

# in TOUCH

*with future scientists*

October 2010 Issue 3





Arrow Pharm (Malta) Ltd  
Proud Sponsor of the  
Science Students' Society

## Science Drives Our Global Mission

Every day the employees of Arrow Malta, now a member of **The Watson Group**, are committed a singular global mission: to develop and distribute trusted generics and advanced, specialty branded pharmaceuticals, enabling people of the world to achieve a better quality of life.



# The editor



**John Gabareta** is currently the Education Officer and RSC Liaison of the Science Students' Society, while reading for a BSc (Hons.) degree in Chemistry with Materials.

Once again, the new academic year has arrived. For most of you students new to University, this means a radical change in the way you look at your education. University is the final stepping stone towards achieving what one has been studying for throughout most of his or her life so far. However, University is far from being simply an academic experience and brings about a whole spectrum of new opportunities.

We here at S-Cubed, know precisely what this means; which is why we have been hard at work throughout the past summer holidays to bring you a whole set of both educational, as well as extra-curricular leisure activities and I am sure they will be more than fulfilling for all of you. Of course this could not have been achieved were it not for the great teamwork and dedication which characterises the S-Cubed executive all

throughout the year, and I would like to take this opportunity to thank each and every member for his and her hard work and commitment.

It is through initiatives such as this magazine, 'In Touch' and several others, such as our stand at Freshers' Week that we as an organisation, built on the premise of "promoting unity among science students", seek to build bridges and strengthen the way forward for science students on Campus. For this reason, I would like to encourage each and every one of you, particularly the 'Freshers', to look at this new scholastic year as being more than just education. Whilst extending a warm welcome to all of you, I encourage you to attend the several activities we will be organising.

On a final note, I hope that you will find your experience here on Campus fulfilling and that it will provide you with many good memories.

## contents

**5 Welcome to the Faculty of Science**

**6 Strengthening your way forward...**

**10 My experience as a first year University student**

**12 2010 International year of Biodiversity**

**16 The climate summer school**

**20 Jelly Season**

**22 When its time to enroll for a course**

**Address:**  
Office number 6  
Science Students' Society  
Students' House  
University of Malta  
Tal-Qroqq,  
Msida MSD 2080

**E-mail:**  
info@scubed.info

**Telephone:**  
+356 9983 4244

**Editor:**  
John Gabareta

**Scubed Committee:**  
Jonathan Falzon  
Julian Bonello  
Katrina Grech  
Mark Farrugia  
Marie Claire Gatt  
John Gabareta  
Roderick Micallef  
Dawn Grech

**Design:**  
Printing Unit,  
University of Malta



Please recycle this copy after reading it.  
This issue was printed on recycled paper.

# NOTICES

- Scubed will be participating in – One World Week organised by KSU. **18th – 23rd October** on Campus.
- The 6<sup>th</sup> Annual Science Seminar – Baystreet Hotel 4 - star. **22<sup>nd</sup> – 24<sup>th</sup> October.** Applications out now!!!
- Check out the Science Students' Society stand at the 'Science and Technology Festival' organised by the MCST on the **25<sup>th</sup> – 31<sup>st</sup> October.**
- Scubed will be having a stand at the ETC Youth Days on **Wednesday 20<sup>th</sup> October** 5.30pm till 8pm, The Granaries, Floriana.
- Visit our website [www.scubed.info](http://www.scubed.info) regularly for more updates about our upcoming activities which include 'On The Trail', clean ups, parties and site visits.

# Welcome to the Faculty of Science



**Prof. Charles Sammut** is the Dean of the Faculty of Science, as well as Head of the Department of Physics at the University of Malta.

The University consists of twelve Faculties and a number of Centres and Institutes. The Faculty of Science was established in 1915 and the first meeting of the Faculty Board was held on the 17<sup>th</sup> September of that same year.

A great deal has changed since then and this Faculty has become one of the leading Faculties in terms of quality of teaching, research and administration, even more so over the past few years, which have seen significant growth in size and improvement in teaching and research facilities. Some of the research being carried out in this Faculty is ranked among the best internationally and our reputation for excellent teaching and research has been instrumental in attracting foreign students, both undergraduate and postgraduate.

I therefore feel privileged to be at the helm of this Faculty and to be welcoming the new students on behalf of my colleagues and myself. Of course, I also welcome back all the students in the more advanced years and look forward to establishing the same informal friendship with our new students as has been established with those who have been with us for a number of years.

Indeed, one of the aspects that best defines the character of this Faculty is the good relations that exist between the staff and students. This is a student-focused Faculty, and most of what we do as academics, administrators and technical staff addresses directly or indirectly the needs of our students.

The Faculty consists of five departments: Biology, Chemistry, Mathematics, Physics, and Statistics and Operations Research. As you will already have chosen your subject areas, I will not enter into matters concerning such choices, and refer you instead to the Bye-Laws of the respective degree programme to which you have registered for further details.

One of the fundamental issues you will have to deal with throughout your University years concerns the information you need to know about regulations, bye-laws, guidelines, etc. Although this

information is available on the University web pages, these can be quite daunting but remember that we are here to help, as long as you know where to seek the required advice.

As you may have already been informed, as first year students, you will be assigned tutors who are there to provide guidance and support. You should meet with them regularly to discuss any problems. Please keep in mind that problems or questions of a technical nature pertaining to particular study units are best answered by the person/s lecturing that unit or by the relevant Teaching Assistants. On the other hand, problems or questions of an administrative nature should be addressed in consultation with the administrative staff. In this case, your first port of call should be a department secretary (in cases pertaining to study units of that department) or the Faculty Office, which is situated on the ground floor of the Physics and Mathematics Building.

