



MAGIC OF MATERIALS

St Paul's School, London. 5 to 7 July 2016

Information and application form



*Organised and run in partnership
between St Paul's School and the
Institute of Materials, Minerals and
Mining*

MAGIC OF MATERIALS

A FREE three day residential summer school introducing pupils aged 14-15 to Materials Science and Engineering • St Paul's School, London • 5 to 7 July 2016



The **Magic of Materials** summer school is a **FREE** three day residential course for pupils aged 14-15 (at the end of year 10 or equivalent) that is being run at St Paul's School in London.

The course is organised and run in partnership between St Paul's School and the Institute of Materials, Minerals and Mining to bring the subject of materials science and engineering to life, show how materials have made a difference to the way we live our lives and highlight the broad range of exciting careers available in the field.

The course will comprise of talks, lectures, question and answer sessions and importantly, hands-on experiments (some that they may never meet at school, and some that they will definitely not meet at school!). Small groups of students will be allocated a mentor who will take them to each of the activities and encourage them to question and investigate as a group. Evenings will be informal but involve challenges, a quiz and a plenary talk.

The residential aspect will give the students time to absorb the information, get to know other people from across the country and be part of an academic 'conference' environment.

Delegates will stay in the school's boarding house with a full pastoral care package and all meals and refreshments are included.

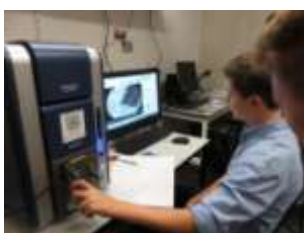
This unique conference is open to 28 state school pupils from across the UK. The course is **free** to attend but there is a £50 deposit to secure each place which is refunded after the course.

A maximum of two pupils from any one school may attend. Places will be allocated on the basis of a simple application form requiring a short statement from both pupils and teachers.

We would encourage pupils with a keen interest in STEM that may not be the highest flyers, to apply.

Funding

In order to encourage pupils from disadvantaged backgrounds and underrepresented groups to attend we are able to offer travel bursaries of up to £100. If you would like to apply please complete the relevant section of the form



Course Overview and Provisional Timetable

The course will be a blend of lectures, lab classes and workshops led by experts in their field and supported by young people who will act as mentors to the groups,

All of the sessions have been designed to add breadth and depth to the learners' existing knowledge and showcase how they might make a difference to the materials world in the future.

Delegates will be split into groups of seven for the parallel sessions and will be encouraged to take part and ask questions. Each group will be supported by two mentors in the early stages of their career relating to materials.

Day 1 - Tues 05 July

Delegates should aim to arrive after lunch between 1400 and 1430 to allow time to drop bags in the boarding house. Please note that lunch will NOT be provided on arrival.

1400	Arrive and unpack
1445	Welcome and introductions
1500	Materials in Action
1600	Meet the mentors
1700	Bridge building challenge and pizza
2000	Free time followed by bed time

Day 3 – Thurs 07 July

0800	Breakfast
0900	Introduction to Day 3
0915	Parallel session 11
1000	Parallel session 12 and break
1100	Parallel session 13
1145	Parallel session 14
1230	Lunch and exhibition
1330	Careers
1415	Testing, feedback and awards
1530	Course closes and pick up

Day 2 – Weds 06 July

0800	Breakfast
0900	Introduction to Day 2
0915	Parallel session 1
1000	Parallel sessions 2
1025	Parallel session 3 and break
1100	Parallel session 4
1145	Parallel sessions 5
1210	Parallel session 6
1235	Lunch and materials quiz
1315	Parallel session 7
1400	Parallel session 8 and break
1500	Parallel session 9
1545	Parallel session 10
1630	Day 2 summary
1700	Back to hall and free time
1730	BBQ dinner
1830	Novel materials talk and activities
2000	Free time followed by bed time

The parallel sessions include lectures and practicals to allow delegates to investigate how we can characterise materials and explore the structure, properties, processing and applications of metals, polymers, ceramics and composites.

