

SENNOCKIAN

NEWS AND REVIEWS FROM THE SCHOOL AND ALUMNI 2009-2010



SEVENOAKS SCHOOL



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Opposite: Detail of
IB artwork by Daisy Charles



AN INTRODUCTION FROM THE HEAD

Welcome to *Sennockian*, a publication for the whole school community. This year we are turning the spotlight onto Science and Technology, and in particular the ambitious Science Week in March organised by Head of Faculty Graeme Lawrie. I hope you will enjoy reading about the many exciting activities made available to our own pupils and those from local state primary schools.

The Space, Sevenoaks School's performing arts centre, opened in April with a gala evening concert involving students past and present, staff, parents, benefactors and other friends of the school. After this auspicious start, the performing arts centre's promise is being realised in the wonderful musical and dramatic opportunities open to our pupils: the numerous practice rooms and performance spaces are already in constant use. All members of the school community are welcome to attend concerts and productions, details of which can be found on our website. Sport at Sevenoaks has also enjoyed another successful year, and special mention should be made of the U14 Rugby team who won all but one of their matches this season. The many opportunities to extend students' knowledge of other countries and cultures – such as the Geography trip to Iceland, the PROMO trip to India and the sell-out Drama tour to Germany – embody the aims of excellence, service and internationalism that are at the heart of a Sevenoaks education.

This broader context of learning allows our students' academic potential to flourish. A record 50 students were offered places at Oxford or Cambridge this year and at 13 prestigious US universities. With almost all of our students attending their first or second choice universities, there continues to be a steady stream of Old Sennockians studying at top institutions like Durham, Edinburgh, Bristol and the London School of Economics. We are confident that the skills and values that they take from Sevenoaks will give them the best possible start to their university careers.

Looking ahead, our IB students of the future are already being introduced to these values. The Lower School curriculum is currently being revised across departments to develop both the content of courses and also the skills needed to accompany that content. This renewed emphasis on critical thinking, analysis and argument reflects contemporary IB thinking and should help to align our syllabuses more closely throughout the school. We are always looking for opportunities to establish meaningful points of contact between academic disciplines. The Year 8 trip to Normandy and the recently established Creativity Day are examples of such initiatives.

The exciting possibilities of Science and Technology, an international outlook, enquiry-based learning and broader opportunities for personal development will increasingly become hallmarks of distinction in the future. We are proud that our students have the opportunity to experience such rich variety as their own lives develop.

Katy Ricks

LEAVERS



LEAVERS 2009

Forename	Surname	Degree	Destination
Henry	Ashpittel	Biochemistry	Surrey
Camilla	Barber	Medicine	Cambridge
Nicholas	Bilsby	Innovative Manufacturing Engineering	Loughborough
Rosemary	Brazel	Civil Engineering	Imperial
Charlotte	Brice	International Relations	Durham
Leah	Broad	Music	Oxford
Kristiana	Brooks	Arabic and Middle Eastern Studies	Exeter
Krista	Chapman	Psychology	Exeter
Alasdair	Clinch	Economics	Bristol
Jeremy	Cribb	German	Cambridge
Sebastian	De Quant	Liberal Arts	New York, USA
Barnaby	Dunn	French and Spanish	Bristol
Rosie	Fletcher	History	Exeter
Hank	Ford	Product Design	Leeds
Roman	Franchuk	Liberal Arts	Brown, USA
Edouard	Gottlieb	History and Philosophy of Science	UCL
Richard	Hands	Economics and Politics	Exeter

Above: 2010 Leavers

LEAVERS 2009

Forename	Surname	Degree	Destination
Timothy	Harding	Economics	Bristol
Matthew	Heron	Economics and Politics	Exeter
Charlotte	Huckstep	Geography	Durham
Sarah	Hughes	Economics	Cambridge
Noele	Illien	Liberal Arts	Boston, USA
Ben	Jackson	Product Design	Nottingham Trent
Emma	Jameson	Sociology	Durham
Rowan	Jandu	Philosophy	Edinburgh
Hans	Kern	Liberal Arts	Bard College, USA
Elizabeth	King	History	Bristol
Alexander	Kirkpatrick	Management	York
Vanessa	Kisuule	English	Bristol
Edward	Lam	Biological Sciences	Exeter
Kimberlie	Le Geyt	Geography	Durham
Mark	Leventhal	History	Cambridge
Kaiping	Lin	Medicine	Edinburgh (2011)
Anna	Malan	Philosophy and Literature	Warwick
Philip	Marshall	History	Durham
Michaela	Masojada	Medicine	Royal College of Surgeons, Dublin
Fred	Maynard	English	Cambridge
Zoe	Montanaro	Natural Sciences	Durham
Iman	Naqvi	Liberal Arts	Claremont McKenna College, USA
Lucy	Phillips	Geography	Oxford
Anton	Pisarev	Business Management	European Business School
Shaahin	Pishbin	Spanish and Persian	Oxford
Marisa	Plater	Geography	Durham
Kassim	Ramji	Modern and Medieval Languages	Cambridge
Ruth	Ramsden	English	York
Katherine	Rice	English	York
Talia	Richard-Carvajal	English	Cambridge
Theresa	Roettger	Law	Freiburg, Germany
Maximilian	Schrimpf	Economics	Exeter
Anjli	Shah	Government	LSE
John	Sherwin	Biological Sciences	Oxford
James	Smorthwaite	Law	KCL
Olivia	Stocker	History	Cambridge
Georgina	Swinglehurst	Classics	Bristol
Joseph	Sykes	History	UCL
Susannah	Temko	Politics and Sociology	Durham
Luke	Thomas	Film and Television Studies	Nottingham

LEAVERS 2009

Forename	Surname	Degree	Destination
Tania	Turner	Graphic Design	Teeside
Paolo	Ventura	Economics	Warwick
Jessica	Wallis	English Literature	Durham
Jeremy	Warner	Natural Sciences	Cambridge
Julia	Wegner	PPE	Durham
Alexander	Wertheim	Management	Lancaster
Anthony	Weston	Chinese and Economics	Leeds
Nicholas	Weston Smith	Medicine	Nottingham
Rex	Wickenden	Politics with Economics	Bath
Shane	Wickramasuriya	Mechanical Engineering	Warwick
Sophie	Wilkinson	Natural Sciences	Durham