We are committed to providing a quality educational experience but at the same time, we shall do our best so that you enjoy working with us. Indeed, the period of your lives spent at University should not be a memorable one for the wrong reasons. Hard and continuous work is necessary but it is equally important that you enjoy this work, as that way, your efforts will seem less onerous and much more rewarding.

We shall undoubtedly meet several times during the course of your studies. Hopefully, these occasions will be happy ones that serve to encourage and congratulate you. It is not so difficult to ensure this. All you have to do is to observe the regulations, do your work in time and at all times show respect to the staff, who are dedicated to helping you.

Once again, I welcome you and look forward to getting to know you.

Professor Charles V Sammut  
Dean, Faculty of Science  
Head, Department of Physics

# Strengthening way forward



**Jonathan Falzon** is currently the President of the Science Students' Society and is in his third year of study for a BSc (Hons.) degree in Biology & Chemistry. He is also a member of the Faculty Board of Science.

Another year has started and I am really looking forward to it! But please let me explain that I'm not just looking forward to lectures and practical sessions. Rest assured that the Science Students' Society is here to make life at University much more interesting and worth remembering. We have spent the whole summer planning activities and campaigns for all science students to take part in and enjoy and we are sure that we'll meet everyone's expectations. From one year to the next, we make it a point to improve on the activities you like best as well as add new experiences.

We're about meeting new people, making friends, and getting the most out of our time here at University. We create a light-hearted supportive yet entertaining environment, in which we make it our duty to provide informative student services, help and advice, discounts to members, and study relief in the form of many popular events ranging from parties and recreational events to seminars and site visits to knowledge based industries in the field of science.

The Science Students' Society, known as SCubed, was established at the first Annual General Meeting held by the founding committee on the 7<sup>th</sup> April, 2003 for all students in the Faculty of Science at the University of Malta. Our main aim is to promote unity among all current and potential students of science through social and educational activities. We also represent its members at the University of Malta and on a wider national and international level. Throughout the year we also do our best to promote cultural and scientific interchanges amongst students as well as to encourage the development of an environment more conducive to

the advancement of science. The society reserves the right to take part in public but strictly non-partisan campaigns.

SCubed is currently run by a committee of University students from the Faculty of Science. The committee is re-elected annually by the members of that year. At the moment the committee is made up of myself as president, Julian Bonello as secretary, Katrina Grech as treasurer, Mark Farrugia as public relations officer, John Gabarretta as education officer, Marie Claire Gatt as social policy officer, Roderick Micallef as activity coordinator and Dawn Grech, who has recently joined as an executive member.

Quality and value for money have always been a priority to us. Last year we organised two seminars in 4 star hotels at very discounted prices. Students had the opportunity to spend three days together learning and discussing new ideas and chilling out and partying during our themed nights.

Additionally, SCubed participated for the first time in the Malta Council for Science and Technology's (MCST) Science and Technology Festival. This was held at University over a week and we are now anticipating this year's Festival which will be taking place later on this month on campus.

Another big annual event that we organise and has become synonymous with SCubed is "On The Trail." This event incorporates an overnight camp with an educational treasure hunt. I take this opportunity to show our appreciation to the geography student organisation, UMGS, who helped us in setting up last year's treasure hunt. More information about this year's edition will be available soon!

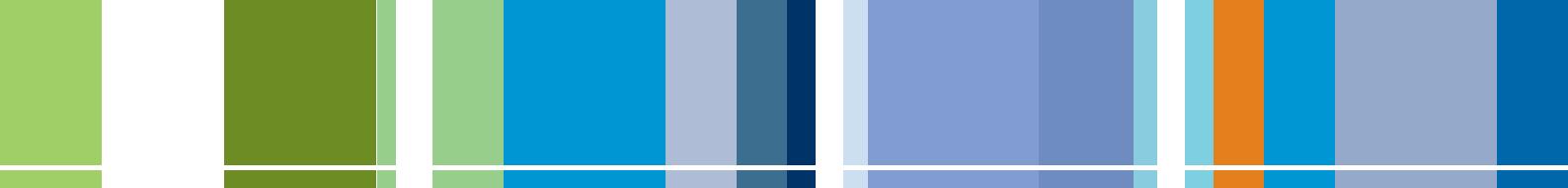
>> page 8

# ng your d... .

5<sup>th</sup> annual seminar



Science vs Religion debate



Modern Science seminar



On the trail



On the trail

SCubed also actively participated in the Environmental Campaign last March. We helped in clean ups and tree planting and for the first time organised a site visit to the Botanical Gardens in Floriana for University students. This year we plan to continue taking environmental awareness seriously while promoting it with students, so clean ups and other green activities will be organised more frequently. I can proudly say that in all our work, the environment is always a priority.

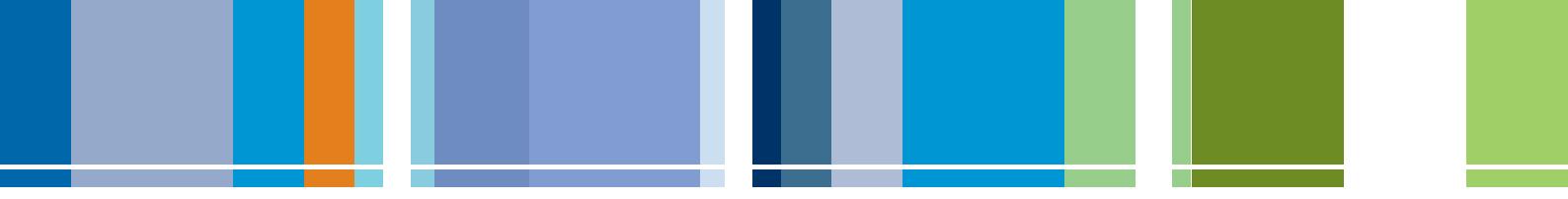
Other activities we participated in during the past year include Organisation Days, in which we presented a heated debate regarding the relationships between science and religion and also set up some experiments in the quadrangle.

