

Babraham Boot Camp inspires new generation

Babraham Institute's Bioscience Boot Camp enlisted 20 eager sixth formers from around the East of England region for a unique learning experience and insight into the world of research.

Established in 2007, the innovative one-week programme provides students with both hands-on research experience and the opportunity to engage with role models in science-based professions from academia to early-stage bioscience companies and the pharmaceutical industry.

Napp Pharmaceuticals, the Cambridge Science Park giant, hosted a key element of the programme.

Students were selected from Hills Road Sixth Form College, Long Road Sixth Form College, Netherhall Sixth Form, CATS, The Simon Balle School, Hertford and The Robert Smyth School, Leicester with students from Saffron Walden County High School and Impington College joining parts of the programme.

Boot Camp aims to give students an unrivalled insight into bioscience research through short research placements, science talks from Babraham's researchers, careers discussions and a workshop exploring the social and ethical issues associated with stem cell research - led by the Wellcome Trust Sanger Institute's education team.

Boot Camp creator Dr Claire Cockcroft, head of external relations at the Babraham Institute, said: "A new dimension was developed for Boot Camp this year by partnering with a biotech company at our campus and Napp Pharmaceuticals Ltd, to illustrate how scientific discoveries are translated into commercial reality and new therapies are brought from bench to bedside.

"This year's programme successfully brought together organisations from different sectors to share their knowledge of scientific breakthroughs, research in industry and careers to help young people make more informed decisions about their futures. It demonstrates the collaborative nature of public engagement events in Cambridge and our commitment to science education and skills training."

The students were immersed in a variety of research projects ranging from lab-based assignments exploring the inner workings of the immune system and cell signalling pathways to a computer-based cognitive neuroscience project investigating how people respond to emotional cues and facial expressions, which has relevance to better understanding autism.

Responding to some of the applicants' desire to find out about careers in industry, projects and presentations were organised to include both institute researchers and companies at the Babraham Campus.

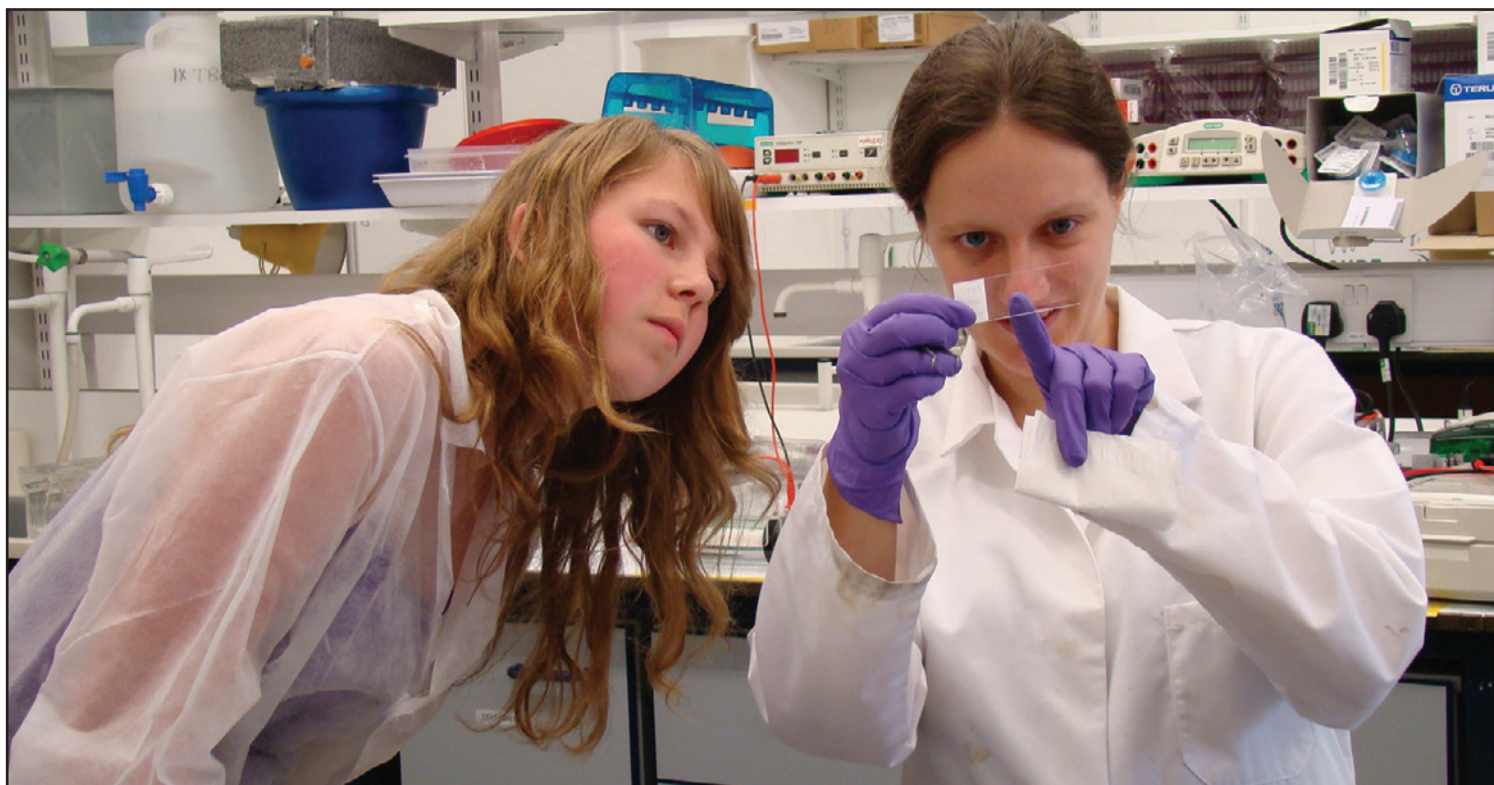
Immunobiology Ltd was keen to get involved and designed a project that provided an excellent insight into the research and commercial challenges for an early-stage company developing the next generation of vaccines.