LEAVERS 2010

Charles	Adair	Mathematics	Durham
Chiugo	Aghaji	Liberal Arts	Sciences Po
Laura	Allen-Perello	Politics and Italian	Bristol
Helen	Allison	History of Art and English	Reading
Anjali	Ambani	Liberal Arts (Pre-med)	Yale, USA
Rohan-Kabir	Amin	Mathematics and Natural Sciences	MIT
Nelly	Anstruther	Art and Art History	SACI School of Art, Florence
Seun	Awolowo	Politics and Sociology	Warwick
Christopher	Baddeley	Geography	Cambridge
Emily	Barrett	History with a European Language	UCL
Xavier	Bastin	Biochemistry	UCL
James	Bell	Geography	Exeter
Christopher	Bellringer	History	Durham
Joanna	Boddy	Economics, Politics and International Relations	Warwick
Anastasia	Bogatyreva	History	Cambridge
Alice	Boughton	English	Cambridge
Raffaella	Boulter	Business and Management	Exeter
Anthony	Bowman	Mathematical Physics	Imperial
Phoebe	Bragg	Law	Oxford
Thomas	Brazel	Medicine	Edinburgh
James	Bryant	Biology	Durham
Chiara	Cardoso	Combined Honours in Arts	Durham
Charles	Carver	International Management and Modern Languages	Bath
Darryl	Chan	Social Anthropology	SOAS
Tasha	Chan	Management	LSE
Daisy	Charles	French and History of Art	McGill, Canada
Claudia	Cheung	Anthropology	Berkeley, USA

LEAVERS 2010

Forename	Surname	Degree	Destination
Giovanni	Chiarli	Classics	Oxford
Joseph	Cooper	Business Management	Bath
Philippa	Cooper	Law	Durham
Alice	Cornes	History	Cambridge
Juliet	Cornick	Combined Social Sciences	Durham
Augusto	Cosulich	PPE	Exeter
Caroline	Crawford	History	Durham
Gabby	Cummins	Land Economy	Cambridge
Catherine	Day	Social Anthropology	LSE
Guillaume	de Grandpre	Investment Management	McGill, Canada
Alberico	de Nardis di Prata	Management with Marketing	Exeter
Jonathan	Dinkin	Business, Economics and Social Sciences	Trinity College Dublin
Charlotte	Douglas	English with Drama	Trinity College Dublin
Grace	Dowling	Medicine	Oxford
Robert	Ede	Geography	Exeter
Jess	Evans	English	Leeds
Sara	Farooqi	Biological Management	Imperial
Alessandro	Ferrario	Economics, International Finance and Marketing	Bocconi, Italy
Kathryn	Finnis	Biological Sciences	Oxford
Alice	Firth	English and Theology & Religious Studies	Leeds
Anabel	Flamank	English and Philosophy	Exeter
Wilhelm	Frost	Management	St Andrew's
Alison	Fugard	Chemistry	St Andrew's
James	Fung	Medicine	Chinese University of Hong Kong
Grace	Fung	Psychology	Washington St Louis, USA
Genna	Gan	Biology with Microbiology	Imperial
Laura	Ganis	Psychology	UCL
Abigail	Gibb	Classics	Cambridge
Andrew	Gill	Classics	Cambridge
Emma	Gloyne	Combined Honours in Arts	Durham
William	Goddard	Real Estate	Reading
Ella	Gould	Spanish and Russian	Durham
Leonardo	Grassi	Management	Warwick
Anna	Griffin	Human Physiology	Leeds
Nika	Gurdus	Management	Herriot-Watt
George	Guterres	Human Geography and Business	Nottingham
Joshua	Henshaw	History of Art	UCL
Gemma	Hitchens	English	Cardiff
Andrew	Holliday	Liberal Arts Scholarship	Rollins, USA
Daniel	Hope	Law with French Law	UCL

LEAVERS 2010

Forename	Surname	Degree	Destination
Osas	Idubor-Williams	Business Administration	Bath
Rebecca	Ingram	Law	Cambridge
Katherine	Jackson	Medieval History	QMUL
Emma	Jacobs	English	Warwick
Bronwyn	Jones	Geography	Cambridge
Lucy	Keevil	History	Durham
Lauren	Kelly-Jones	Liberal Arts	Chicago, USA
Pragun	Khaitan	Business	Pennsylvania, USA
Alexandra	Kidson	Sociology	Exeter
Alex	Kim	Geography	KCL
Robin	Kim	Government and Economics	LSE
Tyron	King	Mathematics	Durham
Theo	Kingshott	Drama, Applied Theatre and Education	Central School of Speech and Drama
Alex	Kirilenko	Economics and Politics	Bath
Felicity	Kneeshaw	Modern and Medieval Languages	Cambridge
Lara	Kottsieper	Sociology	Bristol
Clementine	Lang	Art and Design Foundation Diploma	Leeds College of Art
Alexandra	Langley-Evans	Business, Economic and Social Studies	Trinity College Dublin
Nicholas	Leung	Economics	LSE
Hannah	Lewis-Davies	Modern Languages and European Studies	Bath
Michael	Lindsay-Bayley	Business Administration	Georgetown, USA
Joanna	Lingard	Economics	Exeter
Ilona	Lisina	Management	Cass Business School
Adrian	Lo	Engineering	Oxford
Jonathan	London	Theoretical Physics	Imperial
Klaudia	Ludwisiak	Civil Engineering	Imperial
Alastair	Macleod	Geography	UCL
Norman	Macleod	Geography	UCL
Dominic	Makepeace	Liberal Arts	Northwestern, USA
William	Markiewicz	Mechanical Engineering	Imperial
Theo	Mayes	Anthropology and Archaeology	Durham
Mathew	McLean	Computer Science and Artificial Intelligence	York
Carlo	Minciacchi	Engineering	Cambridge
Daniil	Moskovenko	Global Marketing and Management	Regent Business School
Ciara	Moss	Spanish and History	Edinburgh
Jo	Murray	Art and Design Foundation Course	City & Guilds of London Art School
Jameel	Mushtaq	Medicine	St George's University of London
Jai	Nanavati	Engineering	Michigan, USA
Krithika	Narayan	Liberal Arts	Northwestern, USA