Our work is not only about activities. We have created the role of an educational officer to have someone in charge of any academic issues and complaints. Just to mention an initiative we carried out last year after we had received several complaints was the "Maths Books Campaign" where we supplied the first year Chemistry students with the maths books they needed. These were supplied by the Royal Society of Chemistry at a discounted price. As affiliates of this society we always do our utmost to get the best prices on any material that you may need. Do not hesitate to contact us if you require any help in contacting the RSC.

Strengthening your way forward is the duty we stand by. We promise to help get you started on the right foot and be there to help you through the duration of your course. We will shine the light on new opportunities and prospects to aim for after you graduate. Although we know that, at times, life at University can get tough we are here to make it all worth while and, by the end of it, you can look back with a smile and forward with that something extra.

I would like to conclude by firstly thanking the executive members of our organisation as all this work that I have mentioned wouldn't have been possible without their help. I would also like to thank all those students who support us and attend our events regularly. Finally I would like to thank all the lecturers and staff of the faculty of science for their ongoing help and support both to the organisation and to the students.

Jonathan Falzon



Science week demonstrations



# My experience as a first year university student



**Dawn Grech** has recently joined the Science Students' Society's executive and is currently reading for a BSc (Hons.) degree in Biology & Chemistry.

I remember walking into the University quadrangle at freshers' week thinking it shouldn't be too hard and being proved wrong shortly afterwards. Most university students are academically prepared however academic knowledge alone is not enough for one's survival at University.

To start with, the environment is completely different for us all, irrelevant of the sixth form we previously attended. I had obtained a map of the University first thing during freshers' week and it really aided the process of finding classes and avoided missing lectures just because I couldn't find the lecture room. Another overwhelming factor no fresher is prepared for is the large number of students. The fact that many of these are new faces makes it even more difficult if you require help. One eventually realises that many students are in the same boat. Therefore never refrain from asking

*“Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.” Oscar Wilde.*

questions; we're all here to help each other and make friends!

The online university system needs some getting used to especially for those who are unfamiliar with how the system works. I was one of those who was unfamiliar and it took some time for all of it to sink in. However it is doable. I remember raiding my friends with questions and going berserk when I thought I was the only one not knowing about something example a change in the timetable or classroom. I strongly advise to check your webmail, VLE and e-sims regularly!

We all learn from our mistakes and university life is no different. At University, January exams come too soon. This is something I didn't realise and in fact most students, particularly freshers, don't realise until they're actually sitting for their exams. The whole experience at University environment, the people and the system so overwhelming that by the time you get used to it all you'll be sitting for your exams. I suggest you get yourself organised from the very beginning as this avoids a lot of last minute hassles like obtaining missing notes. Utilise your Christmas holidays well and try not to leave any pending work, assignments, such as lab reports, academic difficulties and other accumulated work as it will be very difficult to catch up.

And finally enjoy it, it passes too quickly. Take part in extracurricular activities, attend parties, participate in seminars, visits and voluntary work. My favourite experience at the university was a camping adventure with SCubed. It was pouring rain and very windy that weekend and believe it or not that was the best part of it all. Of course, the company of my friends made it an unforgettable experience.

University life stretches further than just the academic part. There is more to one's life at University than just bearing with lectures, coping with assignments and lab sessions and studying which might seem daunting at first. This is only one aspect

# s a first student

and perhaps not the most exciting even if it is very important. Being able to cope with all that goes on during one's university years is an education in itself. My first year at University was a challenge, one of finding a compromise between the academic part of University and the extracurricular part. In my opinion this is the key to one's success at University. Of course the academic part that is lectures, assignments, lab work and exams twice a year are all extremely important however I feel that students will be missing out on a lot in life if they only give importance to the academic part of university life.

Dawn Grech



**Meet 'n Eat**

A coffee shop close to University  
serving a selection of fresh baguettes & ftiras,  
salads, wraps, cookies, muffins and lots more  
at very reasonable prices! wifi available

Opening Hours:  
Monday to Friday  
7.00am - 5.30pm



Tel: 21317206

# 2010 International Year of Biodiversity



**Katrina Grech** is currently the Treasurer of the Science Students' Society while reading for a BSc (Hons.) degree in Biology & Chemistry.

**S**cubed throughout the years has always seen the importance of biodiversity and thus has tried to educate students from different faculties, not necessarily coming from a scientific background. During the past year Scubed organised a site visit to the Botanical Gardens in order to allow students to appreciate the different types of plant species that survive in a Mediterranean climate. Some of which are not commonly seen in one's everyday life. Also, during the 2010 Environmental Week, Scubed took part in both the tree plantation campaign and clean up in order to make students aware of how our everyday negligence can accumulate and cause problems in our environment.

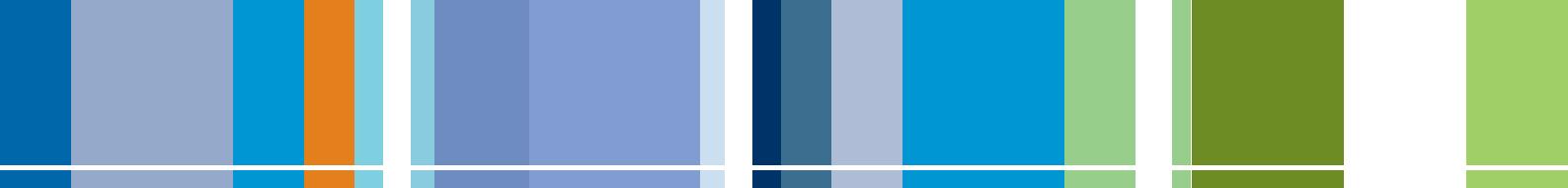
Biological diversity is the variety of life on earth and the natural patterns it forms. It forms a web of life of which we are an integral part and on which we are fully dependent. Biodiversity is a result of billions of years of evolution, shaped by natural processes and human interventions. Biodiversity includes all animals, plants, micro-organisms, the enormous diversity of genes and also different ecosystems, including forests, deserts and coral reefs.

