



# Microbe MAGIC

## Hello

ISSUE ONE 2005

Please circulate to your friends

We are back with our 3<sup>rd</sup> edition of Microbe Magic, to amuse and educate you! This is a special edition, to celebrate Cork being the European Capital of Culture (see back page). Do log on to our web site to see what we are up to in the APC ([microbemagic.ucc.ie](http://microbemagic.ucc.ie)) As always we are interested in hearing your views!

**Did you know?:** At any one time, you have more bacteria in your body than the total number of people who have ever lived on the planet.

### Poetry Competition Winner



Winner Abraham Cashman, 5th class Ballyheada National School, with his teacher, Jacqui McCarthy receiving the prize from Catherine Buckley, APC.

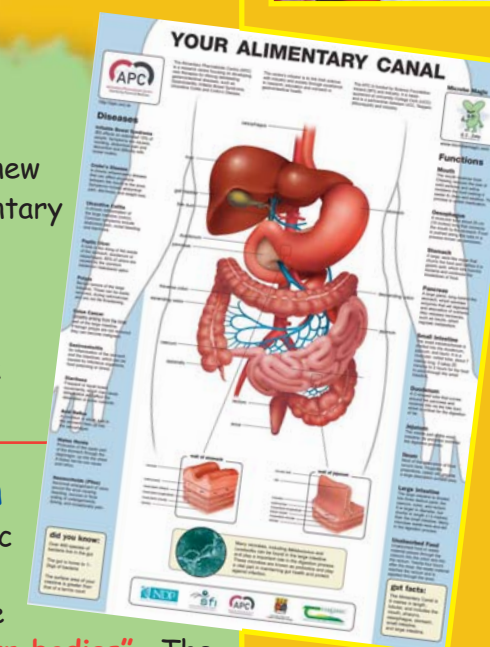
### WINNING POEM

#### Anything is Possible

by Abraham Cashman

In the lab the scientist stands  
With lots of tubes in her hands  
One is blue and one is green  
What's inside is yet to be seen  
She makes me think, she makes me dream,  
Could I turn a frog into a human being  
Could I make a dog that talks  
Or maybe even a plant that walks  
Anything is possible in science  
All you need is work and apliance.

See more highly commended poems on our website.



### Gut Poster

Did your school get our fantastic new poster? It shows the human alimentary canal and explains the role of the organs involved in the digestive process, plus some information on diseases of the gut! If you need a copy simply e-mail: [apc@ucc.ie](mailto:apc@ucc.ie)

**Our online competition** in the last issue of Microbe Magic was to complete the sentence "Bacteria are good for you because .....they are living medicine in our bodies". The winner was Liam McKimm, St. Michael's National School, Blackrock, Cork

The Alimentary Pharmabiotic Centre is a research centre funded by Science Foundation Ireland and is a partnership between University College Cork, Teagasc (Moorepark) and Industry.

Why not enter this issue's art competition? You'll find it on the back page.

## Capital of Cultures

### PETRI ART COMPETITION

**Experiment:** Draw a picture using the theme: 'Capital of Cultures'.

**Introduction:** Scientists often grow or "culture" microbes (bacteria, viruses, fungi) on special food in petri dishes. The food contains agar which is like jelly. It is poured into petri dishes and allowed to harden. Then the scientists grow bacteria on the surface. This circle is the size of a large petri dish.

**Method:** Cut out a piece of paper the same size as this circle. Your entry should be related to 'culturing microbes'. Any art medium can be used. There are 3 categories for entries: 3rd & 4th class, 5th & 6th class, 1st & 2nd year.

**Submit your entries:** Name, contact details, school address, class and teacher's name by April 15 2005 to:

Microbe Magic Capital of Cultures, Alimentary Pharmabiotic Centre, University College Cork

**Conclusions:** Winners from each category will receive art packs and a cuddly GI Jake. Winning artwork will be displayed in UCC and will be published on the MicrobeMAGIC website and in our next newsletter.

### CONGRATULATIONS



Congratulations to Patsy Donnelly, James Keane and Vivienne O'Mahony from St. Peters Community School, Passage West, Co. Cork and their teacher Martina Drohan on winning 3rd prize in the junior biological and ecological section at the 2005 ESAT-BT Young Scientists Competition for their project "A study of probiotics".

### TEACHERS' TASK

Bacteria are all around us and if given the right growing conditions, they can double by generating two "daughter cells" within 20 minutes. If these daughter cells multiply every 20 minutes then you go from 1 to 2 to 4 to 8 etc. and you get a lot of bacteria very quickly! Why not try this out in your classroom.