LEAVERS 2010

Forename	Surname	Degree	Destination
Georgina	Nash	Archaeology and Anthropology	Exeter
Michael	Newton	Anthropology and Archaeology	Durham
Joanna	O'Sullivan	Medicine	KCL
Shiv	Parekh	Physics	Stanford, USA
Catherine	Parr	Physiological Sciences	Oxford
Jonathan	Partridge	Molecular Biology and Biochemistry	Exeter
Priyanka	Patel	Classics	Cambridge
Oliver	Peat	French and Spanish	Exeter
Abigail	Perriman	Psychology	UCL
Timothy	Perry	Biology	Bristol
Giovanni	Pomello Chinaglia	Economics and Finance	Bocconi, Italy
Camilla	Pudney	Veterinary Science	Liverpool
Anika	Raja	Accounting and Finance	Exeter
Swathi	Ravindran	Economics and Philosophy	UCL
Emily	Robotham	Classics	Oxford
Samuel	Safaty	Business Administration	Bath
Cathryn	Shannon	Spanish and Linguistics	Oxford
Michael	Skinner	French and Arabic	UCL
William	Snowden	Classics	Cambridge
Joanna	Stanyard	Civil Engineering	Nottingham
Claudius	Steffen	Medicine	Hamburg, Germany
Alec	Stuart	Business and Management	Exeter
Sandy	Stuchfield	Architecture	Sheffield Hallam
Rowan	Sullivan	History, Literature and Culture of the Americas	Warwick
Shonil	Sumaria	Economics and Geography	UCL
Joanne	Sy	Music	Royal College of Music
Rachel	Taylor	History	Durham
Charlotte	Thompson	Modern European Languages	Edinburgh
Rory	Thompson	Accounting and Economics	Cardiff
Molly	Thorpe	Medicine	Bristol
Simon	Tinsley	Economics	Cambridge
Georgia	Trapp	Spanish and Italian	Oxford
Emmy	Tsang	Natural Sciences	Cambridge
Costanza	Uslenghi	Mathematics and Philosophy	Oxford
Hanna	Vahrenholz	Engineering and Economics	Karlsruhe, Germany
Richard	Verrall	Geography	Loughborough
Maximilian	Vogl	Economics	Mannheim, Germany
Elizabeth	Wai	Medicine	Imperial
Alexander	Walker-Smith	Physics and Astronomy	Durham
Johanna	Walter	Medicine	Aberdeen

LEAVERS 2010

<i>Forename</i>	<i>Surname</i>	<i>Degree</i>	<i>Destination</i>
Ryan	Weeks	History	Newcastle
Jonathan	Westwood	Geography	Durham
Rachel	Wilson	English	Edinburgh
Hugo	Winn	Anthropology	Durham
Tiffany	Wong	Law	Cambridge
Edward	Woodhouse-Darry	Geography with Economics	Loughborough

2010 GAP YEAR

Feyikemi Abudu	Sophie Dillon	William King	Tanita Sira
Michael Allen	Rory Dunnett	Isabelle Krauel	Tim Smith
Alessandro Barbieri	David Edward	Oliver Lambert	Frederick Soames
Laura Bateman	Elizabeth Everard	Roman Lyashenko	Sarah Sturrock
Alexander Bell	Vittoria Fallanca	Alexander Lyne	Sophie Thomson
Charlotte Best	Lucy Featherstone	Harry Lynn	Jamie Tittle
Rowan Border	Martin Felton	Caroline Mackrill	Cosima Vester
Georgina Burrow	Anna Feroldi	Thomas Meikle	Olivia Volk
Abby Carruthers	James Ferrigno	Sophia Michael	Phoebe Weston
Neeraj Chandi	Jasmine Granata	Thomas Mitchell	Alastair White
Philip Clayton	Charles Greig	Lucy Mote	Ross Williams
Andie Cockerill	Sebastian Guterres	Wayne Nussbaumer	Isobel Wood
Nicholas Codd	Alexandra Hitch	Alex Paine	Aniela Wrobel
Tom Dawe	Rose Innes	Mihika Sapru	
Andrew Dawson	Joanna Kabuye	Sophie Shall	
Cameron De Haan	Peter Kenny	Annabel Shepherd-Barron	

FEATURES





In celebration of National Science and Engineering Week 2010, I was keen to arrange an event that encompassed both Science and Design Technology.

Upon researching possible speakers for the event, I found myself signing up for a talk hosted by the National Science Association in London and sitting with a large group of other teachers from local schools. I discovered that funds were few and far between, and the possibility of hiring a guest speaker remote. The organisers of the National Science and Engineering Week suggested many strategies to drum up support but in reality each and every avenue of inquiry involved lengthy forms and letters with little likelihood of securing funding. It became clear that it would be a good idea to pool our resources and invite all the local schools to Sevenoaks.

I persevered in contacting various charities and fund-offering organisations and after several long months received some donations towards the cause. We also managed to secure a lot of speakers through government funding such as Young Engineers, and politicians who were willing to give up time as part of their outreach role.

Once the ball started rolling and places started filling up with local schools, we managed to secure a little more funding in the form of prizes and goodie bags from Rapid Electronics and another £500 from the Institute of Physics.

From Monday 15 to Friday 20 March 2010 we welcomed over 1500 external students from local schools as well as ensuring that every student within our school experienced at least one activity. At some of the events we also welcomed a large group of German exchange students who were with us for the week. The final programme included:

YOUNG ENGINEERS COMPETITIONS FOR PRIMARY AND SECONDARY SCHOOLS

Ahmed Kotb, the organiser for the day, brought resources for 80 local primary school pupils to fulfil the brief of manufacturing a bridge out of Knex that would span a specific gap as well as open up for passing boats with the aid of a bolt-on motor. The students thoroughly enjoyed this and although some of their designs were more elaborate than needed, they all fulfilled the brief.

In the afternoon Ahmed offered a rocket-building session consisting of a variety of cardboard tubes, parachutes and black powder motors. The student rockets reached the heights of 800+ feet before the parachutes were deployed – to the delight of our visitors. The finale of the day was Ahmed’s rocket which was launched with two significantly larger black powder motors that did not come back down (if anyone sees it could you please return it to him?!).

