



Student Guide

Concluding module



Biobanking



bioinform@tica in de klas

Developed by bioinformaticsatschool.eu (part of NBIC)

Text

Hienke Sminia

Illustrations

Sebastiaan Donders (via www.allesoverDNA.nl)
Bioinformaticaindeklas.nl

All the included material is protected by the Creative Commons
Naamsvermelding-Niet-commercieel-Gelijk delen 3.0 Nederland
license (<http://creativecommons.org/licenses/by-nc-sa/3.0/nl/>).

CC BY-NC-SA 2009 – Netherlands Bioinformatics Centre

For any questions or comments, please contact the Travelling DNA Labs (nijmegen@dnalabs.nl).

Student Guide

Blood type, abnormalities in the DNA or the results of an allergy test at the physician; these are all examples of biological data which can be stored in databases. These databases can come in handy for several purposes: a blood transfusion is quicker and more successful if the hospital workers know the patient's blood type, and disease diagnoses based on DNA research can even be performed when the patient is abroad.

There are basically two types of biological databases: medical databases and forensic databases. Medical databases contain medical information of patients. Forensic databases contain biological data (such as a DNA profile), which is linked to information about the suspects themselves (who are they and which crimes have they committed).

Apart from biological databases, lots of other data is stored in databases. For example, the registration of the Albert Heijn bonus card. All purchases of people that possess a registered bonus card are tracked and stored in a database. If the data from such a database is combined with information stored in other databases, new information can arise.

For example: a database containing genetic information about someone's genetic susceptibility to obesity is linked to the bonus card database. This way, you can find out exactly which people have an increased risk of obesity and buy many fatty products nonetheless. A health insurance company will find this information very useful for determining the monthly premium for their insurance.

Assignment

Your teacher will hand you a card. On this card, you will find a description of a database (not all databases are realistic). Find a partner to work with.

Now, try to combine the information of your two databases and answer the following questions:

Which information is linked to each other?

Which new information could this bring to life? Try to think out of the box.

Who benefits from this new information, and how?

Who will