

# National Science Week

**2006** in South Yorkshire

**10-19 March 2006**

Schools Programme

School Visits

School Workshops

Events for the Public

national  
**science week**

*10-19 march 2006*



Organised by:

**The University of Sheffield and Sheffield Hallam University**  
in collaboration with local schools, museums, industry and commerce

# NATIONAL SCIENCE WEEK 2006

## BRITISH ASSOCIATION SHEFFIELD BRANCH

### SETPOINT SOUTH YORKSHIRE

Once again the two universities in Sheffield are offering an even larger schools programme, which also includes events and workshops for schools to book. This complements the comprehensive public programme of events for National Science Week, to be found at the end of this brochure.

With additional input from local museums, industry and commerce, Sheffield continues its strong tradition of presenting what is considered to be one of the best Science Week programmes in the country.

## THE SCHOOLS PROGRAMME

### A Cool Topic for Hot Debate

**Dr Gabrielle Miles** - Dept of Engineering Materials,  
The University of Sheffield

Venue: Adwick Washington Infants School, Doncaster

School contact: *Anna Maria Wells*

Venue: Hooton Pagnell All Saints School, Doncaster

School contact: *Jenny Gravells*

Venue: Southfield Primary School, Doncaster

School contact: *Rebecca Taylor*

Venue: Stoney Middleton Primary

School contact: *Mandy Bite*

Venue: Swinton Community School

School contact: *Paul Blakeley*

Venue: Wingfield Comprehensive

School contact: *Paul Blakeley*

### Aeroplanes, Cars, Computers, Sumo Wrestling and Hospitals - Can I really do all that in one job?

**Dr Anthony Rossiter** - Dept of Automatic Control and Systems Engineering, The University of Sheffield

Venue: Birkdale School, Sheffield

School contact: *Rob Cottom*

### At Home with Science

**Dr Richard Walton** - SETPOINT South Yorkshire, Sheffield Hallam University

Venue: Hillsborough Primary School, Sheffield

School contact: *Leigh Bradley*

Venue: Richmond Hill Primary School, Doncaster

School contact: *Sue Eardley*

Venue: Todwick Junior and Infant School

Audience: Families

School contact: *Mrs E Robbins*

### A Novel Use for Your Local Churchyard

**Peter Kennett** - The Earth Science Teachers Association, the Earth Science Education Unit based at Keele University and The Yorkshire Geological Society

Venue: Curbar Primary School, Hope Valley

Date: Friday 10 March

School contact: *Joan Francis*

Venue: St Andrews Primary School, Dronfield Woodhouse

Date: Wednesday 29 March

School contact: *Catherine Eyre*

### A Walk Through the Universe

**Dr Susan Cartwright** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Branton St Wilfrid's CE Primary School, Doncaster

School contact: *Liz Crayton*

Venue: Catcliffe Primary School, Rotherham

Date: Tuesday 14 March 1.30pm

School contact: *Sue Tym*

Venue: Halfway Junior School, Sheffield

School contact: *Nicol Bradshaw*

Venue: Hilltop School, Rotherham

School contact: *Andy Meaker*

Venue: Holy Rood Primary School, Barnsley

School contact: *David Hickey*

### Are We Alone, Does ET Exist?

**Simon Goodwin** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Castle College, Sheffield

Date: Tuesday 14 March 12 noon

School contact: *Penny Burnham/Miranda Trojanovska*

Venue: Eckington School

School contact: *Chris Williams*

### Beckham and Flintoff...How do they do it?

**Dr Matt Carre** - Dept of Mechanical Engineering, The University of Sheffield

Venue: Brinsworth Comprehensive School, Rotherham

School contact: *John Naylor*

Venue: Concorde Junior School, Sheffield

School contact: *Nicola Sherwood*

Venue: Firshill Primary School, Sheffield

School contact: *Rashida Hassanali*

Venue: Wickersley Northfield Primary, Rotherham

School contact: *Mary Buxton*

### Big and Small: What can we make from Metal?

**Dr Nick Silk** - Corus RD&T UK

Venue: Carter Knowle Junior School, Sheffield

School contact: *Penny Thompson*

Venue: Hooton Pagnell All Saints School, Doncaster

School contact: *Jenny Gravells*

Venue: Netherthorpe Primary School, Sheffield

School contact: *Wendy Brown*

### Bizarre World of Bugs

**Dr Eleanor Haine** - Dept of Animal and Plant Sciences, The University of Sheffield

Venue: Barnby Dun Primary School, Doncaster

School contact: *Alison Vernon*

Venue: Branton St Wilfrid's CE Primary School, Doncaster

Date: Wednesday 15 March am

School contact: *Liz Crayton*

Venue: Holmesfield Infant School, Dronfield

School contact: *Joanne Wignell*



## Bones, Exercise and Osteoporosis - Why People are Different to Jelly Fish

**Professor Tim Skerry** - Academic Unit of Bone Biology, The University of Sheffield

Venue: Adwick Washington Infants School, Doncaster  
School contact: *Anna Maria Wells*

Venue: Brinsworth Comprehensive School, Rotherham  
Date: Monday 13 March 12 noon  
School contact: *John Naylor*

Venue: Hooton Pagnell All Saints School, Doncaster  
Date: Thursday 16 March pm  
School contact: *Jenny Gravells*

Venue: Loxley Primary School, Sheffield  
Date: Wednesday 15 March 11.30am  
School contact: *Margaret Marsh*

Venue: St Joseph's RC Primary School, Rotherham  
Date: Monday 13 March 2.30pm  
School contact: *Stephanie Bate*

## Bridge that Gap!

### Members of IMechE South Yorkshire Branch

Venue: Askern Moss Road Infants School, Doncaster  
School contact: *Suzie Darrell*

Venue: Hillsborough Primary School, Sheffield  
School contact: *Leigh Bradley*

Venue: Richmond Hill Primary, Doncaster  
School contact: *Sue Eardley*

Venue: St Catherine's Primary School, Sheffield  
School contact: *Rashida Hassanali*

Venue: Wath CE Primary School, Rotherham  
Date: Wednesday 15 March 9.00am  
School contact: *Jan Eastwood*

## Broken Bones, See-through Bodies and Emergency Care

**Karen Booth** and **Richard Pilbery** - Diagnostic Radiography and Paramedic Team, Sheffield Hallam University

Venue: Auckley Junior & Infant School, Doncaster  
School contact: *Joanne Gilson*

Venue: Marcliffe Primary School  
School contact: *Graham Shaw*

## Bugs: The Invisible Heroes and Villains!

**Nicola Gilberthorpe** - Dept of Molecular Biology and Biotechnology, The University of Sheffield

Venue: Carfield Primary School, Sheffield  
School contact: *Jane Ellaby*

Venue: Hatfield Manor CE Primary School, Doncaster  
School contact: *Tracey Jones*

Venue: Royston Parkside Primary School, Barnsley  
School contact: *Jane Markey*

## Cannonballs and Crystals

**Dr Neil McTaggart** - Dept of Engineering Materials, The University of Sheffield

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Brinsworth Comprehensive School, Rotherham  
School contact: *Ruth Garbutt*

## Castles and Crossbowmen

**Dr Neil McTaggart** - Dept of Engineering Materials, The University of Sheffield

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Brinsworth Comprehensive School, Rotherham  
School contact: *Ruth Garbutt*

Venue: Hinde House School  
School contact: *Julia Abel*

Venue: Silverdale School, Sheffield  
School contact: *Phil Christopher*

## Chemistry by Starlight

**Professor Charles Stirling** - Dept of Chemistry, The University of Sheffield

Venue: Chesterfield College  
Date: Friday 10 March 1.00pm  
School contact: *Dr Yvonne Miller*

## Chocolate teapots? What things are made of and why

**Professor Charles Stirling** - Dept of Chemistry, The University of Sheffield

Venue: Carfield Primary School, Sheffield  
Date: Friday 17 March 11.00am  
School contact: *Jane Ellaby*

Venue: Concorde Junior School, Sheffield  
Date: Tuesday 14 March 9.30 and 11.00am  
School contact: *Nicola Sherwood*

Venue: Park Hill Primary School, Sheffield  
Date: Wednesday 15 March 2.30pm  
School contact: *Marilyn Mitchell*

Venue: Royston Parkside Primary School, Barnsley  
Date: Thursday 16 March 10.30am  
School contact: *Jane Markey*

Venue: Stonelow Junior School, Dronfield  
Date: Thursday 16 March 2.00pm  
School contact: *Sue Woolley*