People rely on this biodiversity to provide the food, fuel, medicine and other essentials one simply cannot live without. Yet power, greed and politics has affected this rich diversity, and thus is being lost at a greatly accelerated rate. As a result this loss weakens the ability of the living systems, on which we depend, to resist growing threats such as climate change.

To bring to light these problems, and try and minimise the rate of biodiversity loss, the United Nations proclaimed 2010 to be the International Year of Biodiversity. Thus people all over the world are encouraged and taught how to safeguard this irreplaceable natural wealth and reduce biodiversity loss. This is vital for current and future human well being.

Malta, throughout the year has also launched an awareness campaign as part of a number of initiatives. For example this year four new marine protected areas





# year of Biodiversity



have been designated. These protected areas cover around 18,000 hectares of the Maltese marine environment and are located along the north east of the island and three smaller areas situated in Mgarr ix-Xini, Dwejra and an area between Ghar lapsi and Filfla.

The sites are given particular international importance since with their protection, 80% of endemic Posidonia beds found in the local Marine territory are now protected. These Posidonia beds, referred to as Merghatt tal-Alka in Maltese, are of utmost importance since they provide food and shelter for many marine organisms, and also help prevent the depletion of sand from sandy beaches.

Also a new endemic subspecies has been recognised for the Maltese island. The Maltese Shrubby Kidney Vetch, scientifically known as *Anthyllis hermanniae* subsp. *melitensis*, is only found on the Maltese archipelago and is one of the seven different subspecies. This species is found growing along Malta's rocky coastline and in garigue areas. In Maltese this subspecies is known as Hatba Sewda and has small dark greyish green leaves. It is a dense perennial shrub usually reaching a height of about 50 cm. In early spring it has golden yellow flowers which may be solitary or in clusters of three or six.

This species is of such importance that Malta is obliged by the EU legislation to select and protect certain areas in which it is found in order to safeguard this habitat. These areas are known as Special Areas of Conservation and are found in several places throughout the Maltese island.

Biodiversity is complex and encompasses everything and everyone. However, biodiversity is a story of life and the systems that sustain it. If we want to motivate people around the world to take action to safeguard biodiversity, we need to help them discover the amazing connections between themselves and the world around them, and then realise the consequences of biodiversity loss as well as the huge benefits we will all share if we conserve and use it sustainably.

Katrina Grech



# DRIVING RESEARCH & INNOVATION

Did you  
know?

The Malta Council for Science and Technology (MCST) is the National Advisory Body to Government on science and technology policy, and provides support to Researchers and Scientists, with an emphasis on research and innovation.

## MCST:

- as the FP7 National Contact Point, has helped local companies benefit from over €8 million under FP7 during its first 3 years of implementation (2007-2009),
- has funded 32 research projects, worth €2.8 million, through the National Research & Innovation (R&I) Programme, and
- obtained over €700,000 through the European Regional Development Fund (ERDF) to assist research in the Manufacturing Industry.



Malta Council for Science & Technology  
Villa Bighi, Bighi, Kalkara KKR 1320  
Tel: 21660340  
[info.mcst@gov.mt](mailto:info.mcst@gov.mt)  
[www.mcst.gov.mt](http://www.mcst.gov.mt)



**[www.scubed.info](http://www.scubed.info)**

# The climate su



**Norbert Bonnici** is currently reading for a BSc (Hons.) degree in Computer Information Systems and Physics.

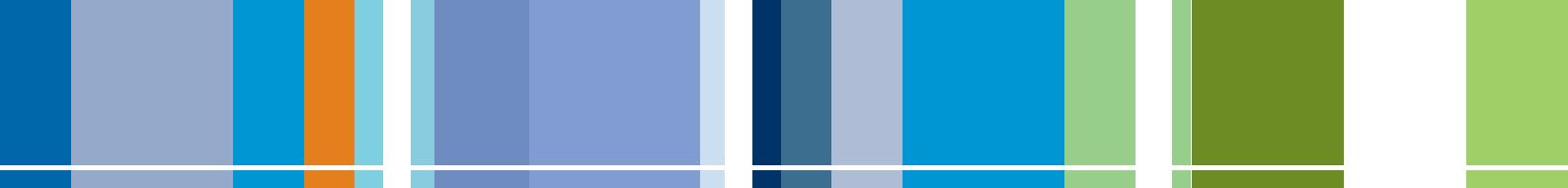
What would you do if life brings you lemons? You make lemonade. The problem arises when you have a new computer cluster. The solution is 'clustade'. In very simple English, we run a few climate and weather models over a school of fish.... Erm...nodes, through MPI (Message Passing Interface).

Some people might wonder what scientists do, why do they waste their time playing with computers to model climate? Well first of all, personally, because it's fun using one of the most expensive devices on the island. The real reason is that, to understand how stuff works you need to know how the atmosphere works, rather than replicate it, and be able to predict what it will do and what its most likely disastrous impacts would be. Since the Earth and its atmosphere are way too big to fit in a petri dish, we use computers to perform our experiments.

To reach young science students a summer school was organized by Dr. Noel Aquilina, a local lecturer in the Department of Physics, with the help of Mr James Ciarlo` and yours truly, both students of his. It consisted of two parts: a series of introductory lectures on meteorology, data mining, how climate models work and post processing. Also, a hands-on experience with data mining



stationery | gift  
papi



# summer school



and post processing of modeled data.

