



ABINGDON

From: Physics: Ben Simmons

16 June 2017

Dear Parent/Carer,

*Lower Sixth Physics Trip to Geneva
Open to pupils currently in the fifth year who have chosen Physics A-Level
17-20 December 2017*

Abingdon's Physics Department would like to invite students in the current fifth year to participate in a trip to Geneva to enhance their understanding of the content covered during the Lower Sixth course. The trip will depart early in the morning on the Sunday at the end of the Michaelmas term. Please note that any boarders wishing to attend will need to find alternative accommodation on the Friday and Saturday night as the boarding houses are closed for Christmas.

The provisional itinerary is outlined below. Visits which are starred are currently confirmed whilst the rest are unconfirmed and subject to change. A final, accurate itinerary will be shared nearer the time.

Sunday 17 December

7am – Depart London Heathrow

9.45am – Arrive Geneva

11am – Drop bags in Hotel

1pm – Walking tour of Geneva*

In the company of a professional guide, discover the Old Town of Geneva, Switzerland's greatest historic city, dominated by St-Pierre Cathedral, the centrepiece of the Reformation.

3.30pm– History of Science Museum Tour* (Original objects studied at various points during the A-level course)

See Volta's first battery, one of Galileo's telescopes, the original lab equipment used to confirm Einstein's theory of relativity, a vast array of antique telescopes, a first edition of Newton's Principia etc

7pm – Free time in Geneva for dinner

Monday 18 December

9am – Visit to CERN* (Relevant to A-Level specification points 130-139)

The tour lasts about three hours and includes an introduction with a short film followed by a visit to one or two of the ground-level visit points.

12pm – Lunch in CERN restaurant*

1pm - Microcosm and Universe of Particles Exhibitions* (Relevant to A-Level specification points 140-143)

The entire Universe is made up of particles. But where do they come from? What laws govern their behaviour? The purpose of the "Universe of particles" exhibition is for visitors to confront the great questions of contemporary physics, currently being explored by the CERN via the LHC and other accelerators. Microcosm takes visitors on a journey through CERN's key installations.

4pm – Seujet Hydroelectric Dam visit*

Opened in 1995, the Seujet dam has three functions: 1) control the level of Léman Lake. 2) Regulate the flow of the Rhône. 3) Produce electricity.

7pm – Free time in Geneva for dinner

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Tuesday 19 December

10am – Geneva Observatory Visit* (Relevant to A-Level specification points 156-162)

Visitors will then be able to watch a 10-minute film showing some of the Observatory's flagship activities and an exhibition room illustrating the astronomical objects studied. The route continues through a passage to the computer centre and into the mechanical workshops, ending at the dome housing a 70 cm telescope.

3.30pm – Physiscope Rotations workshop

What is a rotation? How should bikers handle their handlebars? How do mobile phones detect movement? What is a gyroscope? Does the centrifugal force really exist?

6pm – Free time in Geneva for dinner

8pm – Astronomy workshop (Relevant to A-Level specification points 156-162)

Do you know what an aurora is? How many planets are there in the solar system? What is a star and an exoplanet? How do you evaluate the distance from stars to Earth? What is a black hole? Did the Universe have a beginning and will it have an end?

Wednesday 20 December

10am– Swiss Plasma Centre Tour* (Relevant to A-Level specification points 164-167)

This tour will introduce the group to plasmas, fusion and their related experimental devices including the tour of the Tokamak.

1pm – Einsteinhaus Tour (Bern) (Relevant to A-Level specification points 86-96)

A presentation covering the most important facts in connection with Einstein's life and scientific activities including a visit to the apartment he resided in during his time in Bern. This will be complemented by more detailed explanations of his scientific results which he obtained during 1905 (light-quantum hypothesis, Brownian motion and special theory of relativity)

3pm – Albert Einstein and the 20th Century Talk and Tour – Einstein Museum (Bern)* (Relevant to A-Level specification points 86-96)

Some 550 original objects and replicas, 70 films and numerous animations outline the biography of the genius and his ground-breaking discoveries, while at the same time illustrating the history of his time.

8.50pm – Depart Geneva Airport

The total cost of this trip will be £545 per student, which is based on a group size of 30 students. If we receive a smaller amount of interest than this, the price of the trip may increase and I will write to you informing you of the new price and give you the opportunity to withdraw. This cost includes flights, transfers to and from school, accommodation, breakfast, all the visits during the trip and insurance. Students will need to bring their own money for buying lunch and dinner each day along with all food eaten during travel to and from the UK. They may also wish to bring a small amount of spending money. I would anticipate that they would need about 50 CHF per day as the cost of food is high in Switzerland.

If your son is interested in attending, please complete the link to the attached form consenting to the entire cost of the trip being charged on the bill at the end of the Summer Term 2017.

Mindful of the impending BREXIT negotiations the school is taking all reasonable measures to limit the potential financial impact of fluctuations in the exchange rate. Nonetheless it is not possible to eliminate all the risk. To be fair to all parties, as a precaution, rather than include extra contingency provisions which may not be required, the School reserves the right to vary the trip price for any unpaid elements of the trip, if at the date of final payment there has been a significant change in the Euro/£ exchange rate.

Consent form:

<https://goo.gl/forms/ToRopUgwm87FpJhb2>

Yours sincerely

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School Mobile Number for Duration of Trip: **07532088861**