Secondary schools – an opportunity for your students to become real research scientists!

Call for applications to be a research partner school

Conducting scientific research is an experience that is rarely accessible outside universities. During a new project in the 2014/15 school year, however, a group of researchers from the Centre for Mathematical Modelling of Infectious Diseases at the London School of Hygiene and Tropical Medicine aims to give secondary school pupils (Y9 or Y10) the opportunity to work on a real scientific research project.

The research team is now inviting applications from schools to be selected as a research partner in the project.

Full information on the project is given below. To apply to participate as a research partner school, please complete the online application form at [http://mmp.maths.org/social-mixing-research-apply](http://mmp.maths.org/social-mixing-research-apply) by **12 noon on Thursday 11th September 2014**. Applicants will be contacted by Friday 19th September at the latest to confirm whether your school has been selected to take part.

What is the planned research project?

Through a series of videoconferences and school visits, this project will allow school pupils to design and conduct research into the dynamics of social networks.

Understanding social behaviour is an increasingly important part of biomedical science - one important example is in understanding and predicting the spread of epidemics - and research suggests that the movements and interactions of school-age children may play an important part in the spread of infectious disease. Yet there is much we don’t know about how school pupils interact. What do social networks in schools look like, and how do they change over time?

To answer these questions, the researchers will assist school students in designing and conducting a survey to measure social behaviour at different points in the year. The research team, assisted by the students, will then be able to use this information to investigate how social networks within schools change over time. The project will cover a range of disciplines, including mathematics, sociology and medicine, and will help students to gain a more informed understanding of the role mathematics plays in science and medicine. Students will also gain unique insights into the scientific method: as well as debating the ethics and logistics of data collection, they will explore how to evaluate and visualise their results.
The research team, Dr Ken Eames, Dr Adam Kucharski and Dr Andrew Conlon, have previous experience of working with schools. A previous, similar project investigating social mixing patterns in primary schools was reported in an academic paper published in the prestigious Proceedings of the Royal Society B, and attracted coverage from the scientific press - you can read more about the project in Discover magazine's article 'Turning secondary school children into research scientists'.

What will the time commitment be from research partner schools?

The research team is looking for four different research partner schools to take part in the project in the 2014/15 academic year, with one Year 9 or Year 10 class from each school participating.

The project itself will involve a series of six 70–80 min video-conferences with pupils, held once per half term. These video-conferences will explore research issues surrounding social behaviour and data collection and analysis. In between video-conferences, students will both work on the design of the surveys and then conduct the survey with other students in the school. To measure how social behaviour patterns change over time, the survey will be administered four times over the course of the year. There may be some flexibility in how much time schools invest, but it is anticipated that the participating Y9 or Y10 class would need to commit one or two lessons to the project each time the survey is administered. Researchers will also hold face-to-face workshops (around 1.5–2 hours) in participating schools, expanding on the themes covered in the video-conferences.

What technical equipment is needed?

In order to participate in the live video-conferences, participating schools will either need access to a Windows PC running at least Windows 7 and with microphone and webcam or a dedicated videoconference system/codec (common ones are Tandberg, Polycom and Lifesize).

In both cases, it needs to be able to connect directly to the Internet (not on a purely private network or behind a firewall).

How to apply to participate

To apply to participate in the research project during 2014/15 please fill in the short online application form at http://mmp.maths.org/social-mixing-research-apply. The deadline for submission is 12 noon on Thursday 11th September 2014.

The application form includes a request for confirmation about whether the school's equipment meets the technical requirements needed to participate, so please check this beforehand. Confirmation that the Head or Senior Management Team have approved the school's participation in the project is also required.

Please note that the research team will select the participating schools from the applications received in order to ensure a good balance of geographic and demographic research data spread. Applicants will be contacted (after the deadline for applications) by Friday 19th September at the latest to confirm whether your school has been selected to take part.

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