quest to:

- \* describe the human brain and how it functions normally,
- \* determine how the nervous system develops, matures and maintains itself throughout life, and
- \* find ways to prevent or cure many devastating neurological and psychiatric disorders.<sup>2</sup>

The field of Neuroscience is a unified discipline with roots in biology, chemistry and physics, anatomy, physiology and psychology (human behaviour, emotion and cognition). After high school, you may choose to enroll in an undergraduate Neuroscience program, or complete a related program (e.g. life sciences), then specialize at the graduate level. (The searchable directory of training programs published by the Association of Neuroscience Departments and Programs <<http://www.andp.org/>> will give you more information about your options.) Whatever route you take, the possibilities for discovery as a neuroscientist are endless!

In the meantime, there are excellent print and electronic resources, and even competitions, to support and encourage your interest. For example, high school students across the world are testing their knowledge against others in the "Brain Bee" competition. Contestants who win at the local level move on to compete at the "International Brain Bee Competition" < <http://www.internationalbrainbee.com/index.html>>.

Explore the following links to learn more about the marvels and mysteries of the human brain. Who knows, you may discover a passion for Neuroscience!

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## **Starting Points for Further Information**

<sup>2</sup> **Society for Neuroscience** <http://web.sfn.org/>

**Brain Facts** (free, 64-page primer used in the Brain Bee, published by Society for Neuroscience) <http://www.sfn.org/skins/main/pdf/brainfacts/brainfacts.pdf>

**Neuroscience: The Science of the Brain** (another free, downloadable resource)  
[http://www.braincampaign.org/Pub/Pub\\_Main\\_Display.asp?LC\\_Docs\\_ID=2769](http://www.braincampaign.org/Pub/Pub_Main_Display.asp?LC_Docs_ID=2769)

**Neuroscience Education** <http://faculty.washington.edu/chudler/ehceduc.html>

**Neuroscience for Kids** <http://faculty.washington.edu/chudler/neurok.html>

**Dana: Brain web and Brain information**  
<http://www.dana.org/resources/brainykids/>

**International Brain Research Organization**  
[http://www.ibro.org/Pub/Pub\\_Front.asp?](http://www.ibro.org/Pub/Pub_Front.asp?)

**Canadian Association for Neuroscience** [http://www.can-acn.org/Pub/Pub\\_Front.asp](http://www.can-acn.org/Pub/Pub_Front.asp)

**The topic of our next profile will be:** Nanoscience

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