

## Redditch U3A Exploring Science Group Talks and Visits

This is a brief account of our activities to date. It doesn't include our Q&A sessions in any depth so apologies to our kitchen chemists and other valued contributors. Meetings are (usually) on the third Friday of the month. ESG affiliations are only noted on their first appearance.

<b>Dates</b>	<b>Titles and Topics</b>	<b>Speakers</b>
2013 May	Inaugural exploratory meeting	
June	So simple a beginning; Darwin; his milieu, life and works	John Cartmell ESG
July	Blood Pressure –its ups and downs	Doug Richards ESG
August	The Sceptical Scientist: Question the “truth”, use at least three sources 21st: Leicester Space Museum	Pete Dewell ESG Visit
Sept	DVD on Geology and Fossils	
Oct	Introduction to the logic of silicon chips 31st: Lapworth Geological Museum, Birmingham Uni, Guided tour by Jon Clatworthy	David Pattenden ESG Visit
Nov	The Moon DVD The Periodic Table	Alan Hitchcock ESG
Dec	13th: Quiz and mince pies	
2014 Jan	From Hofstadter to Higgs – Fifty Years in Particle Physics	John Freeland ESG
Feb	Protection or Extermination? Government misuse of scientific evidence Four elements from the Periodic Table	John Cartmell Pete Dewell
March	Paleomagnetism & Continental Drift	Pete Dewell
April	4th: Tour of STW Sewage treatment works, Heyden, Gloucs	Visit
April	25th: An application for the logic of chips Update on refurbishment of Lapworth Museum	David Pattenden Sheelagh & J Cartmell
May	9th: Sadler’s Brewery, Stourbridge (it started out clear enough but ...) Management of 2000 miles of waterways in flood and drought  Structural Chemical Formulae and what they tell us about the chemicals	Visit Adam Comerford, Canal and River Trust Water Management Keith Whitford ESG
June	Diversity and dragons	John Cartmell
July	Metabolites and Medicine	Doug Richards
August	(Hall closed) 15th; Malvern Hills guided tour with Rosamund Skelton	Visit
Sept	Sea Floor Spreading and Plate Tectonics: The forces moving the continents Extremely large numbers	Pete Dewell John Freeland
Oct	Software for the logic of silicon chips Extremely small numbers	David Pattenden John Freeland
Nov	Microbiology in a Health Care setting	Helen Turner B’mingham Children’s Hospital
Dec	12th: Quiz (John Freeland) and mince pies	
2015 Jan	Over 18 Years; a look at the history of space exploration	John Cartmell
Feb	Computer Performance—how queues work	John Freeland
March	20th: Partial eclipse of the sun: coinciding with our meeting morning	Cameras & filters
March	Part 2 of meeting: Epilepsy	Doug Richards
April	GPS devices; how they work	David Pattenden
May	A Layman’s Pi ( $\pi$ ); an exploration of it and its history Last Month’s Nepal Earthquakes, red hot seismic news from various sources	Jill Hitchcock ESG Pete Dewell