While the theoretical part was fun to learn, the hands-on was the best experience I had. My duty was to install two new models on the computer cluster, test them and provide an "easy how to use" guide. In addition, I had to learn and teach how to use NCL (National Center for Atmospheric Research Command Language) which is a command line post processing.

Learning a subject and trying to teach it in a very short, helps you to instantly burn the information in your mind. If you have a short memory, you can always rely on the computer cluster's NAS (Network Attached Storage) box to store your priceless information.

Doing such work during the summer holidays helped me get more organized through the use of the lab notebook (where every single piece of information must be written); and get an inside look to the world of research where I will spend the rest of my life in. I really recommend new students to do something similar during their holidays instead of other meaningless and boring tasks such as visiting the historical place of Paceville.

The students, my colleagues and myself, are grateful to the extremely helpful and dedicated staff within the Department of Physics for helping us technically, to set up the models and make them run smoothly. The Regional Climate Summer School 2011 is already recruiting physicists, computer geeks, mathematicians, chemists and climate enthusiasts to expand our experiments and activities.

Feel free to come to speak to us about it and have a feel what all this climate stuff is all about. Contact Dr. Noel Aquilina via email on [noel.aquilina@um.edu.mt](mailto:noel.aquilina@um.edu.mt)

Norbert Bonnici

---

fts | print | copy | scan | bind  
er.com.mt

you can now collect your lecture notes from any of our two outlets...

# Affiliation with the Royal Society of Chemistry (RSC)

**T**he Royal Society of Chemistry - Advancing the Chemical Sciences

A leading international organisation for advancing the chemical sciences with more than 47,000 members, the RSC is at the heart of a worldwide network of over 300,000 scientists. With an award-winning publishing business, international conferences and networks that cover all aspects of the chemical sciences, top scientists around the world rely on us for the latest scientific information and to contribute to their field. We champion scientific excellence with prestigious awards and by maintaining academic and professional standards and qualifications. Our highly acclaimed education resources help teachers to inspire the next generation of chemical scientists and we campaign to support a thriving science base.

Our activities focus on addressing the key issues facing society today, such as providing a clean, sustainable environment, enhancing the quality of people's lives and increasing prosperity. The RSC demonstrates the vital role the chemical sciences can play in solving pressing social and economic problems by promoting chemistry to the public and supports informed policy making by providing expert advice and opinion to governments.

## Why should I join the RSC?

With a range of services and support specifically tailored to chemical science postgraduates the RSC is the perfect partner to help you throughout your studies.

- Stay ahead of latest developments in the field through our world renowned publications
- Connect with scientists from across the globe with MyRSC, our online professional networking tool
- Demonstrate your commitment to developing knowledge and expertise from the start of your career
- Expand your network of professional contacts through our specialist interest groups
- Access useful information about funding sources, travel grants and employment opportunities

## What does membership include?

Membership to the RSC includes access to a wide range of services and benefits which support your career development and save you money.

- Monthly copy of Chemistry World our award-winning chemical science magazine
- Support in finding industry placements to help enhance your employment prospects
- Access to the Virtual Library including journals, e-books and business, environments and scientific databases
- Discounts on all your key titles

from major publishers such as Pearson Education and Oxford University Press

- Careers advice from industry experts including interview techniques, CV writing and possible career paths
- Special offers available at selected theme parks and hotels, on Cineworld Unlimited Passes, the PizzaExpress Club and much more

## What do I have to do?

If you wish to benefit from membership in the Royal Society of Chemistry you should:

- If you are an Undergraduate student following a Chemistry-related course at the University of Malta you can benefit from a reduced annual membership fee of £16 (€19.43)<sup>1</sup> due to the Science Students' Society's (S-Cubed) affiliation with the RSC.
- Contact John Gabarretta (Education Officer, RSC Liaison) on [education@scubed.info](mailto:education@scubed.info) or any of the other members of the S-Cubed executive and they will instruct you on how to fill in the application form to apply as an Undergraduate (Affiliate) member of the RSC.
- If you have any queries regarding becoming a member or what it involves, please contact John Gabarretta on [education@scubed.info](mailto:education@scubed.info)

<sup>1</sup> Price in € as stated by <http://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html> at the time of submission of article.

# MyRSC – Online Community

## A professional network for the chemical sciences, hosted by the RSC

MyRSC is leading the way in providing an international networking hub for advancing the chemical sciences. Connect, engage and interact with scientists across the globe regardless of location, career stage or interest.

- Personalise your profile to reflect your specific interests
- Grow your network with people who share common interests, research or workplace
- Join groups and communities based in your field
- Exchange knowledge and expertise with fellow scientists or to get help and ask questions
- Follow blogs and discussion forums - carry on the debate

### How to register with MyRSC

Go to <http://my.rsc.org> and click on register, fill out the form.

An email will be sent to your specified address, follow the link to activate your MyRSC account.

You can find and download our quick start guide at <http://my.rsc.org/quickstartguide>

# Jelly season



**Dr. Alan Deidun** is a marine biologist and biology lecturer at the University of Malta. He has co-authored over 30 peer-reviewed papers on different aspects of coastal and marine biology, including the ecology of sandy beaches and rocky shores, the introduction of exotic marine species, endangered species such as precious coral species and the killifish and on the putative impact on marine living assemblages of human activities. He is a member of a number of learned societies, including the MBA and ECSA of the UK and the SIBM of Italy, and he is recognised as a Chartered Biologist by the Society of Biology of London.

It is that time of the year again, when, with the soaring temperatures and the bathing season on the horizon, public and media attention on what are essentially ignominious masses of gelatinous tissue, racks up and reaches feverish levels. But behind the hype, concrete initiatives are being embarked upon this summer to monitor jellyfish blooms closely.

