

# Douglas Community School

Douglas, Cork

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Spring 2012

## PRINCIPAL'S ADDRESS

I have great pleasure in welcoming the publication of our Spring Newsletter. The school year to date has been a very successful year with outstanding achievements in many areas. This newsletter particularly chronicles the achievements of our students in the areas of Science, Mathematics and Technology. I would like to congratulate Shane O'Sullivan who achieved first place in Ireland in Chemistry at last summer's Leaving Certificate Examination. This was a fantastic achievement for Shane and also for Douglas Community School. Shane has also been awarded an Entrance Exhibition Award to Trinity College Dublin where he is currently studying Genetics.

Science and Technology education has been highlighted as crucial to the economic recovery of this country. From the articles published in this newsletter, it is evident that Douglas Community School is fully committed to playing its part in continuing to be at the forefront in the promotion of Science and Technology Education. I would also like to congratulate all of the 2011 Leaving Certificate Class who performed outstandingly well in the Summer Examination and the vast majority of whom have gone on to third level study. This could not have happened without the commitment and dedication of their teachers and I would like to convey my gratitude and appreciation to all the staff.

Jim Long, Principal



### FIRST IN CLASS: SHANE O SULLIVAN

Douglas Community School extends its warmest congratulations to Shane O'Sullivan who sat his Leaving Certificate exams last year. Shane scored an extremely impressive double: he was awarded the Institute of Chemistry of Ireland Medal for attaining the highest marks in the country in Chemistry, and he was also awarded an Entrance Bursary to Trinity College Dublin.

6272 students sat the Higher Level Chemistry paper in June 2011 – Shane scored the highest mark in the country, an accolade he shares with just one other student. Shane's First Place in Chemistry is a testament to his application to, and flair for, the sciences. It is also a testament to the exceptionally high level of science teaching in the school, which is helped by evermore well-equipped laboratories and specialist teachers in each subject.

Shane is continuing his scientific pursuits at Trinity College, where he is now studying First Year Genetics. His potential has been recognised by TCD, who are clearly delighted to have him as a student, and have awarded him an Entrance Bursary – Shane is definitely one to watch out for in the future!

### ELECTRICAL ENGINEERING QUIZ

Congratulations to four of our fifth year students who won the prize for Best Fifth Year Team in the UCC Electrical Engineering Quiz for secondary schools! The quiz was held in the Electrical Engineering Building on the Main UCC Campus, with schools from all around Munster taking part. Teams of four compete in what has become a very high-profile and hotly-contested competition.

The DCS team was composed of Stephen O'Sullivan, Shahrukh Nawaz, Oisín Dwane and Shane O'Sullivan, all in fifth year. As well as the title of Best Fifth Year Team, they netted a snazzy Easypix DVC-5127 digital camcorder each, sponsored by EMC. Now say 'cheese'!

They now have their sights set firmly on next year's quiz!





## LEGO ROBOTICS COMPETITION – ANOTHER CUP FOR DCS

Once again, the very successful Douglas Community School Robotics team reached the final of the national LEGO Robotics Competition in Galway, where the boys came a very impressive third out of a field of more than 40 teams.

The team of thirteen fourth year students were aiming for the top spot, and a place in the European final in Germany. They had been working on the project since September, under the expert tutelage of Physics teacher Neil Bronks and had logged a huge number of man-hours, including many lunchtimes and late nights! While the main focus of the competition is programming a robot, provided by the competition organisers, to complete a wide variety of tasks, the students also had to complete a research project based around the area of food safety. For this part of the competition, the team created a website giving information on various food safety issues, which can be visited from the DCS school website.

For the main part of the competition in Galway, nearly 30 tasks are set, and each team must get its robot to complete as many as possible within two minutes. This brief time period belies the huge amount of time that the team had spent coming to grips with how to successfully programme the robot. However, Team DCS had clearly spent their time wisely, and were in the lead after the first two rounds! A slight slip backwards left our students in third place heading into the fourth round. Unfortunately, a bad run in this round meant that the boys just missed

out on qualification for the final.

However, a surprise was in store for our lads: they were awarded a Judges' Discretionary Prize for Best Participation on the Day, and Best Teamwork! Even though they won't be making the trip to Germany, it was another great day for the school, with praise from all quarters for the lads' attitude. Everybody made a contribution; it was truly a team effort!

The team, pictured right, was: Jordan Smith (Capt), Pawel Kulicki, Leon Domoney, Brendan Couch, Adam Dalton, Eoghan O'Brien, Matteo Campinote, Gavin Falvey, Aaron Murphy, Ciaran Devine, Fearghal Magner, Brian Creagh, and Daniel Mason (not pictured).