PHYSICS LESSONS FOR PARENTS

During the evening of the second day of Science Week we offered a cheese and wine meeting for parents followed by a lesson on the more exciting parts of our Physics courses. Run by our own Head of Physics Dr Steve Sharp and supported by several of our staff, the evening was a real success.

TITAN THE ROBOT

We managed to offer two shows during our normal school day and timed them either side of two events already taking place to allow students arriving and leaving those to experience Titan too. This enabled us to have an audience of over 1000 students and more than 40 staff.

The mechanical wonder wheeled its way through the school, closely followed by several hundred students, before talking, singing and even squirting onlookers – to the delight of our student body and guests. Visiting primary school students were dwarfed by his 10 foot frame. Cyberstein Robots Ltd offered a perfect show for students from age eight to 18.

OSCAR THE ROBOT

Oscar visited the school for a whole day. The robot walked around the school campus chatting to students at break and lunchtime as well as hosting a show for KS3 students in the afternoon.

VISITING RUSSIAN COSMONAUT DR ALEXANDER MARTYNOV

Dr Alexander Martynov is currently the Foreign Relations Minister for the city of Korylov in Russia and spent 24 years as head of the ballistics department for the Russian space programme. Dr Martynov had a large part to play in space station Mir, knows the majority of astronauts by their first names and offered a whole host of stories of his experiences in and around the space programme for the majority of his life. We were able to hire the Stag Theatre’s main auditorium for his talk and packed it with over 400 students and staff. With homemade videos of life aboard a space station, as well as his inspirational talk on the plans afoot for the manned mission to Mars, the entire audience was captivated from start to finish.



INFLATABLE PLANETARIUM

Technique Science Museum in South Wales sent a two-strong team which offered a 45-minute session within the inflatable planetarium for 32 students every hour for two days. Both days were fully booked by local primary schools within three days of the brochures being mailed out – this was a very popular activity.

DR ANDREW BEEBY – VISITING FELLOW FROM DURHAM UNIVERSITY

We were incredibly fortunate to have Dr Andrew Beeby of Durham University’s Department of Chemistry accept our invitation of a week’s visit. We thought it would be nice for a university lecturer to visit us to see how we taught the International Baccalaureate, while allowing our students to learn from his extensive knowledge of universities, the transition between school and further education and what courses were offered.

Dr Beeby offered a stimulating lecture entitled ‘Spectroscopy in a suitcase’ to a group of Sixth Form students studying this for their major topic within the IB Chemistry syllabus.

LONDON SCIENCE MUSEUM SHOWS

A small team from the London Science Museum came to deliver three lectures across one day – although they offered a week’s worth of entertainment and knowledge in that time! Each show saw a 200-300 strong audience with some staying in-between for refreshments before taking in the next show. The team offered ‘The Super Cool Show’, ‘Material World’ and ‘It Takes Guts’ to KS2 students from visiting schools.

ELIZABETH RUNNACLES – CANCER RESEARCH

Elizabeth Runnacles works as a scientist in the Cancer Research labs. She very kindly welcomed over 170 students for a lecture on Friday afternoon. It is always tricky to talk about a subject such as cancer without scaring the audience, yet she hosted the event perfectly with our students asking some very intelligent and thought-provoking questions at the end.



CHEMISTRY DEPARTMENT DEMONSTRATIONS

The Chemistry department offered a lawn full of explosions, foam fountains, liquid nitrogen ice-cream and many more experiments to amaze and mesmerise their audiences during lunchtimes throughout the week.

Since Science Week we have been inundated with potential speakers for next year and hope to offer this to local schools again during next year's Science and Engineering celebrations. We are of course extremely grateful for the support and funding offered by the school itself as well as our external sponsors, and would also be very happy to hear from anyone who would like to make a donation to our Science Week celebrations for 2011. The more funding we acquire, the more spaces we can provide and with The Space now open, we will be well equipped for large numbers.

Graeme Lawrie





Co-designer of 'Arthur', Olympic-winning bobsled

James Roche OS and his fellow engineer Rachel Blackburn co-designed 'Arthur', the skeleton bobsled which guided Amy Williams to her Olympic Gold Medal victory in Vancouver. As part of their engineering doctorates at Southampton University, they were sponsored by UK Sport's research and innovation team and six months into the course they were told that a sled was needed.

At Sevenoaks, James' real passion was for sailing. He spent many a happy hour on the water and preserves fond memories, especially of being able to apply theory from the whiteboard into practice. James continues to get out on the water when he can, indulging his love of dinghy and yacht sailing in various classes. Now and again, he still manages

to bump into Bruce Hebbert, who officiates at some of these races. It was not until GCSE Physics lessons with Steve Sharp, however, that James' interest in engineering was sparked, when he also began to see problem-solving in the light of the real world. In the Sixth Form, James studied Maths, Physics and Economics at A-level and History at AS. As part of his Physics coursework he did projects on carbon fibre in yacht masts and the aerodynamics of sails.

After school, James considered opting for more general degree courses in mechanical or aeronautical engineering, but eventually plumped for Ship Science at Southampton, where he especially enjoyed the practical aspect of his third year individual project on the aerodynamics of bicycle pedals and cranks. On the back of this work, James' supervisors put him forward for a three-month internship working with British Cycling, analysing data to make technical improvements to the bikes. Although James is not

a cycling buff, he saw this as a great opportunity, especially as London's Olympic bid for 2012 had just been accepted. This is where his entry into the world of sports engineering really began.

James chose to stay on at Southampton to take his Engineering Doctorate, which is equivalent to the PhD but involves a greater proportion of practical to theoretical work. The opportunity to work with UK Sport was one that he relished and has clearly exceeded all his expectations. Both James and colleague Rachel admit to knowing little about skeleton before joining the project, but they quickly had to learn. 'You can imagine trying to make suggestions when you know nothing about the sport,' says James. 'As sensible as the suggestions may be, people aren't going to listen if you don't know the background, so it was very important to gain that knowledge. It's really helped that everyone works as a team and it's been a success for UK Sport just how well everyone has integrated.' Nevertheless, as aerodynamic principles apply equally to the pared-down model of the skeleton, James found he was not without some expertise in the matter of minimising drag.