## Clean Energy Technologies for Social Development and Reduction of Poverty

**Dr Dharmadasa** - Faculty of ACES, Sheffield Hallam University

Venue: Yewlands School, Sheffield  
School contact: *Gaynor Wolstenholme*

## Consciousness: What's In Your Head?

**Dr Jackie Andrade** and **Dr Anil Sahal** - Dept of Psychology, The University of Sheffield

Venue: Silverdale School, Sheffield  
School contact: *Jane Hall*

## Cottages and Donuts

**Dr Neil McTaggart** - Dept of Engineering Materials, The University of Sheffield

Venue: Hinde House School, Sheffield  
School contact: *Julia Abel*

Venue: Silverdale School  
School contact: *Phil Christopher*

## Diving for Neutrinos: The Search for the Origin of Cosmic Rays

**Dr Susan Cartwright** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Chesterfield College  
School contact: *Yvonne Miller*

## Do We Really Share 50% of Our Genes With the Banana?

**Dawn Teare** - Division of Genomic Medicine, the University of Sheffield

Venue: Castle College, Sheffield  
Date: Wednesday 15 March 12.15pm  
School contact: *Miranda Trojanowska*  
Venue: Hillsborough College, Sheffield  
Date: Thursday 16 March 1.30pm  
School contact: *Dave Clay*

## Eat It, Wear It, Live In It and Light It Up - Creative steps in new polymer science

**Professor Jack Yarwood** - Materials and Engineering Research Institute, Sheffield Hallam University

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*  
Venue: Hinde House School, Sheffield  
School contact: *Julia Abel*  
Venue: Hall Cross School, Doncaster  
School contact: *Samantha Hipkiss*

## Engineers - Not Just Grease Monkeys

**Ben Stevens** - Dept of Electrical & Electronic Engineering, The University of Sheffield

Venue: Abbeydale Grange School, Sheffield  
School contact: *Eleanor Owen*  
Venue: Hinde House School, Sheffield  
School contact: *Julia Abel*

## Epidemics - A Mathematical Approach

**Dr Mike Thomlinson** - Faculty of ACES, Maths Section, Sheffield Hallam University

Venue: Brinsworth Comprehensive School, Rotherham  
School contact: *John Naylor*



## Extrasolar Planets

**Dr Susan Cartwright** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Eckington School  
School contact: *Chris Williams*

## Fancy Some Pop? Keeping a Fizzy Drink Fizzy

**Dr Alaster Yoxall** - Dept of Mechanical Engineering, The University of Sheffield

Venue: Birkdale Preparatory School, Sheffield  
School contact: *Julia Blacky*  
Venue: Hilltop School, Maltby, Rotherham  
School contact: *Andy Meaker*  
Venue: Holmesdale Infant School, Dronfield  
School contact: *Joanne Wignell*  
Venue: Mallard Primary School, Doncaster  
School contact: *Linda Langdale*

## Fantastic Conductors and Strange Semiconductors - The Physics of Electrical Conduction

**Dr David Mowbray** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Halfway Junior School, Sheffield  
Date: Tuesday 14 March 1.00pm  
School contact: *Nicol Bradshaw*  
Venue: Stonelow Junior School, Dronfield  
Date: Wednesday 15 March 1.30pm  
School contact: *Sue Woolley*

## Genes and Disease

**Dr Louise Robson** - Dept of Biomedical Sciences, The University of Sheffield

Venue: Castle College, Sheffield  
Date: Friday 17 March  
School contact: *Dr Miranda Trojanowska*  
Venue: Hillsbrough College, Sheffield  
Date: Wednesday 15 March  
School contact: *Dave Clay*  
Venue: Silverdale School, Sheffield  
Date: Tuesday 14 March  
School contact: *Jane Hall*



## Giant Hornets of Japan

**Dr Stephen Martin** - Dept of Animal and Plant Sciences, The University of Sheffield

Venue: Blackburn Primary School, Rotherham  
Date: Wednesday 15 March 7.00pm  
Audience: Pupils and their parents  
School contact: *Kay Longden*  
Venue: Brockwell Junior School, Chesterfield  
Date: Tuesday 14 March 2.00pm  
School contact: *Mr Edmands*  
Venue: Gorsey Brigg Primary School, Dronfield  
Date: Monday 13 March 2.00pm  
School contact: *Pat Taylor*  
Venue: Hilltop School, Rotherham  
Date: Wednesday 15 March pm  
School contact: *Andy Meaker*  
Venue: Stocksbridge High School, Sheffield  
Date: Thursday 16 March  
School contact: *Ed Deakin*

## Global Warming - Measuring Sea Ice in Antarctica

**Paul Crowthor** - Faculty of ACES, Sheffield Hallam University,

Venue: Barnsley College  
School contact: *Judith Brown/Paul Press*

## Have You Got The Energy to Make a Difference?

**John Grant** - Faculty of Development and Society, Sheffield Hallam University

Venue: Bradfield School, Sheffield  
Date: Monday 13 March  
School contact: *Penny Stothard*  
Venue: Curbar Primary School  
School contact: *Joan Francis*  
Venue: St Thomas of Canterbury RC Primary School, Sheffield  
School contact: *Dr Julie Bourne*



## Health and Safety - Your Life in Their Hands

**Steve Tagg** - Sheffield Forgemasters International

Venue: Firvale School, Sheffield  
Date: Monday 13 March 1.30pm  
School contact: *Aaron Nichol*

## Here's Looking at You

**Elsbeth Whitby** - Academic Radiology, the University of Sheffield

Venue: Bradfield School, Sheffield  
Date: Tuesday 14 March 11.00am  
School contact: *Penny Stothard*

Venue: St Thomas of Canterbury RC Primary School, Sheffield  
School contact: *Dr Julie Bourne*

## How do Drugs Affect the Brain?

**Dr Peter Redgrave** - Psychology Department, The University of Sheffield

Venue: All Saints Catholic High School, Sheffield  
School contact: *Gina Marsh*

Venue: Hillsborough College, Sheffield  
School contact: *Dave Clay*

Venue: Silverdale School, Sheffield  
School contact: *Jane Hall*

Venue: Wath Comprehensive School  
School contact: *Lisa Teather*

## How do Engineers Automate and Control our World?

**Anne Nortcliffe** - Electrical Engineering and Information Technology, Sheffield Hallam University

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Hinde House School, Sheffield  
School contact: *Julia Abel*

Venue: St Helen's Catholic Primary, Barnsley  
Date: Tuesday 21 March, all day event  
School contact: *Mr Harrison*

## How to Build a Flight Simulator in 573 Easy Steps

**Professor Dave Allerton** - Dept of Automatic Control and Systems Engineering, the University of Sheffield

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Hinde House School, Sheffield  
School contact: *Julie Abel*

Venue: Tupton School, Sheffield  
School contact: *Dennis Stokoe*

## How to Build a Human

**Dr Jillian Newton** - Chemical and Process Engineering, The University of Sheffield

Venue: Birkdale Preparatory School, Sheffield  
School contact: *Julia Black*

Venue: Tupton School, Sheffield  
School contact: *Dennis Stokoe*

Venue: Yewlands School and Feeder Schools  
School contact: *Gaynor Wolstenholme*

## How Will Science Change The Way We Have Babies?

**Professor I D Cooke** - Department of Obstetrics and Gynaecology, the University of Sheffield

Venue: Brookfield Community School, Chesterfield  
Date: Monday 13 March 2.00pm  
School contact: *Andy Millson*

Venue: Firvale School, Sheffield  
Date: Thursday 23 March 1.30pm  
School contact: *Aaron Nichol*

Venue: Hillsborough College, Sheffield  
Date: Thursday 16 March am  
School contact: *Dave Clay*

Venue: King Edward VII School, Sheffield  
Date: Tuesday 14 March 12 noon  
School contact: *Dr Julie Bourne*

## Inside The World of Virtual Reality

**Daniela Romano** - Dept of Computer Science, The University of Sheffield

Venue: Brockwell Junior School, Chesterfield  
School contact: *Mr Edmands*

Venue: Hall Cross School, Doncaster  
School contact: *Samantha Hipkiss*

Venue: Highfields Primary School, Doncaster  
School contact: *Sue Reeds*

## Is There Anybody There?...and Just Where Is There?

**Dr Roger New** - Faculty of ACES, Sheffield Hallam University

Venue: Tupton School, Sheffield  
School contact: *Dennis Stokoe*

## Keep Taking The Tablets - The Triumph of Drugs Over Disease?

**Dr Martin Lennard** - Academic Unit of Clinical Pharmacology, The University of Sheffield

Venue: Brookfield Community College, Chesterfield  
Date: Wednesday 15 March 11.00am  
School contact: *Andy Millson*