When occurring in isolation, jellyfish individuals represent more of an intriguing attraction to bathers than of a source of consternation. In fact, most top-notch aquaria nowadays regularly feature jellyfish in their collections, utilising what is known as a kreisel (German for spin, carousel) which creates a continuous current to avoid the jellyfish piling up on the sides of the tank. It's the dense jellyfish aggregations, aptly dubbed swarms or blooms, that hog the headlines. How do such swarms come about? Several hypotheses have been floated around to attempt to explain such a mind-boggling phenomenon, with John Citizen often trying his hand at providing even the most esoteric and unlikely of explanations. Most marine researchers concur that jellyfish boom in human-stressed marine ecosystems, with the stress taking the form of overfishing, nutrient loading (i.e. an increase in nitrates and phosphates contained in fertilisers, for example, from terrestrial runoff, river discharges, fish-farm plumes, etc) and sea warming.

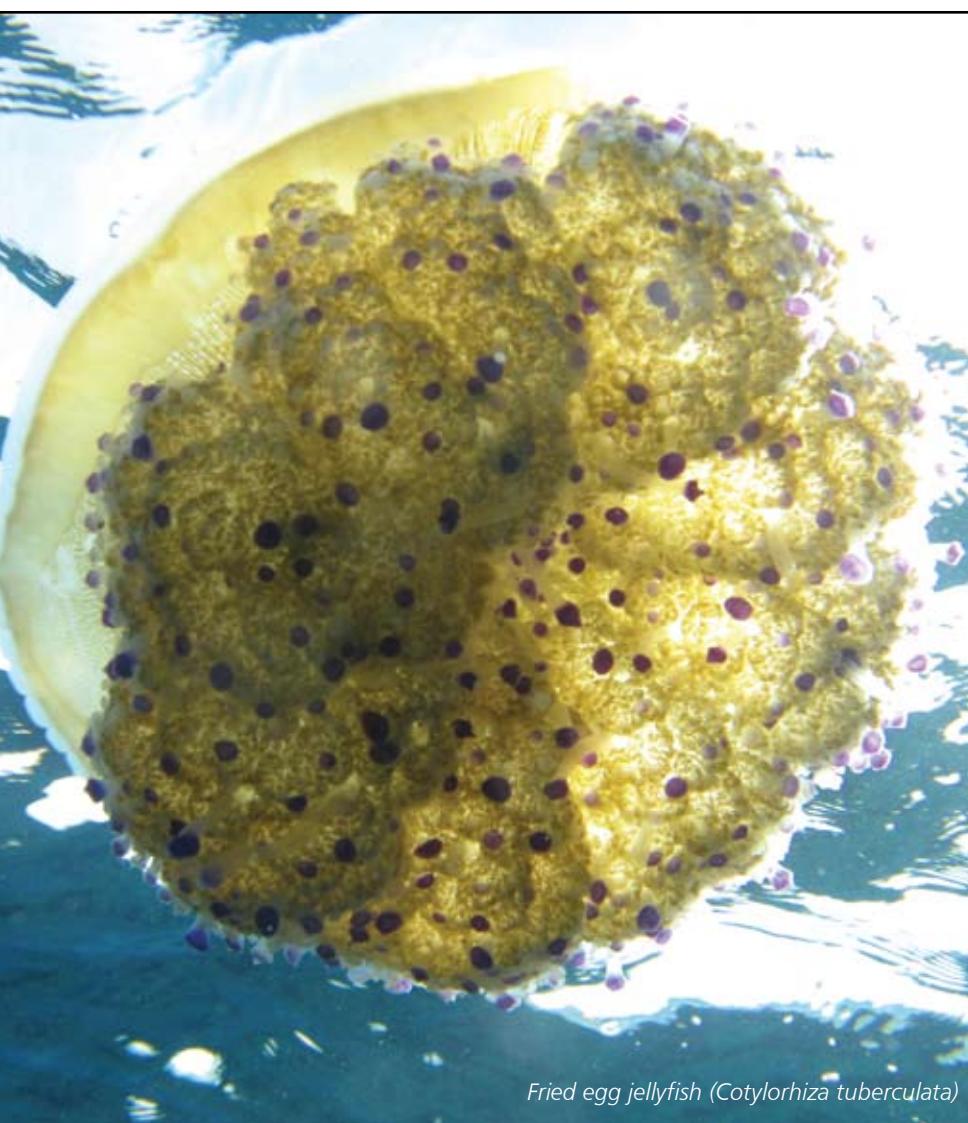
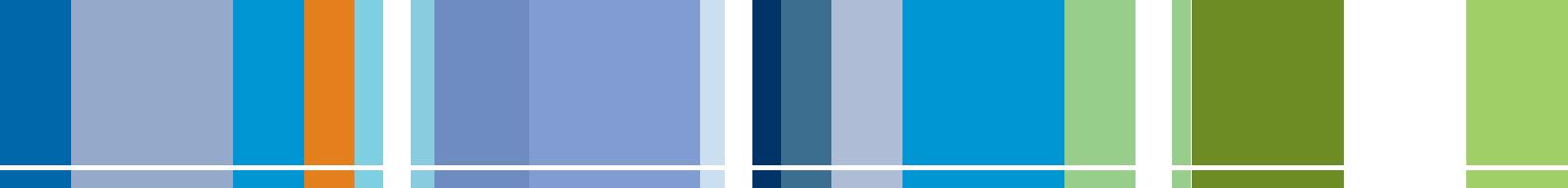
As is being witnessed for other groups of marine organisms, "alien" or "exotic" jellyfish species are colonising the Mediterranean. Most of these species are of tropical Indo-Pacific origin, native of warmer seas, having entered through the Suez Canal, and their promulgation in our sea might indicate a general warming of the Mediterranean. Such species include the nomadic jellyfish which shut off an electric powerplant in Israel in the summer of 2001 after clogging its cooling water intake screens and the upside-down jellyfish which harbour light-harvesting microorganisms in its tentacles and which has reached our shores recently too. The

aim of the Jellywatch Programme is also to monitor the spread of these alien jellyfish species in our waters.