Rather than modifying existing sleds, the pair decided to start from scratch, seeking balance between stiffness of the chassis for speed versus its sensitivity for the purpose of control. The pair worked on the four-year project under the supervision of Dr Stephen Turnock and combined experimental work, the latest computational analysis techniques, and testing in Southampton University's wind tunnel. They spent the first two years predominantly based at Southampton, and much of the last 18 months travelling with British Skeleton. The two named their sled design *Blackroc* and were backed with money from UK Sport and logistical and practical support from upwards of 20 UK companies, including BAE Systems and the McLaren Formula One team.

The sport's season runs from October to March, with weeks of training followed by races around the globe. James found this season arduous but rewarding, and was a ubiquitous presence on the World Cup and Intercontinental Cup circuit and at



the holding camps. His routine was full – arrival on Sunday, training Tuesday through to Thursday and racing on Friday with no weekend break, whilst setting up and continually tweaking the sleds. James enjoyed travelling to the Alps and North America as well as life on the road, but admits he had no time for tourism.

As for the stunning Olympic success, James confesses he only really knew that something special was on the cards after the first few practice runs in Vancouver. Although he was overwhelmingly confident that the equipment was as good as that of all other teams, he concedes that it was Amy Williams' fantastic performance that must also be given due praise. James adds: 'It's been really varied work, and getting to travel around to all these different places for the training is great. Seeing people that we've helped out win medals with our kit is very rewarding.'

As for the future, many possibilities remain open to James. While he hopes to continue in sports engineering, his preferred ambition would be to help design a yacht for the America's Cup. He can imagine staying on the South Coast and might entertain a potential career move to pursue his interest in renewable energy, and more specifically fluid dynamics, wind and tidal power.

Navaneethan Kunaratnam

Above: Amy Williams on 'Arthur'.

Right: James Roche and Rachel Blackburn.

Pictures supplied by James Roche. Used by permission.



Paul Greengrass, Film Director and OS (1973), opened Sevenoaks School's new Digital Imaging Studio in the Visual Arts & Media department on Wednesday 4 November at a lunchtime reception.

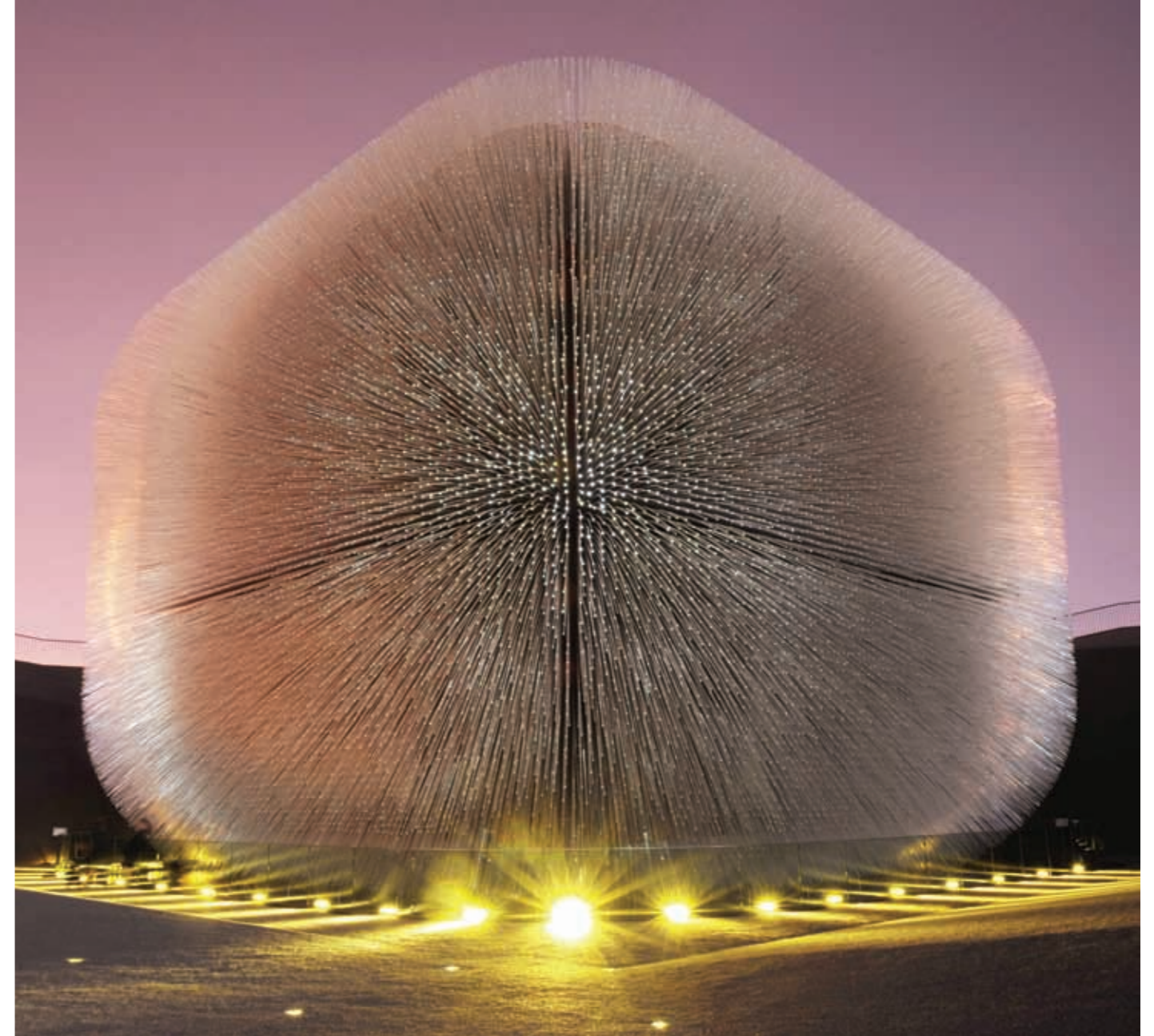


Greengrass, who is best known for his films *The Bourne Ultimatum*, *The Bourne Supremacy* and *United 93*, addressed staff and students about the importance of digital multimedia to communication and the country's economic future, before declaring the studio formally open.

He said that he was delighted to see students working on various projects from video and animation to photo manipulation and integration. He also thanked the Parents Association for their generous sponsorship of the studio.