Venue: Silverdale School, Sheffield  
Date: Friday 17 March 11.00am  
School contact: *Jane Hall*

## Let's Grow a Solid: Snowflake, Icicle or Quantum Well

**Professor Gillian Gehring** - Dept of Physics and Astronomy, The University of Sheffield

Venue: Wath Comprehensive School  
School contact: *Lisa Teather*

## Lies, Damn Lies and Government Statistics: Why It's Important that 'Big Brother' is Watching You

**Dr Lisa Buckner** - Centre for Social Inclusion, Sheffield Hallam University

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Brinsworth Comprehensive School, Rotherham  
School contact: *Ruth Garbutt*

Venue: Silverdale School, Sheffield  
Date: Thursday 16 March 9.00am  
School contact: *Phil Christopher*



## Life, The Universe and Everything

**Dr Paul Crowther** - Dept of Physics and Astronomy,  
The University of Sheffield

Venue: Barnsley College  
School contact: *Judith Brown/Paul Press*  
Venue: Eckington School  
School contact: *Chris Williams*

## Magic of Magnetism

**Dr Mike Diprose** - The University of Sheffield and Chairman  
IEE Yorkshire Branch

Venue: Bramley Sunnyside School, Rotherham  
Date: Tuesday 14 March  
School contact: *Kirsten Metcalf*  
Venue: Gorsey Brigg Primary School, Dronfield  
Date: Wednesday 15 March  
School contact: *Pat Taylor*

## Making Babies 2006 - Better than Sex?

**Professor William Ledger** - Dept of Obstetrics and  
Gynaecology, the University of Sheffield

Venue: Chesterfield College  
School contact: *Yvonne Miller*

## Matters of the Heart

**Dr Louise Robson** - Dept of Biomedical Sciences,  
The University of Sheffield

Venue: Barnby Dun Primary School, Doncaster  
School contact: *Alison Vernon*  
Venue: Blackburn Primary School, Rotherham  
Date: Monday 13 March  
School contact: *Kay Longden*  
Venue: Wath CE School, Rotherham  
Date: Wednesday 8 March 9.30am  
School contact: *Jan Eastwood*

## Mining for Wimps

**Dr Sean Paling** - Department of Physics and Astronomy,  
The University of Sheffield

Venue: Brookfield Community School, Chesterfield  
School contact: *Andy Millson*

## More than Mangles - The Mighty Machines that Roll Steel

**Mick Steeper** - Siemens VAI Industries (UK) Ltd

Venue: Hinde House School, Sheffield  
School contact: *Julia Abel*

## Nuclear Energy - A Solution to Carbon Emissions or a Technology of the Past?

**Dr John Roberts** - Dept of Engineering Materials,  
The University of Sheffield

Venue: King Edward VII School, Sheffield  
Date: Tuesday 21 March  
School contact: *Dr Julie Bourne*

## Out and About in the Universe

**Dr Richard de Grijs** - Dept of Physics and Astronomy,  
The University of Sheffield

Venue: Barnsley College  
School contact: *Judith Brown/Paul Press*  
Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Bradfield School, Sheffield  
Date: Thursday 16 March  
School contact: *Penny Stothard*

Venue: King Edward VII School, Sheffield  
School contact: *Dr Julie Bourne*

## Physics in a Box

**Marieka Navin** and **Dr Lara Howlett** - Dept of Physics  
and Astronomy, The University of Sheffield

Venue: Bradfield School, Sheffield  
Date: Monday 13 March 10.00am  
School contact: *Penny Stothard*  
Venue: Tupton School, Sheffield  
School contact: *Dennis Stokoe*

## Polymer Chemistry, Hypervelocity Physics and the Cassini Space Mission

**Professor Steve Armes** - Dept of Chemistry, The University  
of Sheffield

Venue: Tupton School  
School contact: *Dennis Stokoe*

## Practical Telepathy and other Superpowers

**Martin Pitt** - Dept of Chemical and Process Engineering,  
The University of Sheffield

Venue: Tupton School  
School contact: *Dennis Stokoe*

## Radioactive Waste - Where Does It Come From and What Can We Do With It?

**Dr John Roberts** - Department of Engineering Materials,  
The University of Sheffield

Venue: Bradfield School, Sheffield  
Date: Tuesday 14 March  
School contact: *Penny Stothard*  
Venue: Chesterfield College  
Date: Tuesday 14 March  
School contact: *Dr Yvonne Miller*

## Regenerative Therapy and Stem Cells - Fact or Fiction?

**Julie Askew** - Freeland Science Communicator

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*  
Venue: Abbeydale Grange School, Sheffield  
Date: Wednesday 22 March 10.40am  
School contact: *Eleanor Owen*

## Right and Left In Art and Science

**Professor Charles Stirling** - Dept of Chemistry, the University  
of Sheffield

Venue: All Saints Catholic High School, Sheffield  
Date: Tuesday 14 March 2.00pm  
School contact: *Gina Marsh*

## River Life and Us

**Joanne Harkness** - The University of Sheffield, Department  
of Animal and Plant Sciences

Venue: Catcliffe Primary School, Rotherham  
Date: Friday 17 March 1.30pm  
School contact: *Sue Tym*  
Venue: Loxley Primary School, Sheffield  
Date: Wednesday 15 March 1.00pm  
School contact: *Margaret Marsh*

Venue: Marcliffe Primary School, Sheffield  
Date: Thursday 16 March  
School contact: *Graham Shaw*

Venue: Netherthorpe Primary School, Sheffield  
Date: Tuesday 14 March 1.30pm  
School contact: *Wendy Brown*

Venue: Southfield Primary School, Doncaster  
Date: Tuesday 14 March 9.30am  
School contact: *Rebecca Taylor*

Venue: Worsborough Bank End Primary, Barnsley  
School contact: *Helen Croud*

### Science and the Paranormal

**Michael Heap** - Dept of Psychology, The University of Sheffield

Venue: Wath Comprehensive School  
School contact: *Lisa Teather*

### Science Suitcase Workshops

**Students from the Division of Education** - Sheffield Hallam University

Venue: Auckley Junior & Infants School, Doncaster  
School contact: *Joanne Gilson*

Venue: Hatfield Manor CE School, Doncaster  
School contact: *Tracey Jones*

Venue: Rossington Hall School, Doncaster  
School contact: *Charlotte Faulkner*

Venue: St Helen's RC Primary School, Barnsley  
School contact: *Mr Harrison*

Venue: Willthorpe Junior School, Barnsley  
School contact: *Ms Keane*

### Setting the Scene

**Denise Eaton** - Women in SET, Sheffield Hallam University

Venue: Hinde House School, Sheffield  
Date: Monday 13 March 1.00pm  
School contact: *Julie Abel*

### Sex, Flies and Smelly Sticky Tape

**Dr Graeme Jones** - Dreamtime Fellow, Keele University

Venue: Brinsworth Comprehensive School, Rotherham  
Date: Thursday 9 March 1.00pm  
School contact: *John Naylor*

Venue: Swinton Community School, Mexborough  
Date: Wednesday 15 March 1.00pm  
School contact: *Paul Blakeley*

### Some Do's and Don'ts of Science Presentations

**Professor Charles Stirling** - Dept of Chemistry, The University of Sheffield

Venue: Hillsborough College  
Date: Monday 13 March 1.30pm  
School contact: *Dave Clay*

### Smashing Galaxies Together: Creating a Hot, Explosive Soup

**Dr Richard De Grijs** - Dept of Physics and Astronomy, The University of Sheffield

Venue: All Saints School, Sheffield  
School contact: *Gena Marsh*

### Stem Cell Therapy - Myth or Reality?

**Dr Penny Rashbass** - Dept of Biomedical Sciences, The University of Sheffield

Venue: Brookfield Community School, Chesterfield  
Date: Tuesday 14 March 2.00pm  
School contact: *Andy Millson*

Venue: Wath Comprehensive School  
Date: Wednesday 15 March 1.00pm  
School contact: *Lisa Teather*

### The Bionic Ear

**Professor Matthew Holley** - Dept of Biomedical Sciences, The University of Sheffield

Venue: All Saints Catholic High School, Sheffield  
School contact: *Gena Marsh*

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Bradfield School, Sheffield  
Date: Friday 17 March  
School contact: *Penny Stothard*

