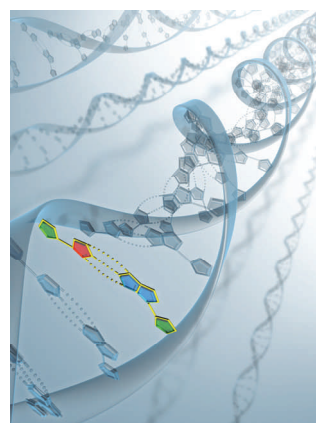


LENScience Senior Biology Seminar Series

Student Update Number 6 – June 21st 2009

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Seminar 3—Epigenetics—do you get it?

The questions that you are asking are impressive! Keep thinking and keep asking - it will help you to develop your ability to analyse biological situations.

The key point about Epigenetics is that we are not talking about a change to the DNA sequence—but a change to the physical structure of the genome (it's shape) according to chemical tags which react to signals such as diet and stress and control the accessibility of genes through their wrapping. A tightly wrapped gene is inaccessible whereas a relaxed gene is accessible and can be expressed as a protein.



[Click here for a visual explanation of this.](http://learn.genetics.utah.edu/content/epigenetics/intro/) <http://learn.genetics.utah.edu/content/epigenetics/intro/>

[Click here](http://www.pbs.org/wgbh/nova/sciencenow/3411/02.html) to see a short movie that explains how the epigenome can make identical twins appear different. <http://www.pbs.org/wgbh/nova/sciencenow/3411/02.html>

[Click here](#) to see an image which explains how the methyl groups can tag DNA and activate or repress genes

You may also want to read the recommended extension papers listed on the [wiki site](#)—

Start with this one [Adams, J. \(2008\) Obesity, epigenetics, and gene regulation. Nature Education 1\(1\)](#)

You should also try to read around topics—challenging yourself to read scientific papers will help develop your understanding



**ANSWERS TO YOUR QUESTIONS FROM SEMINAR 3 WILL BE
POSTED THIS WEEK—KEEP CHECKING THE SITE AND KEEP**



What's happening in your school?

We want to know what's happening in your school. Are you sitting round a TV or have you got a big screen. Are you in the library, your teachers office, the classroom, the com????? Have you made the news in your school newspaper, website, local paper? Send in your photos and tell us what you are doing.

Thanks to the team in Christchurch for the photos they sent in.

New School—Welcome on board to Tauranga Girls' College —looking forward to your contributions!

Wiki Challenge So far our top contributors to the **discussion** pages are Alfriston College and Waiuku College—both from the Auckland Region!



Seminar 1 at the University of Canterbury.



Focus Bay of Plenty / Gisborne

Team up and create your questions and discussion—let's see what you can achieve.

Sacred Heart Challenge

Sacred Heart Colleges—all of you!
The challenge is on—Sacred Heart Auckland have contributed to the discussion - Hamilton and Lower Hutt—make your mark!



TV3 Sunrise:

[CLICK HERE](#) To watch the article on TV3's sunrise programme. Thanks to the students from Otumoetia College for your excellent contribution.

Seminar 4—Climate Change

Seminar 4 materials and web site will be sent to you at the end of the school holidays. We will be joined by Professor Hamish Spencer and Crid Fraser (pictured here collecting data for her PhD study) from the University of Otago.