All of the pupils attending the course will receive a comprehensive delegate pack with all the information they will need to work through the various activities. In addition, the schools that send delegates will also receive a Resource Tool Kit containing a range of materials designed to support the teaching of materials in school.



Accommodation

The delegates will be staying in the school's on-site boarding house which comprises of single en-suite bedrooms. Boys and girls will be accommodated on different floors and both male and female staff will be resident in the boarding house for pastoral care outside of the formal teaching. These staff members are heavily involved in running the course so any children with issues or concerns will have a familiar face to approach at any time of the day. All meals and refreshments will be served on-site and special dietary requirements can be catered for.

There is the expectation that behaviour is appropriate to the residential course and students may be required to leave in the event of unacceptable behaviour.

What to bring

Participants will need to bring enough clothes to last the duration of the three day course. Clothing must be suitable for work in a school laboratory and footwear should enclose the feet – no open toed shoes, sandals or flip-flops! Any specific safety wear, such as lab coats, will be provided where necessary.

Participants should also bring toiletries and a towel. Duvets, pillows and bedding will be provided.

We recommend that participants DO NOT bring electronic devices, such as tablets and games consoles, on the course as there will be little time for them to be enjoyed. If students bring along a mobile phone they are responsible for looking after it and keeping it safe. The organisers will not be liable for items lost or damage during the course.

All information, materials and handouts will be provided on arrival.

Directions

St Paul's School can be found along Lonsdale Road in Barnes, West London, SW13 9JT. The closest tube is Hammersmith and it takes approximately 20 minutes to walk. Maps can be found at <http://www.stpaulsschool.org.uk/facilities/location>

Parking is available on site for drop off and pick up.

Participants will be directed to the registration point where they can drop off their bags before the first lecture.

About us



Dr James Perkins
JMP@stpaulsschool.org.uk

St Paul's School, London

(www.stpaulsschool.org.uk)

St Paul's School is an independent school for boys aged 13 to 18, founded in 1509 and located just south of the River Thames in London. The School has recently opened a new science block; each floor is purpose built and specially resourced to deliver one of the three curriculum sciences. The Physics department benefits from a dedicated research lab that can act as a hub for school-age researchers. The school has recently invested in a state-of-the-art table top scanning electron microscope (SEM) with x-ray characterisation for pupils to use in their studies.

Over the past three years the school has been running highly successful outreach programs in biology, chemistry and materials science where sixth form students deliver exciting material science-related activities. Many of the experiments on the conference have been tried and tested during these sessions.

It is hoped that the pupils attending the conference and their schools will continue to build a relationship with St Paul's so that they can use the facilities, such as the SEM and research hub, and get involved with the National Centre for Science and Engineering Research in Schools Characterisation Hub.



Dr Diane Aston
Diane.Aston@iom3.org

The Institute of Materials, Minerals and Mining

(www.iom3.org)

The Institute of Materials, Minerals and Mining is a major UK engineering institution whose activities encompass the whole materials cycle, from exploration and extraction, through characterisation, processing, forming, finishing and application, to product recycling and land reuse. It exists to promote and develop all aspects of materials science and engineering, geology, mining and associated technologies, mineral and petroleum engineering and extraction metallurgy, as a leading authority in the worldwide materials and mining community.

The Institute has a long and successful history of working with UK schools to support the teaching of the materials topics and promote careers in these areas. The Schools Affiliate Scheme now supports over 900 science and design technology teachers from around the UK and through this over 70,000 young people have had the chance to find out about materials first-hand through interactive lectures and other activities.

For office use only			
Name		Application number	MOM16-
Date received		Confirmation of receipt	
Deposit received		Bursary?	
Successful	Unsuccessful	Waiting list	Cancelled
Notification to school		Deposit returned	

MAGIC OF MATERIALS SUMMER SCHOOL APPLICATION FORM

Please complete all of the boxes on the following pages as fully as you can, this will help us to process your application quickly. You are welcome to complete the form on the computer or print and fill it in by hand, but if this is the case please ensure that your entries are legible!