Venue: Tapton School, Sheffield  
School contact: *Dennis Stokoe*

### The Biggest Epidemic in History - and Could it Happen Again?

**Professor Chris Potter** - Division of Genomic Medicine, The University of Sheffield

Venue: Sheffield Girls High School, Sheffield  
School contact: *Heather England*

Venue: Castle College, Sheffield  
School contact: *Dr Miranda Trojanowska*

### The Brain and Disease

**Dr Clare Williamson** - Sheffield Hallam University, Faculty of Health and Wellbeing

Venue: Birkdale School, Sheffield  
School contact: *Rob Cottom*

Venue: Sheffield College  
Date: Monday 13 March 10.30am  
School contact: *Linda Abbott*

Venue: Tapton School, Sheffield  
School contact: *Dennis Stokoe*

### The Chocolate Challenge

**Members of the Development Team** - Cadbury Trebor Basset Sheffield

Venue: Cedar Special School  
School contact: *Ian Blakesley*

Venue: Wickersley Northfield Primary, Rotherham  
School contact: *Mary Buxton*



## The DIY Solar System

**Andy Bullough** - The Centre for Science Education, Sheffield Hallam University

Venue: Kingfisher Primary School, Doncaster

School contact: *Miss Jo Balme*

Venue: Wiltorpe Junior School, Barnsley

Date: Tuesday 14 March am

School contact: *Mrs Keane*

## The Giant Tetrahedron

**Sue Rawson** - CITB ConstructionSkills

Venue: Bradfield School, Sheffield

Date: Wednesday 15 March

School contact: *Penny Stothard*

Venue: Bramley Sunnyside School, Rotherham

Date: Thursday 16 March 9.00am

School contact: *Kirsten Metcalfe*

Venue: Cedar Special School, Doncaster

Date: Wednesday 22 March 9.30am

School contact: *Ian Blakesley*

Venue: Hilltop School, Rotherham

Date: Tuesday 14 March 1.00pm

School contact: *Andy Meaker*

Venue: Holy Rood Primary School, Barnsley

School contact: *David Hickey*

Venue: Kingfisher Primary School, Doncaster

Date: Monday 13, Tuesday 21 March 1.00pm

School contact: *Jo Balme*

Venue: Mallard Primary School, Doncaster

Date: Friday 17 March 9.00am

School contact: *Linda Langdale*

Venue: Rossington Hall School, Doncaster

Date: Tuesday 14 March 9.00am

School contact: *Charlotte Faulkner*

Venue: Silverdale School, Sheffield

School contact: *Jane Hall*

## The Impact of Engineering on Your Life

**John Slater** - Faculty of ACES, Sheffield Hallam University

Venue: Birkdale School, Sheffield

School contact: *Rob Cottom*

Venue: Eckington School

School contact: *Chris Williams*

Venue: Hinde House School, Sheffield

School contact: *Julia Abel*

## The Physics of Electromechanical Keyboard Instruments

**Edward Daw** - Dept of Physics and Astronomy, The University of Sheffield

Venue: King Edward VII School, Sheffield

School contact: *Julie Bourne*

## To See The World in a Grain of Sand

**Roger Eccleston** - Materials & Engineering Research Institute, Sheffield Hallam University

Venue: Hinde House School, Sheffield

School contact: *Julia Abel*

## Tour of the Universe

**Dennis Ashton** - Star Talks

Venue: Carter Knowle Junior School, Sheffield

School contact: *Penny Thompson*

Venue: Marcliffe Primary, Sheffield

School contact: *Graham Shaw*

Venue: St Andrew's Primary School, Dronfield

Woodhouse

Date: Monday 27 March

School contact: *Catherine Eyre*

## Vision and Wonky Vision

**Dr Zanna Currie** and **Staff Nurse Karen Dolling** - Royal Hallamshire Hospital

Venue: Hathersage Primary School, Hope Valley

School contact: *Angela Cope*

Venue: Park Hill Primary School, Sheffield

School contact: *Marilyn Mitchell*

## What's In My Brain?

**Dr Martin Cambray-Deakin** - Dept of Biomedical Sciences, The University of Sheffield,

Venue: King Edward VII School, Sheffield

Date: Friday 17 March 10.00am

School contact: *Dr Julie Bourne*

Venue: Tupton School, Sheffield

Date: Wednesday 15 March 7.00pm

School contact: *Dennis Stokoe*

## Who Was Archimedes Anyway?

**John Bramah** - Science and Engineering Ambassador

Venue: Abbeydale Grange School, Sheffield

School contact: *Eleanor Owen*

Venue: Birkdale School, Sheffield

Date: Tuesday 14 March pm

School contact: *Rob Cottom*

Venue: Bradfield School, Sheffield

Date: Thursday 16 March

School contact: *Penny Stothard*

Venue: Parkwood High School, Sheffield

Date: Friday 17 March am

School contact: *Jackie Driver*

## Why Does The Doctor Want My Blood?

**Ann-Marie Harrison, Donna Sellers** - Biomedical Sciences, Sheffield Hallam University

Venue: Eckington School, Sheffield

School contact: *Chris Williams*





# EVENTS ORGANISED BY SCHOOLS

## Captain Cholesterol and the Grannies from Mars

Speaker: Quantum Theatre for Science  
Venue: Concord Junior School, Sheffield  
Date: Friday 10 March all day  
School contact: Nicola Sherwood

## Crazy Catapults and Other Science Challenges

Speakers: Class Teachers  
Venue: Hillsborough Primary School, Sheffield  
Date: Monday 13 March - Friday 17 March  
School contact: Nicola Sherwood

## May the Force Be With You

Speakers: Class Teachers  
Venue: Hillsborough Primary School, Sheffield  
Date: Monday 13 March 9.00 am  
School contact: Leigh Bradley

*Event open to parents of KS1/KS2*

## Science at Halfway Junior School

Speakers: Staff at the School  
Venue: Halfway Junior School  
Date: All Science Week

*Parents from the school will be invited to attend:*

*Family Science Quiz*

*A daily 'Guess the Invention' Quiz for Pupils*

*Evening display of Experiments and Science Week*

## Science Week

Speakers: Staff at the School  
Venue: Adwick Washington Infants School, Doncaster  
Date: All Week

*Each day different activities - different focus in each year group.*

*Open to parents/relatives of children at school only.*

## The Evolution of Living Things

Speaker: Dave Clay  
Venue: Hillsborough Centre of Sheffield College  
Date: Wednesday 15 March 1.30pm  
School contact: Dave Clay

**WOULD YOU LIKE TO HAVE A SCIENCE WEEK TALK IN YOUR SCHOOL? The following talks are all still available. Contact Pat Brunskill, tel: 0114 2254888 or email: p.brunskill@shu.ac.uk**

## Exploring the Unexplored

**James Swinscoe** - Depts of Genomics and Radiotherapy, The University of Sheffield

This lecture looks at research in radiotherapy - how to get from A to B and the 'stuff' in between

*Talk suitable for 6th formers*

## Let's Grow a Solid: Snowflake, Icicle or Quantum Well

**Professor Gillian Gehring** - Dept of Physics and Astronomy, The University of Sheffield

*This talk is available for schools, and can be tailored for 11 to 16 year olds and 6th formers.*

## Lighting in Buildings: Past, Present & Future

**Dr Dharmadasa** - Faculty of ACES, Sheffield Hallam University

This lecture presents the development of lighting in buildings from the past and its forthcoming changes - Light Emitting Diodes (LEDs) and solar energy; also applications of renewable energy in social development will be discussed. Most of the scientific principles behind LEDs and solar cells will be presented using animation for easy understanding.

*Talk can be tailored to suit a family audience and secondary school children GCSE level and above.*

## Particle Astrophysics

**Lee Thompson** - Dept of Physics and Astronomy, The University of Sheffield

Particle Astrophysics combines the microscopic with the truly huge. By detecting tiny fundamental particles that rain down on Earth from the cosmos we are able to learn more about large astrophysical objects such as black holes, gamma ray bursts and even dark matter. Research in this field is dominated by large-scale multi-national experiments such as ANTARES neutrino telescope, being built at the bottom of the Mediterranean and the AUGER cosmic ray experiment that instruments an area the size of a city.

The presentation will outline some of these projects and their scientific aims.

*Talk suitable for 14 years and upwards*

## Particle Physics

**Lee Thompson** - Dept of Physics and Astronomy, The University of Sheffield

Particle Physics is the study of the smallest fundamental particles known to man and the forces that act between these particles.