As part of their ongoing IOI-Kids Programme [www.ioikids.net/jellyfish](http://www.ioikids.net/jellyfish), the IOI-Malta Operational Centre (IOI-MOC) of the University of Malta launched the Spot the Jellyfish programme last May as a citizen science programme in which members of the public double up as marine observers by reporting jellyfish sightings to marine biologists. To date ca. 350 jellyfish reports have been submitted by the public, 90% of which referring to the mauve stinger (*Pelagia noctiluca*), the commonest jellyfish species in Maltese waters – other common jellyfish species included *Velella velella*, *Cotylorhiza tuberculata* and *Olindias phosphorica*. In addition to the eight "conventional jellyfish species" (hydrozoa, scyphozoa and cubozoa), a number of other non-cnidarian species have also been reported within the initiative, such as salps, pyrosomes and ctenophores (comb jellies). Two of the spotted jellyfish species (the blue button and a member of the crystal jellyfish group) are actually new records for the Maltese Islands. Results from the implementation of such a jellyfish spotting programme are being published in an international journal.

Locally, this is the second initiative of its kind, with Malta participating in 1982 in the MEDPOL Jellyfish Monitoring Programme, which entailed the recruitment of a large number of volunteers, owners of touristic establishments, beach cleaning workers and even the Maritime Squadron of the AFM. Understandably, the study reported the highest accumulations of jellyfish in the southeast coastal areas of Gozo and Malta, presumably as a result of the prevailing northwesterly winds. Intriguing is the fact that the study concluded that between 1980 and 1983, highest *P. noctiluca* densities were reported during the summer months, whilst in subsequent years, highest densities were reported during the March and April months.

It does not immediately occur to us but as the world's top marine predators,



namely sharks and bluefin tuna, are inexorably being decimated, jellyfish are slowly taking over at the helm as the top predators of the seas, bolstered by their amazing increase in numbers over short time spans. As originally coined by a number of marine researchers, including Professor Ferdinand Boero, we are witnessing a veritable "fish to jellyfish" shift in the Mediterranean. Hence, keep your eyes peeled this summer and keep those jellyfish records rolling in. You don't need to get stung to file a report and photos, albeit not mandatory, could help supplement jellyfish records.

The Spot the Jellyfish campaign will ensure throughout the winter months too – one can send a sighting report through sms (79222278), email [ioi-moc@um.edu.mt](mailto:ioi-moc@um.edu.mt) or by visiting the ad hoc website [www.ioikids.net/jellyfish](http://www.ioikids.net/jellyfish) which features updated and geo-referenced information on local jellyfish sightings. For uncommon jellyfish species, it might be useful to collect and retain in seawater the living jellyfish which will be collected by IOI-MOC staff since definite taxonomic identification is only possible through a thorough examination.

[www.alandeidun.eu](http://www.alandeidun.eu)

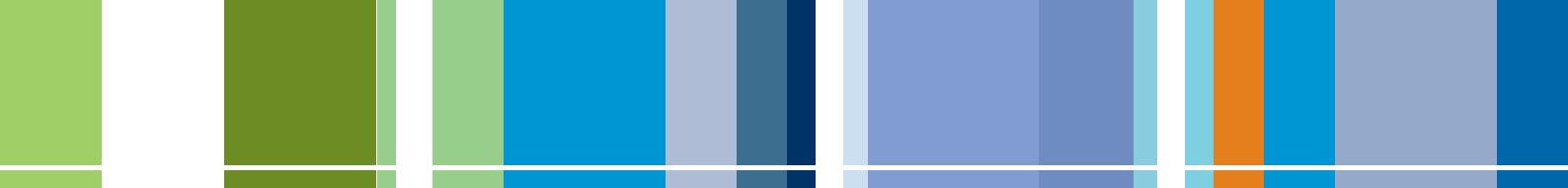
Alan Deidun

*Porpita porpita - the blue button*



*Aequorea sp. - the crystal jellyfish*





# When it's time to enroll for a course



**Ms. Elaine Chetcuti** is currently a lecturer at the University of Malta and is following a MSc course in the study of Negative Materials.

**D**uring my secondary school years and whilst at the Junior College, my interest in Mathematics grew. When the time to enroll for a course at University came, it was only natural that I felt that I should follow a BSc course in Mathematics and Physics.

This course made me aware of the great use of mathematics in the field of Science, particularly in Physics. As the great mathematician Eric Temple Bell said, due to its richness and great applications, mathematics can be regarded as the 'Queen and Servant of Science' and this is what still fascinates me with this subject.

Having concluded my BSc course, I could not resist the next step of following the M.Sc. course in Cross-Disciplinary Science – I regarded this course as an opportunity to use Mathematics in another research area, mainly involving the fascinating study of materials, which when compressed shrink not only in the direction of loading but also in the axial direction and expand when stretched.

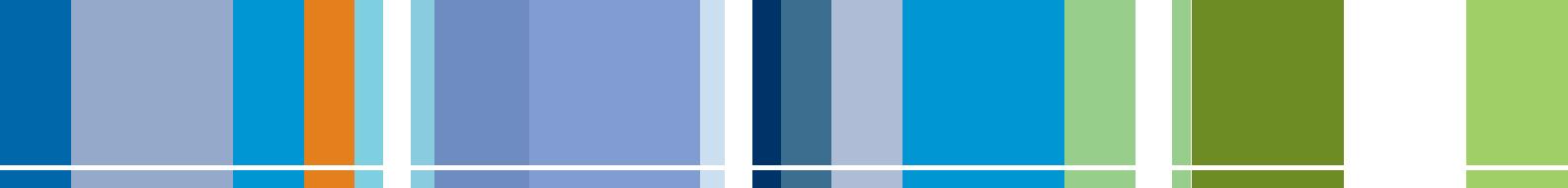
Until the late 1980s, such materials, nowadays known as auxetic, were regarded as behaving anomalously, but through further study various applications

were discovered and thus the interest in this area grew. This is clearly visible from the fact that researchers of auxetic materials hail from all sectors of sciences, mainly from the fields of Chemistry, Physics, Mathematics and Engineering.

