

# UP with Science: Genetics

## Newsletter 2015

The University of Pretoria recently held their annual UP with Science campaign in which students from Grades 10, 11 and 12 were allowed to visit the University, attend talks and get interactive within various science fields.

The Department of Genetics hosted 49 Grade 10 students from various schools. This all day event took place between the Scienza building and the Biolabs. In charge of handling this event for the Department of Genetics were our eager Genetics Honour Students 2015, who more than stepped up to the challenge.



The Saturday morning began with collecting the Grade 10 students and leading them to a talk by Prof Don Cowan at Scienza. After an educational and enlightening talk, students were then directed to the Biolabs where the second session and real fun began.

The session began with a warm welcome and a quick DO's and DON'Ts in the lab by Willem Pretorius. The stage was then handed over to Mr Kishen Mahesh a departmental staff member here in Genetics who gave the students a bit of background into the Genetics department, fields of research and concluded with a 'Thank you' to all the genetics honour students who had given their precious time to organize and put together a fun filled and equally educating programme that catered to the level of a grade ten student.

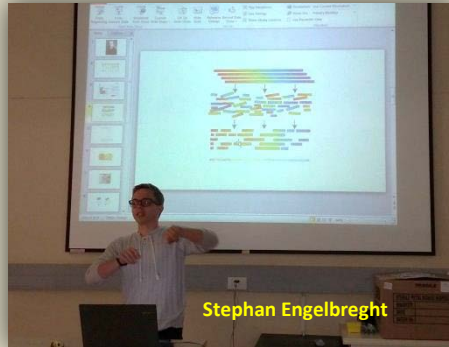
Presentations started off with the third year group winners of GTS 354 2015 who presented their talk on Colour vision which painted the scene with a spectrum of questions, intrigue and laughter.



(L-R) Campbell Clark, Sydney Francois, Nicole Docherty, Leah Mulaudzi, Alex Schroöder

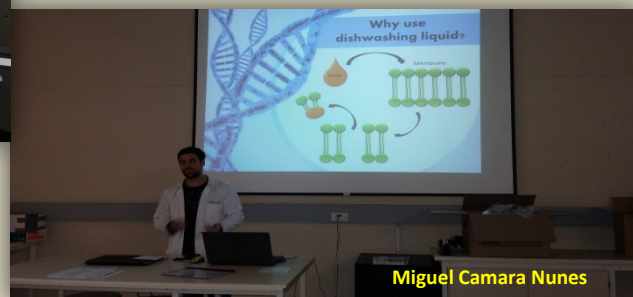
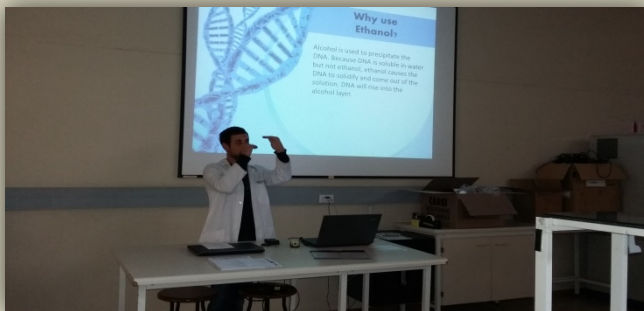
Kishen then gave a talk on science communication and presented his FAMELAB finals talk, looking at facial judgments with respect to health and attractiveness in skin colour.

To end the first half of this session was Stephan Engelbregt, who broke down the complex topic known as “Genetics” with the help of a few visual aids.



After a fun presentation session the kids were allowed to grab a little lunch before return to the Biolabs where they were allowed to get their hands well into a few fun Genetics experiments.