The presentation will include a discussion of our current understanding of particle physics - the so called 'Standard Model', a description of how particle physics is done using huge experimental apparatus at accelerator sites such as CERN and will conclude with a forward look to what we can expect in the next few years.

*Talk suitable for 14 years and upwards*

## The Hunt for Dark Matter

**Lee Thompson** - Dept of Physics and Astronomy, The University of Sheffield

Recent observations of astrophysical phenomena such as the cosmic microwave background and supernova have enabled us to place strict limits on the amount of matter in the Universe. The results are startling, with less than one per cent of matter accounted for by stars and almost 95% of the matter in the Universe being unexplained. The presentation will outline our current understanding of, some of the possible candidates for, and how we look for Dark Matter.

*Talk suitable for 14 years and upwards*

## Time Compression Technology

**John Slater** - Faculty of ACES, Sheffield Hallam University

Time Compression Technology - an introduction to and overview of the technology involved in the rapid production of tactile models of artefacts using layering techniques and the effect these techniques can have on reducing the time to bring a product to the market place.

*Talk suitable for 6th Formers*

## EVENTS FOR SCHOOL GROUPS

### MAGNA SCIENCE ADVENTURE CENTRE

There will be a wide range of Science Workshops available for school groups visiting Magna. These include 'Food Chains' (owl pellet dissection) and 'Who Shot....?' (forensic science).

Cost: £1 per child

To arrange an educational visit please call our Bookings Team, tel: 01709 723116

### SHEFFIELD GALLERIES AND MUSEUMS TRUST

#### NATIONAL SCIENCE WEEK AT THE MILLENNIUM GALLERIES

##### Potty about Pattern

Venue: Millennium Galleries

Date: By arrangement

Cost: £55 per group of up to 35 children

Age group: KS 1 and 2

Explore and be inspired to create fabric banners, using natural and man-made patterns in the Ruskin Gallery as a starting point.

To book tel: 0114 278 2655 or email:

education@sheffieldgalleries.org.uk ALL WORKSHOPS AT THE MILLENNIUM GALLERIES MUST BE BOOKED IN ADVANCE

### SHEFFIELD INDUSTRIAL MUSEUMS TRUST

#### KELHAM ISLAND

##### Inspecting the Spectrum for Schools

Venue: Kelham Island Museum, Alma St, Sheffield

Dates: Monday 13 - Thursday 16 March inclusive

Time: 10.00am - 2.30pm daily

'Hands-on, Heads-On' science workshops discovering light and colour, in partnership with SHU PGCE science degree students, and SIMT Education Team, QCA units 3E, 5E and 6F. Suitable for Y5 and Y6; cost £1 per pupil

Supported by Creative Minds, Yorkshire Forward, Sheffield Hallam University and YMLAC

### THE INDUSTRIAL TRUST

#### Industry and enterprise inspiring young people

The Industrial Trust has organised visits to various sites during Science Week 2006. Choose from any of the list below and see science in action. The visits are suitable for groups from schools and colleges and cover the minimum ages shown. All visits are fully sponsored and are offered to schools on a no-cost basis and coaches will be organised by Industrial Trust. The numbers are limited and will be allocated on a first come, first served basis.

##### Monday 13 March (morning)

Outokumpu Stainless, Sheffield

Max group size: 20; age group: Key Stage 4

##### Tuesday 14 March (morning)

Swann-Morton, Sheffield - "The world's leading manufacturer of surgical blades"

Max group size: 25; age group: Key Stage 4

##### Tuesday 14 March (morning)

Coca Cola Enterprises Ltd, Wakefield

Max group size: 25; age group: Key Stage 3

##### Wednesday 15 March (morning)

Drax Power Ltd, Selby

Max group size: 30; age group: Key Stage 3/4

##### Thursday 16 March (all day)

Manchester Science Museum

Max group size: 100; age group: Key Stage 2

### INDUSTRIAL TRUST AND SETPOINT SOUTH YORKSHIRE

#### Inspiring Gases - The coolest thing around! A demonstration by BOC

Venue: Pennine Lecture Theatre, Sheffield Hallam University, Howard Street

Date: Wednesday 22 March 1.30 - 2.30pm

Age group: KS 4

What are liquid nitrogen, helium, and carbon dioxide used for? Where do they come from? What can we do with them? The international BOC Gases Team will answer all these questions and more when they demonstrate the properties of these gases at ambient and cryogenic temperatures. Participating school staff will receive a CPD session at BOC; supported by The Science Learning Centre Yorkshire and the Humber.

For further details and to reserve your visit please contact

Ann Jameson, tel: 0114 224 2329,

email: ann.jameson@industrialtrust.org.uk

### WHIRLOW HALL FARM

#### 'Where Food Comes From' Farm Tour

Venue: Whirlow Hall Farm (wheelchair friendly)

Speaker: Anna Cowling

Cost: Free to Sheffield LEA Schools - £1 per child other LEA Schools.

Investigate the importance of farms through tracing back the food we eat to where it came from. Learn about the meat that is produced from our pigs, cows and newborn lambs, and what it means to be a working farm. Explore the terms 'free-range', 'barn-reared' and 'intensive farming'. Suitable for KS2 and KS3

For further information contact Anna Cowling,

tel: 0114 236 0096, email a.cowling@whirlowhallfarm.co.uk

### SHEFFIELD HALLAM UNIVERSITY

#### MATHEMATICS

##### The Eleventh Sheffield Popmaths Quiz

Venue: Sheffield Hallam University, Atrium, Howard Street

Date: Saturday 18 March 10.30am - 12.30pm

Teams of budding mathematicians from schools take part in a pub-style quiz without the alcohol! This popular event proves that kids can have fun and do maths at the same time. Last year over 1,100 took part - so popular that we had to have an overspill room. This year we have an expanded space but places are limited.

For details and entrance forms contact Dr Dick Pitt, Pop Maths

Coordinator, Science and Mathematics, Howard Street, Sheffield

S1 1WB, tel: 0114 225 3935,

email: d.a.pitt@shu.ac.uk, fax: 0114 225 3161

#### Pictures? Music? Dancing? Life? What's that got to do with Maths?

Speakers: Dr Neil Challis and Dr Harry Gretton, Faculty of ACES, Sheffield Hallam University

Venue: Room 7140 - Sheffield Hallam University

Date: Friday 17 March 2.00pm

Audience: School parties, Yrs 10 and 11 and 6th formers

Mathematics turns up in the most unlikely places. Mathematical ideas can be contained in sounds, pictures, movement, many other things. In this talk, with the help of the latest technology, you will experience the mathematics that is there in everyday life. Tickets still available.

*This lecture has already been booked by:*

*Bradfield School, Sheffield; Fivale School, Sheffield; Hungerhill School, Doncaster*

### How Far Can Physics Take You?

Speaker: Dr Sue Forder - Faculty of ACES, Sheffield Hallam University

Venue: Main Hall, Sheffield Hallam University

Date: Thursday 16 March 2006

### Sponsored by The Institute of Physics

This event, hosted by staff and students from Sheffield Hallam University, will offer students challenges that will be interesting and fun, and suitable for teams of pupils and students from Years 10 to 12. Teams can be sent a challenge in advance of the event so that they can work on this at their school, college or at home. On the day, teams will be invited to submit their entries and to complete further fun challenges with a physics flavour. Prizes will be awarded to the winning teams.

*Already booked by the following school:*

*Brinsworth Comprehensive School, Rotherham*

*Places are still available; to book teams from your school contact Pat Brunskill, tel: 0114 225 4888, email: p.brunskill@sheffield.ac.uk*

### K'NEX CHALLENGE 2004

**The search begins again! Who will be the Junior Young Engineer for Britain 2006? Have you booked your challenge?**

Science Ambassadors, working with SETPOINT South Yorkshire at Sheffield Hallam University, will be taking the K'nex challenge into schools from February to July 2006.

Primary schools are invited to host school-based challenges that form the first stage of the 2006 Junior Engineer for Britain K'nex Challenge Competition. Successful school winners could be invited to attend the Regional Final in Sheffield in July and the National Final in London. Participating schools will be provided with all the materials to run the challenge and will receive a free kit as a gift to the school.