A maximum of two delegates will be selected from any one school, though you may submit as many applications as you see fit.

Please post your completed application form(s) and deposit(s) to Dr Diane Aston, Magic of Materials, IOM3, The Boilerhouse, Caunt Road, Grantham, NG31 7FZ.

The deadline for submission of applications is **1700hs on Friday 20 May 2016**, applications received after this date will not be considered.

All applicants will be notified as to whether or not they have been successful by **Friday 10 June**. This will be confirmed via the nominating teacher. The deposits of unsuccessful candidates will then be returned to the school.

If a pupil has been successful in obtaining a place but is no longer able to attend for any reason please let us know as soon as possible so that the place can be offered to someone else.

If a pupil allocated a place cancels within one week of the start of the course their deposit will not be refunded as it is unlikely that we will be able to find a substitute.

Deposit cheques will be stored in a secure safe and returned to delegates during the course. Deposits will only be cashed in the event of a last minute cancellation, failure to turn up or if a delegate has to be asked to leave due to unacceptable behaviour.

Please include this cover sheet with your application and make sure that everyone has signed the declaration on the final page.

We think we have included everything here but if you have any questions please contact either Dr Diane Aston (diane.aston@iom3.org) or Dr James Perkins (JMP@stpaulsschool.org)

About the applicant (to be completed by the pupil)

First name		Surname	
Gender		Date of birth	
Home address (including postcode)			
Email			
<p>Please tell us in no more than 150 words why you would like to attend the Magic of Materials Summer School. You could tell us why you are interested in materials, describe any other experiences you have had and perhaps what sort of career you would like to go into. This is your chance to show us why we should choose you!</p>			
Do you have any special dietary requirements? (If yes, please detail below)		YES / NO	
Do you have any other specific special requirements? (If yes, please detail below)		YES / NO	
Two emergency contacts (include full name, phone number and relationship to you)			
1.			
2.			

About the applicant's school (to be completed by a teacher)

Full name of nominating teacher			
Position		Department	
School			
Address (inc. postcode)			
Phone		Email	
Please tell us in no more than 100 words why this pupil should attend the Magic of Materials Summer School.			

Travel Bursary

We wish to apply for a travel bursary of up to £100	YES / NO
Is this pupil eligible for Free school meals / pupil premium funding (this is not necessary but we would like to know for data gathering purposes)	YES / NO
Please tell us how much it will cost for the pupil to travel to and from the course by car or train (standard class)	

Deposit

A deposit of £50 per delegate is payable to secure each place. Please send a cheque made payable to **IOM3** and with the **applicant's name and school** written on the back with the completed application form(s).

Declaration (please circle to confirm the following)

We confirm that photographs or video clips of the applicant may be used by St Paul's School and the Institute of Materials, Minerals and Mining for future publicity purposes.

YES / NO

We understand that the applicant will be attending the course for academic and scholarly purposes and that any behaviour deemed unacceptable may result in the participant being required to leave the course. This will result in the deposit being withheld.

YES / NO

We understand that our deposit cheque will not be cashed unless the applicant fails to turn up on the course or is asked to leave due to unacceptable behaviour, and that it will be returned on completion of the course.

YES / NO

We confirm that all the details supplied are correct to the best of our knowledge

YES / NO

We understand that the organisers (St Paul's School and IOM3) will not be responsible or liable for the loss or damage of personal property during the course

YES / NO

Signature of nominating teacher

Signature of parent / guardian

Signature of pupil

Please post the completed application form and deposit to **Dr Diane Aston, Magic of Materials, IOM3, The Boilerhouse, Caunt Road, Grantham, NG31 7FZ**. The closing date for registrations is Friday 20 May 2016. All applicants will be notified as to whether they have been successful or not by 10 June.

-----Application form ends-----