

Leading Chinese genomics institute partners with the University of Birmingham

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The University of Birmingham and BGI, a leading genomics organisation in China, have today announced a major joint initiative in environmental and human health research.

The new venture will provide a world-class research and training centre on Birmingham's campus that integrates state-of-the-art approaches in molecular biology, including DNA sequencing, metabolomics and bioinformatics. Research will focus on organism responses to environmental change through to disease susceptibility and treatment.

This initiative expands the University of Birmingham's recently announced **£2 million research investment (<http://www.birmingham.ac.uk/news/latest/2012/07/18-Jul-12-University-invests-2-Million-for-environmental-genomics-and-recruits-John-Colbourne-to-lead.aspx>)** into the fields of environmental genomics and metabolomics to link genes and metabolite functions to the fate of natural populations coping with environmental challenges. The longer term impacts will be from using this information as an "early warning system" to better protect human and environmental health from chemical pollution and other stressors including climatic change.

This initiative also builds upon Birmingham's Stratified Medicine and Systems Science for Health programs. The West Midlands Regional Genetics Laboratory, the largest NHS genetics facility in the UK, is at the forefront of introducing new genomic technologies into clinical pathways to transform the delivery of healthcare in the UK. The initiative will provide tools and additional skill sets to integrate genomics into mainstream medicine such as in cancer treatment.

Genomics has also been at the heart of bacteriological research in Birmingham for over a decade, now within a new Institute of Microbiology and Infection and an NIHR-funded Surgical Reconstruction and Microbiology Research Centre. This new BGI-Birmingham initiative will improve our understanding of the microbial communities that colonise the human body, evaluating how these change in health and disease with potential to augment, or even replace, traditional diagnostic bacteriology.

As one of the world's largest genomics organisations, BGI has developed an integrative structure of research innovation, platform development and industrial application for promoting the advancement of innovative biology research, molecular breeding, healthcare and related fields. Although the headquarters of BGI is located in Shenzhen, China, it's UK partnership with the University of Birmingham catalyses unique collaborations across the three distinct research themes given above, made possible by technologies and BGI's expertise at processing and analysing unprecedented numbers of samples.

"This partnership's mission is to solve 21st century challenges in environmental and human health. We appreciate this great opportunity to collaborate with scientists at the University of Birmingham. Combining two organisations' world leading expertise and extensive research experience in these fields, I believe we could make more scientific breakthroughs for benefiting human life in the near future.", said Yingrui Li, Vice President of BGI.

Under this agreement, BGI will work with the University to place an initial installation of sequencers and personnel within an interim joint laboratory to jump-start projects that together will help transform environmental and human health. Plans are underway to establish a made-for-purpose site for scaling-up the research activities. The scientific collaborations are further enhanced by plans to provide PhD level training opportunities to BGI staff, and student exchanges between Birmingham and Shenzhen.

Professors Jon Frampton and Kevin Chipman, who are Directors of Research for the College of Medical and Dental Sciences, and for the College of Life and Environmental Sciences at the University of Birmingham, commented that this integrative initiative will have a transformational impact on many areas of biological and biomedical research at the University of Birmingham.

"BGI's significant presence at a UK institution of higher learning will reinforce how life-science education and basic research can improve human, environmental and economic wellbeing", said Professor Adam Tickell, the University's Pro-Vice-Chancellor for Research and Knowledge Transfer. "We also expect innovations from the partnership's activities that will translate into more collaborations, including with industry, to create new environmental and healthcare start-up companies and employment for our graduates."

Notes to Editors

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