Time	Activity	Presenter
08:00	Open + prep	Candice + Anè + Matt
09:00	DON COWAN	Don Cowan
09:30	DON COWAN	Don Cowan
10:00	Escort from Sci-Enza + Departmental Intro	Aston, Danica, Katrien, Monique Kishen
10:30	3rd year presentation + Kishen FAME lab	GTS354 3rds + Kishen
11:00	Genetics Explained	Stephan
11:30		
12:00		
12:30	LUNCH BREAK	FACILITATE
13:00	DNA Extraction	Miguel + Carina
13:30	Gel experiment	Andries
14:00	A Career in Genetics	Don + Tama + Monique O
14:30	GMOs uncovered	Don + Tama + Monique O
15:00	View Gels (groups)	Felix + Robyn + Bianca + Storme
15:30	Open discussion + Closing	All



To start them of Miguel Camara Nunes and Carina Da Silva, gave the students a Genetics 101 on crude DNA extraction.



Once the intro to DNA extraction was done. The kids got their chance to feel like a junior scientist for the rest of the day. Starting with doing their own DNA extractions which they got to take home in little colourful vials.



Grade 10 students swirling their DNA

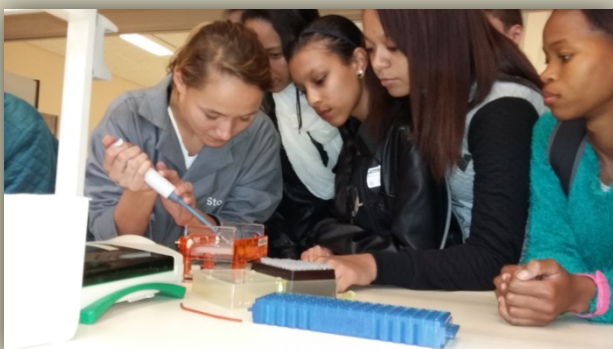
The students then got to try their hand-eye co-ordination skills in loading gels with DNA, but before they that, Andries van der Walt gave them a quick introduction to the techniques purpose as well as a how to demonstration.



Andries van der Walt



Once the students had all been prepped on the task ahead, the Honour students set forth to guide our evergreen minds in the art of gel loading!!!

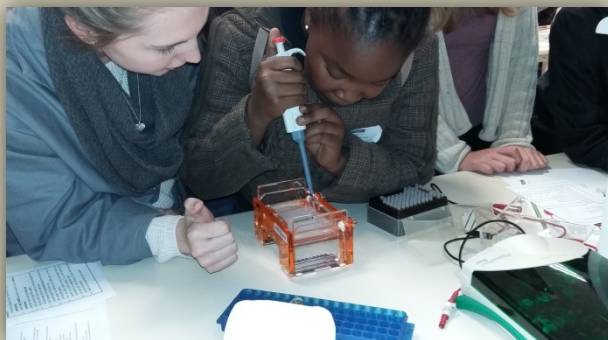


Storme de Scally showing kids how to load gels



Catherine Tatham demonstrating correct pipette technique

OK... WE showed you how it's done, Now it's YOUR turn.....



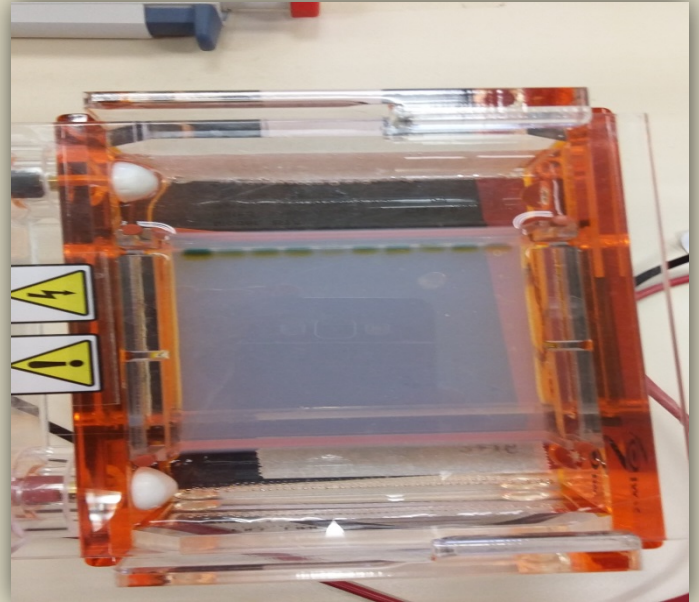
Stephan Engelbrecht and Monique Swanepoel watching kids watch a Gel run.... This took time :p



## And we have success....!!!!

Once the gels were run, the kids got to see what their master pieces looked like under UV light to give them an idea of what a gel looks like with DNA run through.