*Challenges already booked by the following schools:*

*Sheffield Schools:*

*Ann's Grove, Birkdale Prep, Carfield, Carter Knowle, Concord, Firshill, Greasborough, Halfway Junior, Hillsborough, Hinde House, Lowfield, Marcliffe, Mundella, Netherthorpe, Norfolk Community, Park Hill, St Catherine's, St Thomas of Canterbury*

*Barnsley Schools*

*Royston Parkside, St Helen's RC, Wilthorpe, Worsborough Bank End*

*Doncaster Schools*

*Adwick Washington, Auckley, Barnby Dun, Cedar Special, Hatfield Manor, Hooton Pagnell, Kingfisher, Mallard, Richmond Hill, Rossington Hall, Willow*

*Rotherham Schools*

*Blackburn, Bramley Sunnyside, Catcliffe, Hilltop, St Joseph's, Wickersley Northfield, Wath*

*Derbyshire*

*Hathersage*

*There are still challenges available, and if you would like a challenge in your school, contact Pat Brunskill, details follow.*

*If you are an engineer and would like to become a Science and Engineering Ambassador, subject to CRB police checks, please contact Pat Brunskill, tel: 0114 225 4888, email: p.brunskill@shu.ac.uk. This is a voluntary scheme which helps to promote engineering to our children in schools.*

*We need enthusiastic engineers to take the K'nex challenges into schools. Guidance and help will be given.*

## SCHOOL WORKSHOPS

### BUSINESS & EDUCATION SOUTH YORKSHIRE

#### Flying Food

The Food and Drink Manufacturing Challenge February 2006, organised by Business and Education South Yorkshire, Food Matters and Sheffield Hallam University.

The challenge is to cost, package and market in-flight catering and look at factors affecting logistics and mass production. Suitable for Y10 pupils studying GCSE Food Technology, Manufacturing, Science, Applied Science, Design and Technology and Engineering.

*Workshops at the following venues have taken place and schools listed participated:*

*Dorothy Hyman Sports Centre*

*Campsmount Technology College, Doncaster, Holgate Sports College, Barnsley, Penistone Grammar School, Ridgewood School, Doncaster, Tipton School, Sheffield*

*Best Western Consort Hotel*

*Dinnington Comprehensive School, Fivale School, Sheffield, Parkwood High School, Sheffield, Royston High School, Wickersley School & Sports College, Rotherham*

*For further information contact Naz Khan or Sharon Peck on 01709 336 700; email: info@be-sy.co.uk*

### MAGNA SCIENCE ADVENTURE CENTRE

#### Kitchen Sink Show

Magna's popular 'Kitchen Sink Show' has gone mobile! Our presenter can now come to your school to deliver the show – a fun and exciting Science Show that uses simple ingredients from around the house, ideal to stimulate ideas for follow up work in class or Science Club. Cost: £300 ( full day); £200 (half day)

### SHEFFIELD HALLAM UNIVERSITY

#### Faculty of ACES

#### COMPUTING ENGINEERING AND SCIENCES

Staff in the Faculty of ACES are offering talks and workshops to school parties at Sheffield Hallam University, using specialist equipment. Spaces are available on all talks and workshops – feel free to book your school. Contact Cathy Pink, tel: 0114 225 5124, email: c.pink@shu.ac.uk for the following five talks.

#### Cartoons and Clues

From Toy Story to Madagascar, find out about the exciting world of computer generated animation and have a go at making your very own animation. In 'Learning from Disasters' you explore the intriguing world of Forensic Engineering and have the chance to use electron microscopes to analyse materials left over from accidents or events. From bullet craters and debris, can you figure out what took place? Suitable for Years 12 and 13.

*Sessions already booked by:*

*Barnsley College*

## CAD - compressing time

All products are carefully designed to ensure they will perform properly. If an engineer makes a mistake in the design of a wheel axle for a locomotive, the results can be fatal. Computer Aided Design packages are an amazing tool that can be used to shorten the development process of a product, whilst ensuring the product is fit for its ultimate purpose. We can demonstrate the design process of a product using 3D Design Software. Suitable for 14 years and upwards.

*Sessions already booked by:*

*Hall Cross School; Eckington School; Birkdale School*

## Robots - Faster, Smaller and Smarter

Robots are being used everywhere, from huge manufacturing plants making cars to nanobots, which manipulate human cells under a microscope. They are even entering the domestic home as vacuum cleaners and automated lawnmowers. We discuss the development of robots, their application, with a look at the next generation of robots, and how they can be developed to go faster, smaller and smarter. Suitable for 16 years and upwards

## Sports Engineering

Design of sporting equipment is a process involving knowledge of materials, engineering design, human movement and sport industry. Suitable for 16 years and upwards.

*Sessions already booked by:*

*Silverdale School*

## The Secret World of Models

### Professor Terence Perera

This presentation highlights how various computer modelling tools are used to solve real world business problems. Computer simulation models built for aerospace, automotive and healthcare sectors are included in the presentation. Suitable for an audience of 16 years upwards

## WOMEN IN SET

### Centre for Science Education

Venue: Science Learning Centre, Sheffield Hallam University

Barnsley schools will be visiting the Sheffield Hallam University Women in Set Team for a full day of activity relating to Engineering and Construction. This day forms part of the Promoting Positive Aspirations Project which involves 60 girls from Darton, Kirk Balk, Royston, the Elmthirst and Penistone Grammar schools.

*For information on this project contact Denise Eaton, tel: 0114 2252878*

## SPORT AND LEISURE MANAGEMENT

### Faculty of Organisation and Management

### Making food products using industrial pilot-scale equipment

Speaker: **Keith Proudlove**

Venue: Sheffield Hallam University

*Workshops at Sheffield Hallam University already booked by:*

*Parkwood High School, Sheffield, Penistone Grammar School, Silverdale School, Sheffield*

### You are what you eat - but how do you choose?

Speakers: **Jenny Paxman**

Venue: Sheffield Hallam University

*Workshop at Sheffield Hallam University already booked by:*

*Brinsworth Comprehensive, Rotherham*

## SHIRE BROOK VALLEY LOCAL NATURE RESERVE AND VISITOR CENTRE

### Wildspace

**Ms Chris Smith** - East Ranger Team, Shire Brook Valley Local Nature Reserve and Visitor Centre

*The following schools will be visiting the nature reserve and doing workshops:*

*Carter Knowle Junior School, Sheffield; Cedar Special School, Doncaster*

## THE UNIVERSITY OF SHEFFIELD

### Chemical Engineering in the Kitchen

**Simon Butler**, Department of Chemical and Process Engineering, The University of Sheffield, will host workshops for schools within the Department.

*Workshops already booked by Brinsworth Comprehensive School, Rotherham Fivale School, Sheffield, Hind House School, Sheffield*

## SCIENCE LEARNING CENTRE YORKSHIRE & THE HUMBER AT SHEFFIELD HALLAM UNIVERSITY

### A SPECIAL OFFER FOR SCIENCE WEEK FOR TEACHERS

**GCSE Science 2006: A CPD course to support the teaching of Vocational and Applied Science**

**YH28 Applied Science: Resources, activities and skills**

Date: 17 March 9.30am - 16.00pm

Venue: Science Learning Centre Yorkshire and the Humber, Sheffield Hallam University.

Cost: £10 + VAT (this is a special Science Week offer: normal course fees are £110)

*For those running, or thinking of running, Applied Science courses*

*To book a place, contact Helen Ball, tel: 0114 225 4891 or visit [www.sciencelearningcentres.org.uk](http://www.sciencelearningcentres.org.uk) and follow the links to Yorkshire and the Humber Science Learning Centre, YH28 Applied Science: Resources, Activities and Skills*

## PUBLIC AND FAMILY LECTURES

### INSTITUTE OF PHYSICS SHEFFIELD BRANCH

### The Science of Climate Change and Global Warming

Speaker: **Dr Adam Scaife**

Hadley Centre, Meteorology Office

Venue: Hicks Building, the University of Sheffield, Hounsfield Road

Date: Monday 6 March 5.00pm

The Intergovernmental Panel on Climate Change receives input from hundreds of scientists from many countries and recently concluded that "There is new and stronger evidence that most of the warming in the last 50 years is attributable to human activities". Measurements of past climate change will be presented, and an outline will be given of the theoretical models of the physics of the Earth system that are used to predict future climate and attribute past climate change to specific causes. The talk will describe the accuracy of these models by comparing them with observed changes and providing an up to date discussion of some of the remaining gaps in our understanding. How the climates of the UK, Europe and the globe are predicted to respond to the effects of human activity in the coming decades will also be presented.