## DCS IS ON THE MOVE – TO THE CLOUD!



While we're still here in the heart of Douglas, staff at DCS are providing more and more resources online, so that students can access them in their own time. While this trend has been underway for a few years, it has really taken off this year – teachers all around the school have been developing a range of interactive and digital resources for the students' benefit, and many now have their own websites packed with these resources, which are being accessed by students both in school time and as part of their home study.

This trend is particularly strong in the science subjects (populated as they are by computer geeks!) – Neil Bronks and Cian O'Mahony have, respectively, their Physics and Biology notes all available online, and Ber Clarson has the Chemistry site well under construction. Using the interactive whiteboards in their classrooms, teachers are able to save any notes they write in class, and post them online. Teachers have begun scanning in exemplars of students' work, and posting them up for

their peers to learn from. Now, as part of the Learning Schools project, teachers will be posting students' own educational videos online for others to access.

A comment that is becoming more and more frequent at parent teacher meetings is how useful students are finding these resources – because everything is archived, it's easy to find exactly what you're looking for! Files can be viewed, saved, and printed off by students at any time; what's more, a number of the resources online are interactive, and can be used by students at home to deepen their own understanding. In fact, resources posted on Wikidot sites can be viewed on an iPhone, using the Wikidot app.

Douglas Community School – now there really is an app for that!

A full list of sites is available under the Student Resources tab on the DCS website.

### Dept. of Education and Science Inspector's Report: Douglas Community School

**"The extensive range of co-curricular and extracurricular activities provided by a dedicated staff is one of the great strengths of Douglas Community School. The variety of activities on offer ensures a high level of participation among students. Among the many co-curricular activities provided are visits to the Blackrock Observatory, theatres, galleries, museums, cinemas, libraries, the Dail, local enterprises, science exhibitions and lectures."**



## SQUARING THE (MATHS) CIRCLES AT DCS

Since September, Douglas Community School has been involved in running one of the first Maths Circles in Cork. These are after-school mathematics clubs for First Year students who have shown a particular interest in maths, and are run in conjunction with staff in UCC and CIT. We were lucky enough to have J.P. McCarthy, currently studying for his PhD, come to DCS to run the first five sessions. The fact that someone from outside the school, who is clearly very interested in maths, and extremely good at it, would come in to work with our first year students had a very big impact on them. They responded extremely enthusiastically to the classes, with more than one of them asking for a second after-school class per week!

Since then, the Maths Circle has been run by maths teachers at DCS. The classes are centred around problem solving questions, with students often working in groups of two or three rather than singly to solve puzzles. The aim of the classes is to continue to engage the more able students, and to challenge them in a subject they may find very easy in school. Given the enthusiastic responses from those involved, we seem to be achieving this aim! Jim Long, the principal of DCS and a former maths teacher himself, is delighted with the classes. "In schools all around the country a huge amount of support is put in place for those students struggling with maths, to the extent that the very able or gifted students can often be overlooked. It's fantastic to see those very good

students so engaged in the Maths Circle, clearly enjoying the experience of being challenged mathematically."

Classes similar to the Maths Circles are currently provided for students in second to fifth year in DCS, so that those who have become interested in more challenging maths can continue to have that interest nurtured and sustained. Students in senior classes are encouraged to take part in the UCC Enrichment classes – a number of fourth and fifth year students currently attend these classes, and will be sitting the Irish Maths Olympiad in May. We hope that our current Maths Circle group will be doing the same in a few years' time!



## DCS: WELL-EQUIPPED FOR THE FUTURE!

Douglas Community School has been a leader in the teaching and learning of Science and Mathematics for decades. Recent close collaboration between the two departments has led to new innovations in the teaching of graphing, data collection and presentation in the two subjects. One such innovation has been the purchase and use of a full class set of datalogging equipment. These are handheld computers which are able to measure a large variety of variables such as temperature, sound, voltage, pressure, and so on. The collected data is used by the boys in the classroom to bring to life such topics as statistics, co-ordinate geometry and calculus. Combined with the interactive whiteboards that are to be found throughout the school, this equipment has allowed teachers to create extremely rich learning environments for the boys.

It is great to see continued investment in these areas by DCS, even in such straitened times.

## LEARNING SCHOOLS INITIATIVE

It's not just the students who are learning at DCS – the teachers are too! For the second year in a row, teachers are taking part in the Learning School initiative. This is a project, run with the support of the Cork Education Support Centre, where schools try to develop new ways of teaching.

Last year, the Science department ran a project where the teachers carried out oral as well as written assessments of first year students. They found that, not alone did this help improve students' grades, but students appeared far more confident about the subject after the oral exam.

The teachers involved wrote up a report which they presented at a meeting of all involved schools in the Munster area. Their presentation was so impressive that it was cited as an exemplar for those taking part in the Learning Schools initiative this year!