#### What you need:

1 bag of rice, 1 plastic container (empty yoghurt container), a good mathematician!

On day 1 place a single grain of rice in your yoghurt carton.

On day 2 place 2 grains in your yoghurt carton, on day 3 place 4 grains, on day 4 place 8 grains and so on!!!

How many grains of rice do you have after 10 days? Why not try calculating how many bacteria you would have after 20 or even 30 days ..... we think counting out this number of grains of rice might drive you all crazy!!

Just think if you put a cent in the bank and it doubled every day, at what point would you become a millionaire? Answer on website.



## Cork 2005

European Capital of Culture



## Discovery 2005

Visit the APC stand at DISCOVERY 2005, a stimulating environment for the discovery of science, engineering & technology.

DISCOVERY 2005 takes place in City Hall, Cork from 7<sup>th</sup> to 9<sup>th</sup> March.

### CONTACT DETAILS

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## GI Jake World Traveller!!!

I love to travel and recently visited some other scientists in New Zealand. The photo shows me at the famous Mitre Peak. Do you know where New Zealand is?



### FACTS

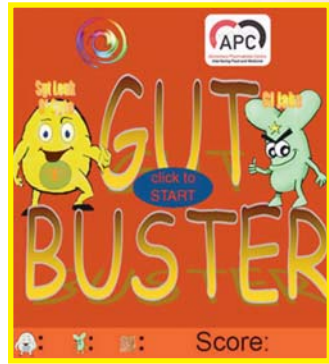
- It is located in the South-West Pacific Ocean
- The capital city is Wellington, located in the North Island
- The two islands combined are three times the size of Ireland
- New Zealand is well known for its All-Blacks rugby team
- New Zealanders are known as Kiwis, after the small flightless bird and not the fruit!!



## GI Jake Tours the APC

Why not check out the wonderful video that has been made about me and the APC at the Microbe Magic web site. In the video I talk to a number of scientists who work at the APC and find out lots of interesting information!

While you are at the site why not look in the games section and try out the GutBuster game, a new web-based game where you control Sergeant Luke O'Cyte as he battles to protect the gut wall from Pat O'Gen and the E. Coli Crew.



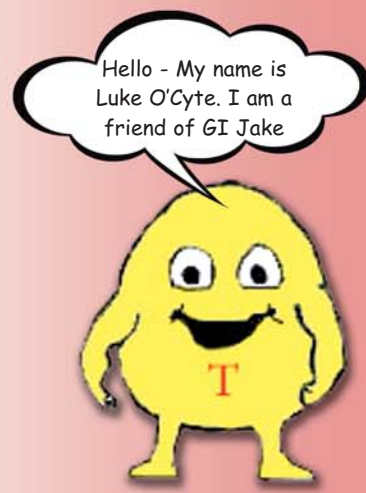
The video and game were made by Jonathon Dwyer as part of his MSc in Multimedia at UCC.



The Colon is the main part of the large intestine.

Colon cancer is a tumour which occurs when growths arise on the inner wall of the large intestine.

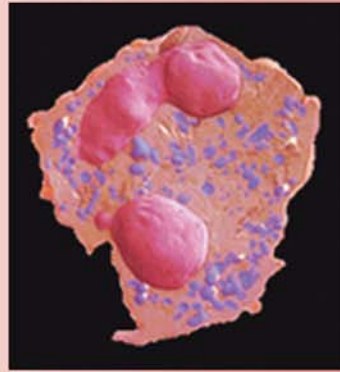
Commensals (which include probiotics) are microorganisms which live in close contact with the body without causing disease.



Hello - My name is Luke O'Cyte. I am a friend of GI Jake

## Meet GI Jake's new friend

A leukocyte (pronounced Luke-O-Cyte) is an immune T-cell in your body that swallows and destroys bacteria. This is a picture of what a leukocyte looks like.



Leukocytes are often called white blood cells because they are mainly found in your blood. However they are also present in tissues such as the spleen, lymph nodes and the gut. In the gut, Luke O'Cyte helps GI Jake to kill the bad bacteria and viruses that make you sick.

## SCIENCE WEEK IRELAND

During **Science Week 2004 (8-14 November)**, a crew of scientists from the Alimentary Pharmabiotic Centre visited over 40 schools

throughout Cork to spread the magic of Science. Scientists at the APC are enthusiastic and excited about their research and enjoyed explaining it to such eager students. They were amazed at how many of you want to be scientists.

APC Science Week activities were partially funded through a Bursary received from the Forfás Discover Science and Engineering programme.

Kieran Ryan and Catherine Buckley, APC, at Scoil Aban Naofa Bally Mhuirne, Co. Chorcaí.