Suitable for adults 16 years and above. The lecture is free, and no tickets needed. Signs will direct you to the lecture. For further information contact Dr John Williams, tel: 0114 222 3583, email: j.williams@sheffield.ac.uk

## SETPOINT SOUTH YORKSHIRE - Centre for Science Education



### THE DAVID ALLEN-BOOTH MEMORIAL LECTURE

#### Arctic Meltdown!

Speaker: **Professor Terry Callaghan**  
Dept of Animal and Plant Sciences, The University of Sheffield

Venue: Pennine Lecture Theatre, Sheffield Hallam University, Howard Street

Date: Friday 10 March 7.00pm

Audience: Families

The Arctic is now warming as fast as anywhere on earth. Thawing of snow and ice on land and at sea is expected to accelerate, creating problems for the animals, plants and people.

Tickets are free on a first come, first served basis; contact Pat Brunskill, tel: 0114 225 4888, email: p.brunskill@shu.ac.uk

## ROYSTON AND CARLTON COMMUNITY PARTNERSHIP

### Neighbourhood Learning Net

#### A Night with the Stars

Speaker: **Dennis Ashton** and the team from the Star Centre

Venue: Royston High School, Station Road, Barnsley

Date: Saturday 11 March 8.00 - 10.00pm

An introduction to astronomy for families and adults. See and learn about planets, stars, constellations and nebulae! Guided use of telescopes. No previous knowledge required.

For further information and tickets contact Jon Bates, tel: 01226 724 422

## THE UNIVERSITY OF SHEFFIELD

### The Hawley Tool Collection

#### Variations on a theme

Speaker: **Dr Joan Unwin** – Curator of the Hawley Tool Collection

Venue: The Hawley Building, Pitt Street, off Mappin Street, Sheffield

Date: Tuesday 14 March, 10.30am, 2.00pm, 6.00pm

So, you manufacture a tool. Then people say 'Can you make one bigger, smaller, a different shape? Can you make a special one for this specific job?' The result is a huge range of variations on a theme - tools made for highly specialised work; of different sizes and materials; made for the lower or upper ends of the market and so on. This hands-on session will show the diversity of some common tools - hammers, scissors and pliers. Suitable for adults and children 10 years and over. Maximum 15 people per session.

Places are free on a first come, first served basis. To book, contact Jeanette Newcombe, tel: 0114 222 1030, email: j.newcombe@sheffield.ac.uk

## UNIVERSITY OF SHEFFIELD

### NATIONAL SCIENCE WEEK PUBLIC LECTURE

#### Why Are People Different From Jellyfish? How our bones respond to activity and what to do if they do not

Speaker: **Professor Tim Skerry**, The University of Sheffield

Venue: The Auditorium, Union of Students, Western Bank

Date: Tuesday 14 March 7.00pm

Audience: Families, children aged 12 and over

We all take our skeletons for granted until they fail and we break a bone, but during life our bones respond continually to the exercise we take, to become a bit stronger than we need for the activities we do. If we do more or different exercise, we increase the strength of our bones, and if we do less we lose bone so that we are not carrying around excess weight. The way that the skeleton makes itself strong enough for future activities is the subject of this fun, family lecture, with bending and breaking activities for audience participation, and intriguing demonstrations. The effects on bone of different actions, diet, sex, and age, the subject of osteoporosis - the brittle bone disease affecting many of the population now and in the future - will also be discussed, as will some of the current research aimed at preventing and treating bone diseases.

Tickets are free on a first come, first served basis; contact Jeanette Newcombe, tel: 0114 222 1030, email: j.newcombe@sheffield.ac.uk

## BRITISH SOCIETY FOR IMMUNOLOGY

### Is Chicken Flu a Threat? - Lessons from 1918

Speaker: **Professor John Oxford**

Date: Wednesday 15 March 6.30 - 7.30pm

Venue: Peak Lecture Theatre, Sheffield Hallam University

John Oxford is Professor of Virology at St Bartholomew's and the Royal London Hospital, Queen Mary's School of Medicine and Dentistry. He is an expert in the spread of the influenza virus and in particular the 1918 Spanish Influenza strain. In 1918 a new virus arose from geese or ducks amongst soldiers in an army camp in France and within a year 50 million people had died. Further outbreaks were seen in 1957 and 1968. Now chicken flu is showing signs of re-emerging and scientists will play a vital role in developing effective new vaccines. Professor Oxford is frequently asked to speak on bird flu on the BBC and his lecture will show how the study of past epidemics will provide an early warning system for the future.

Suitable for 14 years and upwards. For free tickets contact Pat Brunskill, tel: 0114 225 4888, email: p.brunskill@shu.ac.uk

## THE UNIVERSITY OF SHEFFIELD

### Heavens above - Hubble style! A film show and panel discussion

Venue: Auditorium, Union of Students, Western Bank

Date: Thursday 16 March 6.30pm, doors open 6.00pm

Audience: Families

Since its launch in 1990, the NASA/ESA Hubble Space Telescope has taken more than 700,000 photographs that have awed and astounded the public and astronomers alike, in one of the biggest scientific projects of all time.

The telescope's 15th anniversary is celebrated in a feature-length documentary DVD film, made by the European Space Agency, and it will be presented by Professor Robert Fosbury of the

## EVENTS FOR FAMILIES

### SHEFFIELD HALLAM UNIVERSITY CENTRE FOR SCIENCE EDUCATION

#### Family Science Saturday in the Winter Gardens

Venue: The Winter Gardens, Sheffield  
Date: Saturday 11 March 10.00am - 4.00pm

Come along and design your own sea creatures, find out about space, and make things out of special plastics. This and other exciting science and engineering activities for all the family to have a go at is brought to you by top UK research scientists in the surroundings of the award-winning Winter Gardens. Find out from the scientists and engineers themselves about the work they do. Presented by The Researcher in Residence Team of the Centre for Science Education, Faculty of Development and Society, Sheffield Hallam University.

### MAGNA SCIENCE ADVENTURE CENTRE

#### Food Chains

Venue: Sheffield Road, Templeborough, Rotherham  
Date: Saturdays 11, 18 March, Sundays 12, 19 March  
Time: 10.00am - 5.00pm

Learn about food chains at Magna and meet real owls from Thurlstone Owl Sanctuary. Find out what owls eat, and why it can be hard for them to find food and shelter. Dissect an owl pellet and identify what the owl ate. Normal Magna entrance fees apply.

*This workshop is free for visitors to Magna, funded by a grant from BES. No need to book; call our Information Line on 01709 720002 for more details.*

### SHEFFIELD MUSEUMS TRUST: KELHAM ISLAND

#### Inspecting the Spectrum

Venue: Kelham Island Museum, Alma St, Sheffield  
Date: Sunday 12 March 11.00am - 4.30pm  
Admission: Reduced charges for Science Sunday - adults £4, children free, concessions £3, groups discounted

How do we see what we see? What better way to celebrate the re-opening of SCOPE, our interactive science learning zone for everyone, than on National Science Sunday?

Ever wondered why the sky is blue Why a sunset is red? What colour is the universe? Just how the colour was purple made? How do we see? Investigate the answers to these questions and many more. Observe our greatest light source with Sheffield's Astronomical Society and their exclusive solar telescopes. Enjoy a non-stop rolling programme of fun science workshops, talks, and hands-on activities, quizzes and games throughout the day.

Also featured is **Vision and Wonky Vision**, an interactive science talk by Dr Zanna Curry and Staff Nurse Karen Dolling from Sheffield's Royal Hallamshire Hospital.

Supported by Creative Minds, YMLAC, Yorkshire Forward, Sheffield Astronomical Society, and the Royal Society of Chemistry

*For a more detailed programme tel: 0114 272 2106 or visit [www.simt.co.uk](http://www.simt.co.uk)*

Space Telescope-European Coordinating Facility near Munich, Germany, and Visiting Professor in the Department of Physics and Astronomy at The University of Sheffield.

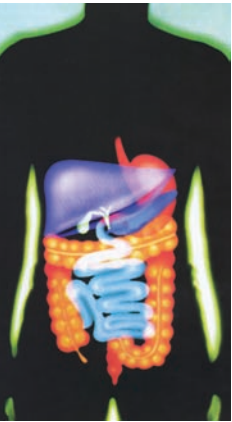
The film will be followed by a scientific panel discussion, including Professor Fosbury, with ample opportunities for the audience to ask questions and interact with scientists involved in cutting-edge Hubble Space Telescope investigations.