Needless to say the kids glowed with enthusiasm at the opportunity!

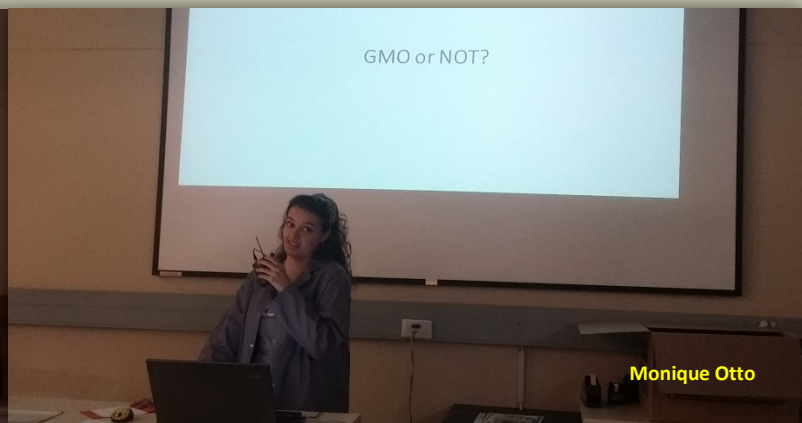
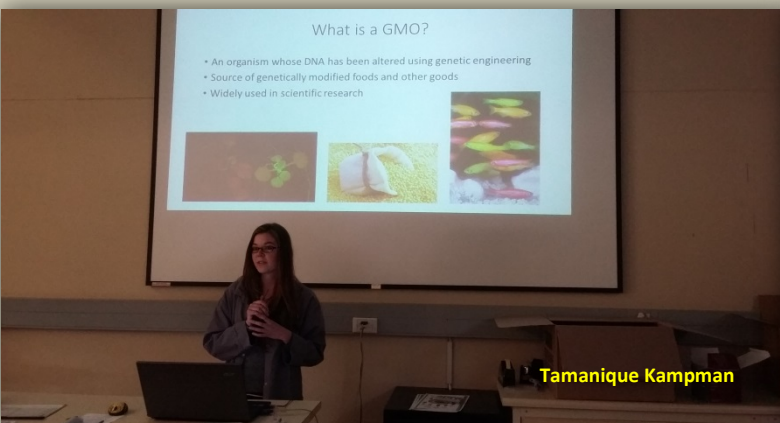


Once all the practical fun stuff had been completed, the kids were reconvened in the Biolabs for the last two presentations of the day.

Second last was Donovan Coles, who helped provide the students with the answers to the all wondering question “Careers in Genetics?”



Our last speakers for the day were Tamanique Kampman & Monique Otto who provided some great entertainment for the kids while still educating them. Their combined talk on Genetically Modified Organisms (GMOs) was filled with wit, clever banter and a fun game of guess the GMO....





**Honour students: Back (L-R) Willem Pretorius, Stephan Engelbregt, Ané Oosthuizen, Donovin Coles  
 Middle: Monique Otto, Catherine Tatham, Andries van der Walt, Miguel Camara Nunes  
 Front: Storme de Scally, Candice Herd, Carina Da Silva, Monique Swanepoel, Tamanique Kampman**

**Other students present at event:  
 Matthew Clayton, Katrien Brown, Halica Erasmus, Aston Govender, Felix Oloo, Bianca Rodrigues Jardim, Robyn Smith, and Catherine Wickham**

Written by: Kishen Mahesh  
 Department of Genetics  
 University of Pretoria