

Public engagement in science: what's on in Birmingham

This year, the British Science Festival visits Birmingham. *People & Science* previews some of the public engagement in the city.

Accessible excellence at Aston

Julia King is excited by the university's offerings

At Aston we are serious about engaging the public – particularly the younger generation – in science and technology. We are committed to the STEM ambassador scheme;¹ we participate in Birmingham Science City² and have a busy public events programme.

Aston University Engineering Academy

The new development we are most excited about is the creation of the Aston University Engineering Academy. It is a new school for 14-19 year olds, on a site adjacent to the University, teaching the Engineering Diploma (with a modern language). It will prepare Birmingham's young people for global engineering careers through both apprenticeships and degrees.

Engineering is about delivering real-life solutions through applying knowledge. In the early stages of the Diploma course the Academy will emphasise learning through doing, giving students hands-on experience, working closely with our industrial partners. As students' confidence and interest builds, research shows that motivation to master the more abstract and

mathematical tools required by professional engineers increases, giving students the best chance to learn subjects sometimes regarded as difficult.

Widening participation

Universities can, and should, be powerful enablers of social mobility. No other top 20 UK university has a better record than Aston of widening participation. Over 90 per cent of our students come from state schools, with almost 40 per cent from the lowest socioeconomic groups. Amongst our British first degree students, 53 per cent are from ethnic minorities and, with overseas students from more than 120 countries, we can claim one of the most diverse student populations in the UK. Since diversity drives innovation, that makes Aston an exciting place for learning and research.

This has not happened by accident. For many years, we have taken our role in the community very seriously. We have a successful, longstanding outreach programme which encourages young people to enter Higher Education (HE) and to be ambitious for their futures.

Gifted and talented

We have around 40 mentors/associates and 100 student tutors working in schools around Birmingham, the largest contribution from any HE institution in the city. Aston is also the regional hub for the West Midlands Gifted and Talented scheme, providing additional masterclasses and workshops for children with outstanding ability, to enable them to learn at a pace that stretches and excites them, and to sample university life.

We are excited to be hosting the British Science Festival in September 2010, together with our other partners in the City of Birmingham. It is a number of years since the event was last held here, and right across the region there is great enthusiasm for the Festival.

1. See www.stemnet.org.uk

2. See www.birminghamsciencecity.co.uk



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Photo: Thinktank

From power to empowerment

Nick Winterbotham extols the Digbeth Age of Reason

Opened in 2001, Thinktank is the 21st century's iteration of the 19th century science museum.

The new enlightenment stems from a very modern approach to allocating public money to attend to need.

In the late 1990s, Birmingham City Council and Birmingham University collaborated to persuade the Millennium Commission and the European Union to invest £114m in a new building (Millennium Point) on a derelict site in the Digbeth area of Birmingham. It would house the old science and technology museum which was in need of a new home. It would provide a dynamic new setting for the Technology Innovation faculty of the university. It would be a beacon building to kick-start the regeneration of what was now to be dubbed 'Eastside – a new piece of city centre'.

However, the fourth agenda is what ultimately fired the imagination and quickened the pulse.

The New Enlightenment

Birmingham, city of a thousand trades, workshop of the world, home of the Lunar men, has always had a gift for entrepreneurship and ingenuity.

In 1776, Matthew Boulton of the Lunar Society boasted to writer James Boswell when he visited his Birmingham steam engine works: 'I sell here, Sir, what all the world desires to have — power...'. The new order focuses on empowerment.

Thus the new museum, displaying Birmingham's world-class collections from the Industrial Revolution to the present, set out on the road of relevance, inspiration and learning. Our 21st century focus is on the user.

Armed with the scientific legacy of 300 years, the new task is to generate the technological enthusiasm and scientific genius of the next 300.

The outcome

Our galleries, like good science, answer the queries of the curious and pose new questions that promote further curiosity.

The enquiring mind is seldom content with closed loops. The thousand open-ended journeys of Thinktank are available to all in a hands-on and minds-on up-to-date learning environment. Interactivity is alternated with the contemplative, with social learning opportunities, and with direct contact with gallery staff.

The result of this approach is that where teachers need an 'enthusiasm shot in the arm' they progressively reach for the visit-booking team at Thinktank. 75,000 school-children now attend Thinktank each year, amongst the museum's 250,000 visitors. We are also hosting the Young People's Programme (for schools) at the 2010 British Science Festival.

Our belief is that if our society is truly to attend to the environmental, economic and technological challenges of the future, Thinktank must play its inspirational part in empowering future generations who are at ease with wielding science.



Nick Winterbotham is CEO at Thinktank
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Ferment of activity in the West Midlands

Peter Reed arranges a busy schedule

The British Science Association branches play an important role in advancing the public understanding, accessibility and accountability of the sciences and engineering in the UK.

The West Midlands Branch caters for the wide spread of members and supporters from Herefordshire to Warwickshire. Over the last few years we have tried to expand our activities through talks, visits and practical events, while at the same time providing some of these activities outside Birmingham.

Lectures

Every October, we hold the Prestige Lecture on an evening to coincide with our AGM. We have been very fortunate to attract some high-profile speakers including Lord May, Frances Cairncross, Baroness Susan Greenfield and Professor Steve Jones. Members, supporters, the general public, students, other groups and organisations: all come, enabling us to attract new members. We thank Thinktank in Birmingham for making its lecture theatres available for these and other evenings.

Other recent talks in the programme have focussed on developments such as the Large Hadron Collider or on special commemorations such as the International Year of Darwin.

U3A collaboration

We have forged a particularly successful collaboration with the University of the Third Age, especially the Dorridge Branch (near Solihull). Over the last three years, joint meetings have addressed issues related to forensic science and presentation of forensic evidence in courts of law, and earlier this year on nutrition and health. Although these meetings are held in a village hall, they attract audiences of over 120. In the future the branch is keen to increase these joint events with a number of other organisations and sees them as a fruitful way of expanding its activities across the West Midlands.

Visits and demonstrations

The region provides limitless opportunities for visits. Over the last few years we have arranged outings to the BBC at Mailbox to see the use of new technology in the gathering and

presentation of news on TV and the radio. The Birmingham Assay Office, Soho House (the home of Matthew Boulton), Stourbridge (a glass study day), Shrewsbury (guided walk on the Darwin associations) and to Taylor's Bell Foundry in Loughborough.

We have not neglected National Science and Engineering Week. In the last few years the branch has worked with the superconductivity team at the University of Birmingham to demonstrate at a community centre what happens to everyday objects when they get cold, and with Dr Claire Davis of the University of Birmingham on an event at a school in Solihull on how technology helps sports performance. This latter event was based on the Award Lecture Dr Davis gave at the British Science Festival.



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