The Digital Imaging Studio is to be used by all students studying art and media from the ages of 11 to 18. It offers 14 high-end computers with the Adobe Creative Suite 4 Master Collection, which includes Photoshop and Premiere Pro for animation and film editing. There are courses for Sixth Form students as well as a Directors' Club which meets after school on Tuesdays.

Chris Thomas



The Seed Cathedral at the Expo 2010 Shanghai. China Photos, Getty Images News / Getty Images

The Seed Cathedral was built for the 2010 World Expo in Shanghai and won the prestigious Royal Institute of British Architects' Lubetkin Prize. The six-storey, cube-like structure is pierced by 60,000 transparent acrylic rods, each containing a seed

from Wakehurst Place Research Centre. RIBA president Ruth Reed called it 'an outstanding emblem for Britain'. Heatherwick was awarded the London Design Medal 2010, for his outstanding contribution to design.



Oliver Beer left Sevenoaks in 2004 as an aspiring artist, and last year won the Saatchi New Sensations Prize for his short films.



Oliver was subsequently featured on Channel 4's *Three Minute Wonder*. At the age of 24, his accomplishments in the art world are unprecedented. Oliver visited the school on Wednesday 4 November 2009 to help Paul Greengrass open the new Digital Imaging Studio.

GA: Did anything from your experience at Sevenoaks particularly inspire your choice of career?

OB: I was given so much freedom here, so much space, so many resources, so much encouragement and really so few restrictions, that what may have been just an adolescent whim to become an artist was never questioned. Without the benefits of my time here in the Sixth Form I really don't think I'd be where I am right now.

GA: Was there a particular teacher who inspired you throughout your career at Sevenoaks?

OB: I've no need to name names per se, simply because there were enough good teachers. I was given a lot of leeway by staff but I think it's probably harder now with

the IB and the associated pressures – just in terms of the time that you can devote to a single subject. I remember I used to stay at school every night until 7pm or 8pm working on sculptures. I'm not sure if I was still at Sevenoaks when I did this, I think I was, but I was furious that the Pope had been saying 'no condoms in Africa'. So I thought I'd use my new-found sculpting ability to make a rye stand, made a really big bust of the Pope, huge and grizzled and lifelike, and it was my every intention to cast him in latex. I never got round to casting him so for the last five years I've had this huge Pope sitting in my shed. Maybe I should do that still.

GA: Looking through some of your work, I noticed that a lot of it is based around the mathematics of acoustics. So how did you first come across this idea to exploit the resonant frequencies of certain architectural spaces?

OB: I first found out that you could find the resonant frequency of anything in Physics lessons, with Miss Connolly. About the same time, Mr Young had taught me about the diabolus in musica ('the Devil in music'), which was a specific interval that had essentially been banned during the Renaissance, because it was such a discordant tone that it was associated with the 'unholy'. So I decided to go around Kent and find two churches whose resonant frequencies were exactly at this 'unholy' interval, and eventually I succeeded. There is something intuitive and absolutely perfect about how we can identify with music and harmony, and how even in a shower or a subway or whatever it might be, something in your mind is hardwired to recognise this perfect mathematical series. I worked in a monastery on an incredible hill in Rome a couple of years ago with a Bulgarian folk choir, the local parishioners and some of the monks. The way they made that building sing and the way they sang back was so unique, and it was so moving to see them redefine their relationships with this place that they knew so well.

I feel like I'm nearing a sort of saturation point, almost gaining closure on that particular series. However, I'd like to take it into the Whispering Gallery of St Paul's. Imagine the whole cupola of St Paul's resounding like an upturned wine glass, and a community choir of two or three thousand people creating their noise. I've done



pieces which distil the text and the actual words through these harmonics, so the meaning of the Lord's Prayer will come back to you in that mathematical series. And there is something quite chilling about that.

GA: You recently did a film for Channel 4. So how did that come about?

OB: I applied for the competition when I graduated, but I had completely forgotten that I had applied when I got a phone call telling me that I was one of the final four and they wanted to make a documentary about what I had done. The film that actually won me the competition was based on the Samaritans' training process. I trained as a Samaritan a few years ago, and I was struck at the time by this incredible scene where these people had decided to sit down to learn how to listen to each other. They create role-plays for trainees to practise on, and it's ultimately a really bizarre piece of pre-existent realist theatre. There are so many instances where these people are role-playing and creating something absolutely incredible, but it's never recognised as art or artifice, and so I recreated the training process with my

own scenarios, my own actors, but genuine trainees, actually going in and learning how to be Samaritans. I started off the process by setting up a huge film rig around them so we didn't have to film retakes and it could carry on as normal. Then this woman tells the story of her mother, who's dying from Alzheimer's, and how she can't cope. The whole thing is shot oppressively close, and it focuses on the reactions of all the trainees as they're listening to her, and you really see their physical responses to her situation, her pain, her words. The way they twiddle their thumbs and touch their faces in empathy is all absolutely ruthlessly caught, and the poor trainees had no idea I had such a strong zoom.

Grant Arnold

If you want to find out more on Oliver Beer, you can visit his website at: www.oliverbeer.co.uk

Left: Stills from *Training (II)*.

Above: Filming part of *The Resonance Project* in Brighton's Victorian sewer network; Beer directed male voices to sing music specially composed to stimulate the resonant frequencies of the tunnel.

Photos supplied by Oliver Beer, used by permission.

SEVENOAKS SCIENTISTS

The life of a scientist is extremely tough. Ten to twelve-hour working days, often including weekends, for a modest salary.

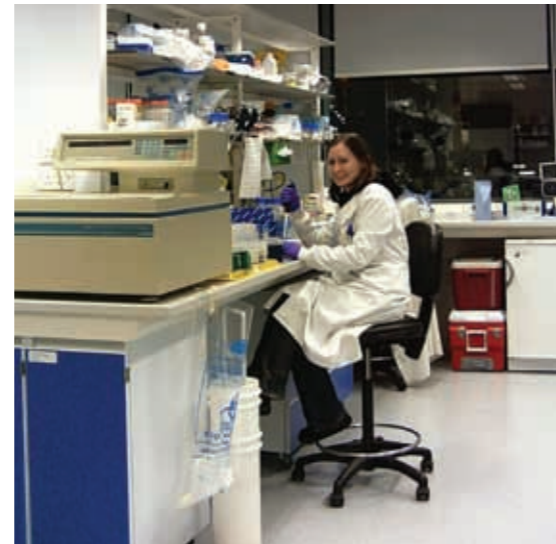
In order to succeed you must have a strong character, be inquisitive and be upbeat about any setbacks you encounter on the way.