My studies during my M.Sc. course helped me become part of this research team. In fact, so far, my research involved the construction of mathematical models of auxetic materials. Through various mathematical techniques, the behaviour of auxetic foam can be predicted. The model developed is then verified through computer-generated molecular models and previously-existing experimental data.

This field of study has enhanced my knowledge in the Mathematics and Science in general. It has helped me to indulge deeper in research to satisfy my greed for further information and knowhow on the subject matter. Thus, I would not hesitate to recommend to anyone with a thirst for further knowledge in Science to follow an M.Sc. course – it is too much of a fulfilling experience to pass up.

Elaine Chetcuti



**Would you like to contribute  
to our next issue ?**

**Any suggestions or ideas?**

Feel free to contact us on

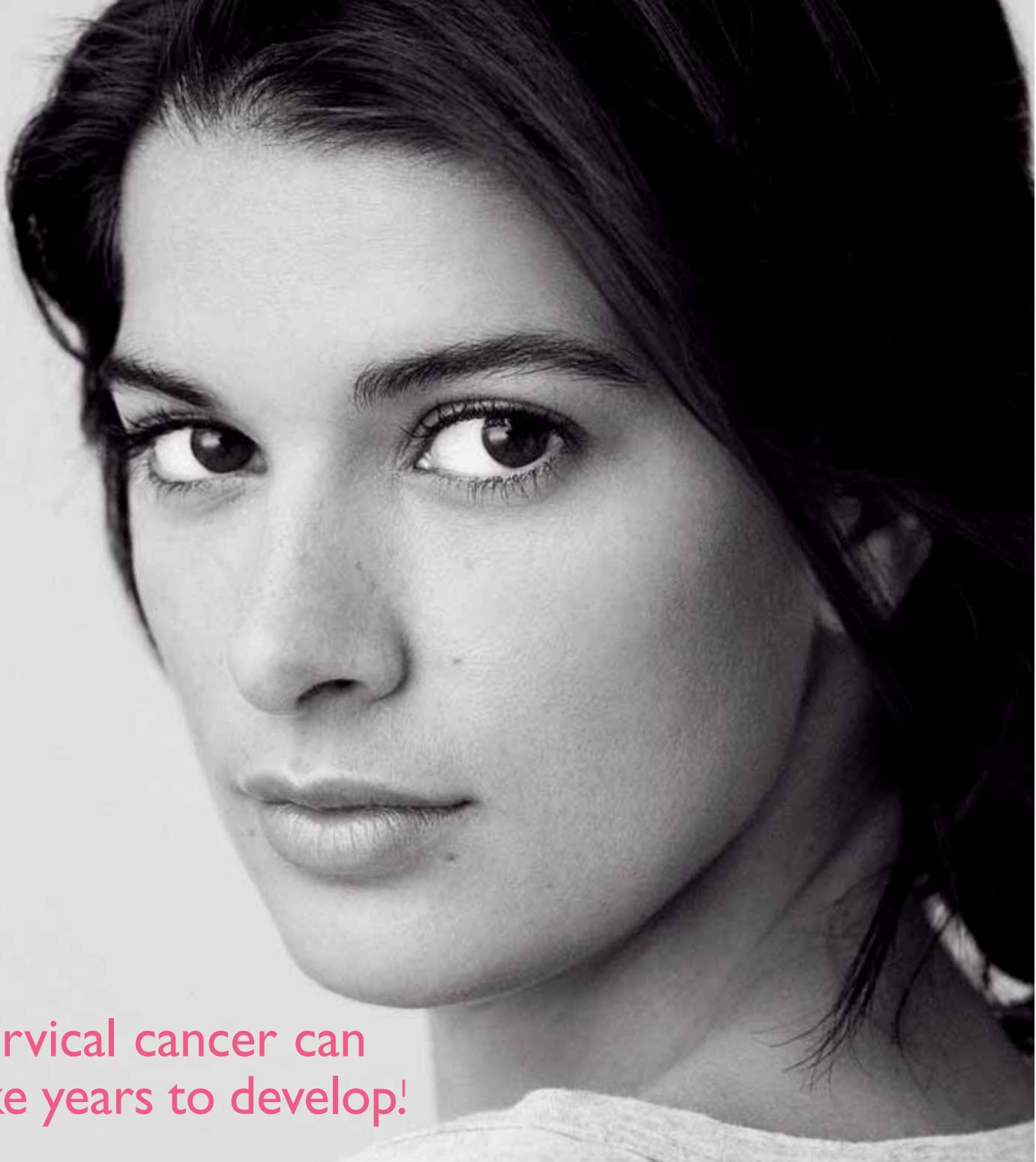
**education@scubed.info**

---

# **CAFE ROUGE**

**PIZZA • PASTA • KEBAB HOUSE**





**Cervical cancer can  
take years to develop!**

**You can get vaccinated  
in minutes.**

In Europe, 1 woman dies from cervical cancer every 18 minutes.<sup>2</sup> And although the disease can take years to develop,<sup>1</sup> you can get the virus that causes it from your first sexual contact onwards.<sup>3</sup> But now you can be vaccinated, in addition to attending regular Pap tests.

So find out more about vaccination and screening by speaking to your doctor.

**CERVICAL CANCER. BE SMART. THINK VACCINATION.**