Meet the science

Asta Valanciute and Covadonga Huidobro [The Institute of Genetics and Molecular Medicine (IGMM), Scotland, UK]

On the 22 September 2014, two researchers from the University of Edinburgh, Covadonga Huidobro and Asta Valanciute, arrived at the High School in Plateliai, Lithuania. There were plenty of educational resources, including bags of different coloured beads, cell organelles, tubes, pipettes, gloves and so forth. With the help of sponsorship from both the Biochemical Society, via an ongoing grant, and the IGMM, the mission was to organize educational activities during the week of 22–26 September in the High Schools of Plateliai and of the Old Town in Plunge. It was also hoped to discuss the novelties in molecular/cellular biology and biochemistry, and to increase interest and knowledge about bioscience and the importance of our research to children and teachers.

During the week, over 445 students and 15 teachers from both schools attended the educational events based on a wide range of activities such as lectures about epigenetics and cell signalling in the context of cancer research, discussions about choosing a career in bioscience and workshops or hands-on experiments.

Fifty-nine pupils (aged 7–8) learned to pronounce and remember new words related to the cell structure. They then combined gained knowledge with art, as they coloured in a cell and its principal organelles.

Twenty-nine children (aged 13–14) extracted DNA from peas and learned about the principles of scientific methodology. The two scientific activities called ‘Make your own DNA bracelets’ were attended by 25 pupils (aged 10 and 12). The students found out about DNA structure and DNA code. With great enthusiasm they made bracelets using coloured beads [adenine (A) as green, thymine (T) as red, cytosine (C) as blue and guanine (G) as yellow] matching to the DNA code for eye colours brown, blue or green.

We presented two lectures entitled ‘Epigenetics: beyond the genetic code’. During these lectures children (aged 15–18) gained an understanding of DNA, chromatin structure and the concept of epigenetics and its importance in human disease. Seventy-two students (aged 15–18) attended a lecture about cell biology and signalling. The students gained knowledge on how aspirin, a non-steroidal anti-inflammatory drug, inhibits the mammalian target of the rapamycin (mTOR) signalling pathway and stops the growth of human colorectal cancer cells. The pupils also had the opportunity to observe and compare the migration of aspirin-treated and untreated colorectal cancer cells by watching data of live-cell imaging in a time-lapse movie.

Four career presentations, called ‘Choosing your career in bioscience’, were given to children (aged 15–18) during this project. In total, 181 students attended these talks. We hope that the students have now become more interested in the fascinating subjects within bioscience.

The event was very successful. Overall, 400 students (89.9%) indicated in our feedback form that they enjoyed the event and that they were satisfied by the content of the activities. We received positive feedback from children and teachers alike. They thanked us for organizing this event and invited us to come back again with future projects.

As organizers, we thank the Biochemical Society for sponsoring this successful project. ‘Meet the science’ team members: teachers; Mrs Maryte Margiene, Mrs Sigita Mazeikiene, Mrs Iolute Simkuvienė, Mrs Kotryna Straksiene and Mr Juozas Griskus, the Deputy Director of Education at the Old Town High School in Plunge.

On the 22 September 2014, two researchers from the University of Edinburgh, Covadonga Huidobro and Asta Valanciute, arrived at the High School in Plateliai, Lithuania. There were plenty of educational resources, including bags of different coloured beads, cell organelles, tubes, pipettes, gloves and so forth. With the help of sponsorship from both the Biochemical Society, via an ongoing grant, and the IGMM, the mission was to organize educational activities during the week of 22–26 September in the High Schools of Plateliai and of the Old Town in Plunge. It was also hoped to discuss the novelties in molecular/cellular biology and biochemistry, and to increase interest and knowledge about bioscience and the importance of our research to children and teachers.

During the week, over 445 students and 15 teachers from both schools attended the educational events based on a wide range of activities such as lectures about epigenetics and cell signalling in the context of cancer research, discussions about choosing a career in bioscience and workshops or hands-on experiments.

Fifty-nine pupils (aged 7–8) learned to pronounce and remember new words related to the cell structure. They then combined gained knowledge with art, as they coloured in a cell and its principal organelles.

Twenty-nine children (aged 13–14) extracted DNA from peas and learned about the principles of scientific methodology. The two scientific activities called ‘Make your own DNA bracelets’ were attended by 25 pupils (aged 10 and 12). The students found out about DNA structure and DNA code. With great enthusiasm they made bracelets using coloured beads [adenine (A) as green, thymine (T) as red, cytosine (C) as blue and guanine (G) as yellow] matching to the DNA code for eye colours brown, blue or green.

We presented two lectures entitled ‘Epigenetics: beyond the genetic code’. During these lectures children (aged 15–18) gained an understanding of DNA, chromatin structure and the concept of epigenetics and its importance in human disease. Seventy-two students (aged 15–18) attended a lecture about cell biology and signalling. The students gained knowledge on how aspirin, a non-steroidal anti-inflammatory drug, inhibits the mammalian target of the rapamycin (mTOR) signalling pathway and stops the growth of human colorectal cancer cells. The pupils also had the opportunity to observe and compare the migration of aspirin-treated and untreated colorectal cancer cells by watching data of live-cell imaging in a time-lapse movie.

Four career presentations, called ‘Choosing your career in bioscience’, were given to children (aged 15–18) during this project. In total, 181 students attended these talks. We hope that the students have now become more interested in the fascinating subjects within bioscience.

The event was very successful. Overall, 400 students (89.9%) indicated in our feedback form that they enjoyed the event and that they were satisfied by the content of the activities. We received positive feedback from children and teachers alike. They thanked us for organizing this event and invited us to come back again with future projects.

As organizers, we thank the Biochemical Society for sponsoring this successful project. ‘Meet the science’ team members: teachers; Mrs Maryte Margiene, Mrs Sigita Mazeikiene, Mrs Iolute Simkuvienė, Mrs Kotryna Straksiene and Mr Juozas Griskus, the Deputy Director of Education at the Old Town High School in Plunge.