We interviewed several OS scientists in their late twenties and early thirties to ask why they chose their profession, what they valued about their secondary education and where they envisaged themselves in the future.



ADAM TALBOT

Adam Talbot (SH 96) is a research scientist for Forma Therapeutics, a small pharmaceutical company based in Cambridge, Massachusetts with offices in Singapore where he now works. Forma is developing a new generation of cancer therapies aimed at previously elusive drug targets. Adam reckons he became a chemist because Tony Brown was such an inspiring teacher, and it was his best subject. Nonetheless, he did the IB in order to keep his languages going and also branch out into Economics. His Extended Essay, 'Bubble nucleation inside drink cans made of different material using electron microscopy', gave him his first taste of



ANNA CALLAN

Anna Callan (GIH 98) researches Environmental Exposures and Health at Edith Cowan University in Australia and teaches biochemistry and cell biology to undergraduates. She studied the IB because she could not give up her love of English, which has proved very valuable, as much of her time as a research scientist is spent writing papers or proposals for grant applications. Her Extended Essay was on glycation of proteins using human insulin. She received her undergraduate degree and PhD in Biochemistry from UMIST, and did postdoctorate work at Manchester before the move to Australia.

'A career in research so far has been hard work, but I've also really enjoyed it,' she says. 'As a career path, it gives you a lot of freedom to pursue interests, take a project and make it your own.'

independent scientific research and his first journal article. He went on to read Chemistry at Durham and took a PhD at Cambridge.

He does not know what the future holds but says he was lucky to be in the right place at the right time for his current job.



LAUREL SMITH PARDUE

Laurel Smith Pardue (GIH 96) wrote her Extended Essay on using computers to randomly generate musical compositions in specific styles, and was rarely seen without her violin. She studied engineering at MIT on a US Air Force scholarship. Once in the Air Force, she found her engineering skills underused. Her role was essentially that of an IT manager – with a staff of 150 people and millions of dollars-worth of systems. Her engineering expertise came in useful, however, when she was asked to pick up ideas and design things in which she had no background. Before retiring from the military she was part of a

peacekeeping team in Liberia, where she was able to teach the Higher Level Maths she had learned at Sevenoaks. Her first Master's degree had been based on research into free-gesture musical interfaces, and she wanted to return to the Media Lab at MIT to pursue signal processing, rapid prototyping and chip design as well as to develop as a musician. (By coincidence MIT is home to Gamelan Galak Tika.) Her intended thesis is looking at voice identification, sonic signatures, human perception of voice and how to control personal sonic space.

YANNIS MAVROMATAKIS

Yannis Mavromatakis (Fryth 98) wanted to be a medical doctor, but could not find the specific niche of Biology at UCL that interested him until he had his first developmental biology lesson taught by a world famous scientist with a gift for teaching. He studied the IB at Sevenoaks and wrote his Extended Essay on the Greek Civil War. Research for this topic, he believes, was not very different from scientific research. He received his MSc in Neuroscience from Imperial College and is now working on postdoctoral research in Genetics and Development at Columbia University. He is very happy with his career choice, but is painfully aware how sensitive scientific research is to the economic climate. However, as arduous as a career in science can be, he can fully recommend it.

ERIN LEPPER GARDNER

Erin Lepper Gardner (Groves 98) has always had a love of science. Her motivation to pursue a degree in Chemistry at Oxford and then later a PhD in Pharmacology (as a joint programme between the US National Cancer Institute and Erasmus University in Rotterdam) was a direct result of Tony Brown who taught IB Chemistry and was a fabulous teacher and mentor. Erin is about to step down from her position at the National Cancer Institute to spend more time with her young daughter. Trying to balance family life with a life in science is a challenge, but her love of science will continue regardless of whether she is formally working or not. She says that although the current job is not strictly Chemistry (she moved into Pharmacology and Oncology), she could not have picked a better degree to pursue early on. Chemistry training has aided all aspects of her work.

Hope Pym



LOWER SIXTH SCIENCE TRIP, AAAS CONFERENCE, 2010



In February half term, 24 Lower Sixth students visited San Diego in California for the American Association for the Advancement of Science's annual conference.

After a gruelling journey involving 11 hours of flying, buses and walking, we arrived at our hostel in the middle of the city's historic 'gas lamp quarter', during the initial stages of San Diego's illustrious Mardi Gras parade – this was certainly an unplanned and interesting way to begin a visit to one of the USA's more Latin cities.

After a meeting at 10am, the first day was spent adjusting to the new time zone – mainly at Balboa Park, the largest inner city park in the US. It is here that the bulk of the city's cultural sights, museums and the world famous bastion of conservation biology, San Diego Zoo, are located. Pupils spent the day visiting areas of interest.

On the second day, we visited the Zoological Society of San Diego's research institute, located in the grounds of the Zoo's Wild Animal Park, 30 miles outside the city centre. Here we had a guided tour of the laboratories of the institute; visited the 'frozen ark' – a huge collection of genetic material from 700 endangered species stored in liquid nitrogen; observed some mountain yellow-legged frogs, a species on the brink of extinction (with only about 200 individuals left), and the scientists trying to save them. We also had a lecture on the global amphibian decline, its causes, and the reasons why we should worry about it, followed by a session of practical laboratory work, where the students undertook some genetic analyses used to test for the presence of Chytrid fungus, a pathogen that is currently decimating world amphibian populations.

On the third day the conference began. During the mornings and afternoons of the next three and half days, our students attended scientific symposia of their choice with lecture topics including the science of superheroes, particle physics, new advances in personalised medicine using genetic technology, coastal variation and new research in the fields of sleep studies and reproductive technologies. The symposia broadly covered subjects from Mathematics, Geography, Design, Psychology, Engineering, Biology, Chemistry and Physics. It was interesting to hear about new advances and research from the cutting edge of science, as well as realising that science in the real world is not compartmentalised, resulting in successful collaborations between different specialists.