Ben Taylor at Hills Road 6th Form College, who took part in this element of the programme, said: "Boot Camp has been really helpful in informing my career decisions and has also helped me gain a better understanding of work in a science facility." Another Hills Road participant said her experience, "Made me want to do a PhD."

One of the lab projects was organised by Dr Simon Rudge and Kate Champion who was herself a summer student at the Institute last year, supported by a Nuffield Foundation Bursary.

"The Boot Camp was beneficial not only for the students but also for me, as a peer mentor," she said. "It was very rewarding for me to be able to share my knowledge of laboratory techniques and my passion for the supporting theoretical background.

"This wonderful opportunity to gain insight into a working research lab is especially important during year 12 as the students are making critical decisions about university and future careers.



Louise Matheson, a PhD student at the Babraham Institute (pictured above right) who led one of the research projects said: "It was an enjoyable experience and great to see some enthusiastic students really engage with the project, as well as gaining some insight into what it's like to work in scientific research."



"Having had the same decisions to make a year ago, the students were keen to hear my perspective on university courses and career paths. I was inspired to pursue biomedical research as a career by my placement last summer at the Babraham and I hope Boot Camp has inspired them as well. I am glad to be part of such a worthwhile programme."

Boot Camp appears to have had the desired effect. Lisa Cassidy, from The Robert Smyth School in Leicester said: "Boot Camp really met, if not, exceeded my expectation and I was amazed by just how much I learnt in a week.

"It really raised my awareness about the future of bioscience, its use, different topics of research and how to get there; it has helped me to make decisions about the career I'm going to pursue. Boot Camp was a truly inspiring experience packed full of knowledge and practical hands-on projects in the labs. I really didn't want to go home on my last day!"

At Napp Pharmaceuticals the students heard about innovations in the treatment of pain, took part in a workshop analysing information from a fictional clinical trial and toured the facilities, getting a behind the scenes insight into how pharmaceuticals are produced.

Dr Jo Montgomery, who is Napp's Science Ambassador Scheme coordinator said: "Students attended a one-day workshop at Napp on clinical trials and the Industry perspective of careers and

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drug development. This is part of our ongoing commitment to encouraging and inspiring the next generation of scientists through Napp's Science Ambassador Scheme."

Throughout the week, the students got to hear about some of the research at the Babraham Institute, which is generating new knowledge of the biological mechanisms underpinning ageing, development and the maintenance of health. This included talks about epigenetics, ageing in the nervous system, cancer and Professor Keith Kendrick, who supervised nine of the Boot Camp students, fuelled students' curiosity with a talk entitled 'pushing back the frontiers in neuroscience'.

This explored some of the current and future advances in neuroscience which will help improve diagnosis and treatment of mental disorders and aid recovery from acute or

progressive brain damage.

Dr Elaine McCash of Rapid Biosensor Systems Ltd, located at Babraham, presented the company's strategy for tackling the global threat of tuberculosis with its innovative rapid screening system. At the end of the week, the students gave team presentations based on their achievements. Several of this year's Boot Camp students came from Hills Road 6th Form College.

Ian Harvey, head of biology at Hills Road said: "Boot Camp provides a great opportunity for my A level biologists to extend their experience well beyond the syllabus and to work with and learn from practicing scientists in a real research environment.

"The knowledge and insight they gain will be invaluable in guiding and supporting their university application and maybe whet their appetite for a research career in the future.

"The Boot Camp enables students from different colleges to work effectively in teams and to hone their presentation skills by explaining their project work and finding to other students.

"My students have participated in Boot Camp since its inception and unfailingly come away full of enthusiasm for the experience. I will be sending more in 2012."

Four years downstream, the Boot Camp students of 2007 are nearing the end of their degrees and contemplating their futures.

Former Long Road student, Joanna Durkin said: "Boot Camp really helped cement my desire to go into practical science and I am currently in my final year of my Biomedical Science degree at the University of Sheffield, which I love.

"Last summer I undertook a Wellcome Trust funded research project studying prostate cancer at Sheffield's Medical School which was really exciting. Having already seen the research environment at Babraham, it was a lot less daunting when I started!

"My ultimate plan is to do a PhD in the area of cancer cell biology. The experience provided at Boot Camp was incredibly helpful in pushing me towards where I am today."

Dr Cockcroft concluded: "Talking with the students, Boot Camp appears to have been helpful in opening their eyes to the different realms of bioscience research, from academia to entrepreneurs in early-stage start-ups and Pharma.

"Working in together teams with inspiring scientists, students experience real research and its challenges at first hand while also learning about each other and gaining important communication and teamwork skills, which are essential for any scientist."

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