So this year, it was the Maths department who got involved in the Learning Schools initiative. The central idea of the project is to get students to create educational videos on particular topics. Students will collaborate to create short videos, each one of which will explain a particular idea or problem. The main aim is that students engage with the material in a fresh and exciting way as they try to imagine how best to present and explain it in video format.

The videos will be posted online, so keep an eye on the DCS website for further updates, and to view the final products!

## Dept. of Education and Science Inspector's Report: Douglas Community School

"Students have successfully participated in many competitions and quizzes relating to different subject areas such as Science Olympiads, the Young Scientist and Technology competition, Young Social Innovators, the President's Gaisce awards, a robotics competition, photography competitions, German debates, public speaking and maths and business quizzes."

## A YOUNG SCIENTISTS' POINT OF VIEW

Douglas Community School has over thirty years of unbroken participation in the BT Young Scientist and Technology Exhibition. Indeed, for many years the school has had the largest participation level by far of any boys' school in Munster and has won numerous prizes, including best overall individual project some years ago.

Brendan O'Brien of fifth year has participated in the Young Scientist competition a number of times. This year, along with classmates Luke O'Leary and Aidan Donegan, he studied the decline of the Cordyline tree during the big freeze of 2010. Here he reflects on what the Young Scientist competition means to him:

Looking back over my time in school so far my trips to the Young Scientist stand out as some of the best experiences I've had. I qualified for the exhibition a total of three times making the trip to Dublin to surround myself with interesting ideas put forward by students from all over the country. I think a great thing about the exhibition is that it helped me to learn to delegate while I was in charge and take orders while I wasn't. Since I was working with classmates and close friends I learned to work in a team in a friendly and efficient manner, something which will no doubt be helpful in my future workplace. As our projects were optional we were able to break free from the obligatory and directed work of the classroom and explore ideas that we personally found engaging. At the same time the fact that we weren't directed



Driven by innovation, delivered by BT



opened such an exciting world of endless possibilities. We quickly had to learn to make decisions and manage our own work. None of us had any experience speaking publicly so the fact that we had to present our ideas to judges helped us learn communication and presentation skills. I think I learned more about presentation from the Young Scientist than I could have from a professional course because I was actually interested in what I was presenting, which is something the judges picked up on when commending our enthusiasm.

Beyond skills building, the exhibition helped me to develop personally, boosted my confidence and added to a now quite diverse group of friends. The fun with new friends alone made the trips worthwhile, we even roused some interest in the exhibition in our year with the stories we brought back. My interest in science and technology has never been greater. While there I felt like I was on the cutting edge of innovation and exploration. I was surrounded by the great minds of the future with professors trying to convince students to take their classes and business scouts looking to buy or "borrow" ideas. My experiences there will take pride of place on my CV as a kind of "watch this space" badge, something few people have.

## BUDDING LINGUISTS BLOOM AT DCS

This year, for the first time, DCS students took part in the All-Ireland Linguistics Olympiad (AILO). This international contest challenges secondary school students to apply logic and reasoning skills to solve complex puzzles in unfamiliar languages. Congratulations are due to four of our fifth years, who scored in the top 100 in the country, and were selected to take part in the national final in DCU in March. The DCS quartet – composed of Daragh Fleming, Eoin Bourke, Stephen O'Sullivan, and Brendan O'Brien, all of 5th year – will be competing

to represent Ireland at the International Linguistics Olympiad in Slovenia in July 2012.



The AILO challenges students to apply logic and reasoning skills to solve complex puzzles in unfamiliar languages. The first round included questions on relatively well-known languages such as Dutch and Danish, and more obscure ones, like Bardi, an Aboriginal language with only a handful of fluent speakers. Students essentially become code-breakers, and must attempt to use fragments of an unfamiliar language to figure out the underlying rules. Many of the techniques used in this kind of analysis are actually very widely used – two well-known examples would be Apple's Siri voice recognition system and the Google Translate machine translation engine. So computational linguistics is actually all around us!

Our students found the problems challenging, engrossing, sometimes frustrating and occasionally addictive. They required, for their solution, a blend of logic, perseverance and ingenuity which was clearly possessed in abundance by a number of DCS students!

The boys are saying: "Expensive [Korean] Duck [English] Feathers [Dutch]"!



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The full content of the Inspection Reports can be accessed via the inspectorate link on the Department of Education and Science website: [www.education.ie](http://www.education.ie)

### Dept. of Education and Science Inspector's Report: Douglas Community School

"A vast array of co-curricular and extracurricular science activities, including fieldtrips and quizzes, is employed to expand students' scientific experience and consolidate their learning. In addition, students have been furnished with the opportunity to attend DNA workshops in University College Cork and have participated in events such as the Young Scientist and Technology Exhibition and the robotics competition. The continued commitment of teachers to the organisation of these very valuable activities is a key element of the students' school experience and is to be highly commended."