In addition to the symposia, we attended two evening lectures, including one given by Carol W Greider, the 2009 recipient of the Nobel Prize for Physiology or Medicine, about her work on telomeres. On top of all this hard work we also found time to kick back. One evening we had the chance to watch a basketball match and on the final afternoon we even managed a dip in the Pacific Ocean.

Will Vincent



Science technicians are crucial support staff for any science department, and in the Design Technology department, this role is fulfilled by Chris Yelf.

Chris joined Sevenoaks in September 2007, having cut his teeth in the role of technician at Judd School. Before that, he had been a model maker for 25 years, making three-dimensional architectural models (essential for the process of designing new buildings and town planning), and models for architectural museums and the film industry. He has a huge portfolio of work which includes the 'Ship of Fools' for *The Late Show* on BBC television, a Jacobean garden for The Guthrie Collection at Hever Castle, a motion-controlled Big Ben for the introduction to ITN News and the skyscrapers for the Volkswagen Polo adverts. Current exhibition models include Castle Cornet in Guernsey, the Greenwich peninsula with its dome and the Newhaven Fort.

Although Chris says every day is very different, and he never knows what he will be called upon to do, a typical day in the DT department might involve checking all the machines, fixing and sharpening tools, and cutting timber and plastics to the correct size and shape. Supporting the teachers is a major part of his job and he spends time designing and producing teaching aids and other materials for demonstration in class. He spends most of his time, however, assisting pupils with their projects.

In Design Technology, the coursework component counts for a large percentage of the final mark in both GCSE and IB, and project work is ongoing. The summer term is a very busy one with Group IV projects based in the department, and of course, the occasional Extended Essay. A key role is helping to find solutions to problems the pupils encounter as they progress through the project. The big question Chris is always answering is 'How do I do it?' How do I make a shallow pyramidal table? What material should I use? Where can I get it from?

Design Technology is often called upon by other departments in the school for practical assistance. For example, Chris recently designed and produced a wind tunnel which was needed for a Physics Extended Essay. When he has time, he helps the Drama department with props, effects and solving problems such as making a child appear on stage as if from a tool box! The practical knowledge Chris gained throughout his model making career is vast; Sevenoaks School staff and pupils are lucky to be able to benefit from his expertise on a daily basis.

Arabella Stuart

LOOKING FORWARD



A new era for the performing arts at Sevenoaks School



THE SPACE, SEVENOAKS SCHOOL'S PERFORMING ARTS CENTRE

The completion of the £13 million Performing Arts Centre in April 2010 heralds a new era for the performing arts at Sevenoaks School.

This remarkable state-of-the-art facility would not have been possible without the generous support of our alumni, parents and supporters who contributed nearly £4 million to the project.

The Performing Arts Centre was officially opened by Professor Barry Ife, Principal of the Guildhall School of Music and Drama on Tuesday 27 April 2010 at the inaugural concert in the Pamoja Hall.

The new Performing Arts Centre will clearly provide superb music and drama facilities for our students, as well as exciting opportunities for musicians from the wider community and world-class performers.

In recognising the importance of an enduring culture of philanthropy and support in the future advancement of the school, the leadership gifts made to the fundraising campaign have been acknowledged on a Donor Wall, which is displayed in the main foyer of the new Centre.

In addition to this the school has named 13 of 17 practice rooms, the drama studio and the concert hall in recognition of the generous support of major benefactors to the campaign.



Sincere thanks and appreciation is extended to the following benefactors and donors for their philanthropic leadership.

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Every gift makes a difference

THE SEVENOAKS SCHOOL FOUNDATION

Sevenoaks School Foundation was established in 2004 and owns the vast majority of land and buildings in which the school operates. These assets are held in trust and the Trustees are responsible for their longer-term development. As such the Foundation seeks to preserve, develop and improve the standards, facilities and wellbeing of Sevenoaks School.

Above: The World Music Room

Sevenoaks School Foundation aims to develop a culture of philanthropy and support within the Sevenoaks School community that will provide the necessary financial support to ensure continuous improvement of the school's facilities, enrichment of academic programmes and wider access.

In these challenging economic times and indeed into the future the school will not be able to continue to maintain and set new standards for education if it is solely reliant upon school fees.

The recent IB report on our five-year review commended the school for its:

- Vibrant, ongoing debate and discussion regarding all aspects of school life in varied forums;
- Lucid, rigorous self-assessment, with a strong commitment to betterment through innovation and improved organisational structures, both academic and pastoral;
- A culture and ethos of academic excellence (quite possibly non-pareil in the IB world), coupled with pastoral care of the highest order carried out by a qualified, passionate and engaged faculty and staff.

Our unrivalled IB success gives us the opportunity for genuine curricular and co-curricular innovation. The completion of The Space has set a new standard in many areas: our cultural life, the quality of the environment, the impact of philanthropy. The recent establishment of a Centre for Innovation & Excellence provides us with unique opportunities for professional development and outreach.

If you would like to support the future advancement of Sevenoaks School you can make a pledge gift or donation simply by calling the Development Office today on 01732 467708 or emailing mdj@sevenoaksschool.org.

Every gift makes a difference, enriching and enhancing the educational experience of every student today and for generations to come.

Michael Joyce
Director of Development



THE SENNOCKIAN CLUB

One of the aims of the Sennockian Club is to encourage current students to take an interest in its activities and to begin to relate to other members in a supportive and collaborative body.

Membership of the Club, launched in 2007, continues to grow, with the vast majority of 2010 leavers and those joining in 2009 deciding to join.

A major benefit for Club members is free membership of The Sennock Centre for the period when the OS is at university or on a gap year prior to university. Thereafter OS may use the swimming pool, fitness centre and squash courts at a

discounted rate. This initiative has proved popular and numbers using The Sennock Centre have increased.

We continue to strive to expand the Club's activities both in the UK and overseas and in the coming year this will include the introduction of another reunion. We also hope to introduce some less formal gatherings to encourage OS of all ages to return to the school to see new developments and meet up with old friends. The success of reunion events and the uptake in membership is extremely encouraging and we hope these trends will continue.

John Walton