*For more information email: [r.degrijs@sheffield.ac.uk](mailto:r.degrijs@sheffield.ac.uk)  
Tickets are free on a first come, first serve basis;  
contact Jeanette Newcombe, tel: 0114 222 1030,  
email: [j.newcombe@sheffield.ac.uk](mailto:j.newcombe@sheffield.ac.uk)*

### ROTHERHAM GENERAL HOSPITAL

#### Blood and Guts - The Conquest of Peptic Ulcer Disease? Mystery, Mayhem and Who Dunnit!

Speaker: Dr K D Bardhan, Rotherham General Hospital  
Venue: Rotherham General Hospital, Lecture Theatre, Level D  
Date: Friday 17 March 4.00pm  
Audience: Open to the public, 14 years and upwards



Peptic ulcer has been a major illness for about 200 years, inflicting pain, debility and a miserable existence on many, and sometimes killing the victim. Yet today the disease is far less common and when it occurs it can almost invariably be controlled or cured without problems. What is this disease? How was it discovered? How do we diagnose it? What has happened to this epidemic? And why? The story of peptic ulcer is a remarkable one of science and human nature: accidental findings, looking beyond the obvious, of dedicated hard work, aided by luck and of being at the right place at the right time, and finally of success. And yet, as the story will show, there is a final twist in the tale!

*To book your free place, contact Pat Brunskill,  
tel: 0114 225 4888, email: [p.brunskill@shu.ac.uk](mailto:p.brunskill@shu.ac.uk)*

### SETPOINT SOUTH YORKSHIRE and THE INDUSTRIAL TRUST

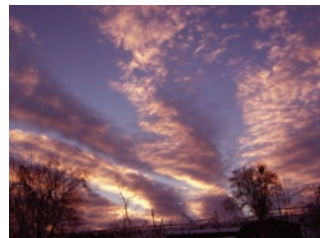
#### NATIONAL SCIENCE WEEK PUBLIC LECTURE

#### Inspiring Gases - The coolest thing around! A demonstration by BOC

Venue: Sheffield Hallam University, Pennine Lecture Theatre, Howard Street  
Date: Wednesday 22 March 7.00pm  
Audience: Families

What are liquid nitrogen, helium, carbon dioxide used for? Where do they come from? What can we do with them? The international BOC Gases Team will answer all these questions and more when they demonstrate the properties of these gases at ambient and cryogenic temperatures.

*Tickets are free on a first come first served basis: contact Pat Brunskill, tel: 0114 225 4888; email [p.brunskill@shu.ac.uk](mailto:p.brunskill@shu.ac.uk)*



## SHEFFIELD GEOLOGY

### Where on Earth did that come from?

- Venue: Meet at top of steps leading down into the Peace Gardens from Pinstone Street
- Guide: Peter Kennett - The Earth Science Teachers Association, the Earth Science Education Unit based at Keele University and the Yorkshire Geological Society
- Date: Saturday 11 March 11.00am - 12.30pm

A geological walkabout in Sheffield City Centre. Natural stone has been used to good effect in the city centre, and enhances its appearance considerably. When you know what to look for, each stone can tell a fascinating story. The route starts as above and ends at the Cathedral forecourt. Come with warm clothing - it can be cold and windy in the city centre! Free tour, guide card available £1.

For further details contact Peter Kennett, tel: 0114 236 1271

## SHEFFIELD AMATEUR RADIO CLUB

### Open Night

- Venue: Club 197 (opposite the new glass-fronted Chemistry Building), Brook Hill (close to University tram stop and 52 bus stop)
- Date: Monday 13 March 7.00 - 9.00pm
- Audience: Families welcome, children should be accompanied by an adult

An exhibition of HF and VHF transmitters in use – walkie-talkies, weather fax, short wave receivers, Morse code and more, with the opportunity to use some of the equipment.

For further information contact Mr G Warburton, tel: 0114 230 5803

## \* INSTITUTION OF ELECTRICAL ENGINEERS

### Institution of Electrical Engineers Quiz Night

- Date: Tuesday 14 March 7.00 for 7.30pm
- Venue: Howard Suite, Sheffield Hallam University, City Campus
- Cost: £2.00 per team

Teams of four are invited to take part in this light-hearted, fun-filled general knowledge (and a little science) quiz. Cash prizes of £75, £50 and £25. All teams warmly welcomed. Nibbles provided, bar available.

\* An event for adults only. Further information from Pat Brunskill, tel: 0114 225 4870, email: p.brunskill@shu.ac.uk

## SHEFFIELD GEOLOGY

### Geology in an Urban Graveyard

- Venue: Meet at the refurbished Gatehouse of the Cemetery, Cemetery Avenue, off Ecclesall Road
- Date: Saturday 18 March 11.00am - 12.30pm approx
- Guide: Peter Kennett



Come and investigate the brand new Stone Spiral in Sheffield's General Cemetery. Discover how well (or how badly!) the Victorians selected and carved their tombstones and how the memorials have fared since. Let the stones tell you something about the evolution of the Earth itself, and of the British Isles in particular. Free leaflet available, guide booklet £1.50.

For further details contact Peter Kennett, tel: 0114 236 1271, representing the Friends of the General Cemetery

## SHEFFIELD HALLAM UNIVERSITY

### The Eleventh Sheffield Popmaths Quiz

See page 10 under EVENTS FOR SCHOOL GROUPS.

### Some Mathematics of Trafalgar

- Speaker: Peter Ransom
- Venue: Sheffield Hallam University, Pennine Lecture Theatre, Howard Street
- Date: Saturday 18 March 1.00 - 2.00pm

Following the Popmaths quiz, this popular maths lecture is given by Peter Ransom, a mathematician and amateur actor. He dresses up as Able Seaman Ransom of HMS Pickle and as powder monkey Shiers of HMS Victory, both in 1805 seaman's dress. After looking at the risks Nelson took, Peter Ransom will examine some of the mathematics involved.

This talk is now fully booked, but there is an alternative below.

### Sounds mathematical!

- Speakers: Dr Neil Challis and Dr Harry Gretton – Faculty of ACES, Sheffield Hallam University
- Venue: Room 6620, Sheffield Hallam University, Howard Street
- Date: Saturday 18 March 1.00 – 2.00pm

An interactive, fun presentation for families by two experienced mathematics lecturers, as an alternative to the now fully-booked *Some Mathematics of Trafalgar* lecture, which will follow the Popmaths Quiz.

For further details, contact Anne-Marie Mallon, tel: 0114 225 3478

## A special event at The Crucible Theatre

### A Robot in your Blood?

MONDAY 20 MARCH at 7pm (doors open 6.30pm)

University of Sheffield TV stars Professors Noel Sharkey (Robot Wars, Techno Games) and Tony Ryan (C4 Royal Institution Christmas lectures) – join forces in a fantastic voyage through the evolution of robots, from the mammoths of the 1930s to the vanishingly small robots of today.

In an exciting and fun lecture, Noel and Tony will argue about the possibility of real nano-robots (there aren't any yet). Will these be miniature robot-wars machines cruising your bloodstream, axing aliens and flipping viruses? Or will they be something much scarier – tiny wet robots made of plastic and with a sinister new intelligence? Join Nano Noel and Tiny Tony as they try to work it all out, with the aid of plenty of audience (and robot) participation.



Tickets: £3 adults, £1.50 under 16s and concessions, available from The Crucible Ticket Office, either over the counter or tel: 0114 249 6000



national  
**science week**  
10-19 march 2006

**on the internet**

All the latest information on National Science Week 2006 activities can be accessed on the Internet, via the two universities:

**Sheffield Hallam University**  
**Centre for Science Education**  
<http://www.shu.ac.uk/cse>

or

**The University of Sheffield**  
**Public Relations Office**  
<http://www.shef.ac.uk/scienceweek>

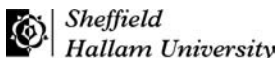
or at the **BA web address:** <http://www.the-ba.net>

**in the media**

Keep in touch with events during National Science Week by listening to BBC Sheffield and reading the region's local newspapers.

BBC Radio Sheffield will be giving regular coverage throughout the week, with updates on the latest events.

The station can be heard on wavelengths 88.6, 94.7 and 104.1 on FM, and 1035 on MW.



For general information about National Science Week 2006, please contact:

**SETPOINT South Yorkshire, Centre for Science Education, Sheffield Hallam University,  
Floor 9, Owen Building, City Campus, Sheffield, S1 1WB**

tel: 0114 225 4888 or 225 4870 fax: 0114 225 4872, email: [p.brunskill@shu.ac.uk](mailto:p.brunskill@shu.ac.uk)