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2015 June	Fossils of Wrens Nest, Dudley (preparation for visit 7/8)	Pete Dewell
July	1.61803399 Aspects of the Golden Ratio; it crops up everywhere	Ceri Davis, visitor
August	7th: Wrens Nest, Dudley, guided natural history and geology tour, and Dudley Museum Earthquakes and related matters	Visit Pete Dewell
Sept	Robotics; the logic behind making them do things	John Cartmell
Oct	The rôle of sleep in vocabulary learning across the lifespan	Helen Brown Bhm Univ
Nov	Full scale experiments on tree growth and climate change	Rob MacKensie & Deanne Brettle BiFoR
Dec	(11th) Quiz (John Freeland) and mince pies	
2016 Jan	Adolescent brain development and risk for mental illness	Stephen Wood Bhm Uni
Feb	Spiders and Arachnophobia: with living hairy eight-legged friends	Jim Bell Bhm Uni
March	Real maths for the non-mathematician: a look at patterns	John Cartmell
April	Quantum mechanics - uncertainty, probability and common sense Tin Whiskers; strange excrescences on an old spring in a torch	John Freeland Pete Dewell
May	Coding; Scratch and Python - what the kids are learning and why	John Cartmell
June	Beyond Bell Curves and Histograms; Forget these and get useful information from even small data samples with epidemiological applications	Pete Dewell
July	The human aspects of military conflict 22nd: Reopened Lapworth Geology Museum, Birmingham University	Jim Storr Bhm University Visit (Jon Clatworthy)
August	Gravitational Waves; the new astronomy and the latest on their detection from colliding black holes	Christopher Berry Bhm Un
Sept	Looking at Sounds. David visualises the audible and totally confuses us with "Good King Wenceslas"	David Pattenden
Oct	Genetically Modified Food, a practical look at a serious problem	Jim Bell Bhm Uni
Nov	Warfare: The Anglo-Saxon conquest of England—research methods and military science applied to what we can see of "The Dark Ages"	Jim Storr Bhm Uni
Dec	The Long Road to Autonomous Cars Videos of the repitching of Peterborough cathedral organ	Steve Prosser ESG Jill Hitchcock
2017 Jan	Genetics and Genealogy: Continuing advances in DNA analysis are revolutionising the paperwork of tracing our ancestors – even back to Africa!	John Cartmell
Feb	The atom ... from electrons to the nucleus to nucleons to quarks A quick look at some calculators, "ancient and modernish"	John Freeland Pete Dewell
March	Latest on bird navigation A catch-up morning on a backlog of questions	Keith Whitford The Members
April	Fracking (in context, hydrocarbon abstraction from ancient times)	Pete Dewell
May	Encouraging the teaching and learning of physics in schools using "Phyz Labs" 26th: Visit to Nicholson, organ builder, Malvern	Wendy Cox, Ogden Trust Primary Science Visit
June	Tubular bells. Simple vibrating systems, recording the playing instructions and cheating (just a bit) on the recoding of the tunes played	David Pattenden
July	Footprints:- a survey of space technology of the decade 1964-74 as it affected many aspects of life like music, film, DNA, tracing ancestry	John Cartmell
August	Visit to the Birmingham Institute of Forest Research's FACE facility	No WVH meeting
Sept	Group talks and discussions on IFoR FACE visit, formation of hurricanes and John Mack's mysterious heat engine	Members of the Group
Oct	Minerals and Gemstones of the Cairngorms	Roy Starkey

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2017 Nov	“Celebrity Status” Some social science for a change!	Dr Stuart Cumella
Dec	A Christmas quiz from John Cartmell.	
2018 Jan	Evolution and the very latest on DNA – if you’ve just read it it’s out of date!	John Cartmell
Feb	Cancer Research: Part 1 on the role of the Epstein-Barr virus in cancer; Part 2 on the ‘Ask for Evidence’ project	Dr Leah Fitzsimmons, Birmingham Uni
March	David with a puzzle, intriguingly titled ‘Exploring the science of ants and their choice of hats’. Then Keith on ‘The mystery of inorganic colour’.	David Pattenden and Keith Whitford
April	“To see a world in a grain of sand” – the complex world of silicon dioxide (in part), and the taste (or not) of alcohol.	Pete Dewell; David Pattenden and members
May	A botanical walk on the Malverns led by Peter Garner	Visit
June	Antibiotic resistance: a ticking time bomb 26th: Joint outing with DPG to Ipsley Alders Marsh guided by Michael Barstow of Worcestershire Wildlife Trust	Dr Graham Cope Visit
July	The uncomfortable history of prehistory: as written in the inner ears of our ancestors. More of the latest DNA home truths from John!	John Cartmell
August	The life and times of Sir David Brewster, man of science, 1781-1868	Pete Dewell
Sept	Bronze Singing Bowls	Daryl Barber ESG
Oct	Cognitive Neuroimaging	Prof Gina Rippon Aston U
Nov	A Career as a Speech Therapist	Liz Green
Dec	Global Warming	John Cartmell
2019 Jan	Malcolm’s video show: automation in a changing world. [Automation of routine complex chemical analyses and other areas of interest]	Dr Malcolm Crook, Peak Analysis and Automation
Feb	My Life in Science – a personal account, 1944ish to now New uses for electrochemistry in the food industry – how hot is your chilli?	Pete Dewell Keith Whitford
March	Blood, wee, poo and more – life as a medical scientist “Where’s the sun’s atmosphere?” asked David Pattenden	Doug Richards Members discuss
April	16th: ESG Presentation to Main U3A Meeting 19th: The Simple Physics of Colour	ESG Members David Pattenden
May	31st: Guided Botanical visit to Trench Wood	Visit: Jackie Hardy ESG
June	You’ve got to have guts! We all have them – some with problems	Dr Graham Cope
July	Polarization – a simple approach	Pete Dewell
August	No Meeting at WVH. Visit to Medical Museum Worcester Royal Infirmary	Visit
Sept	A Walk in the Woods: Social history and conservation of a Herts woodland	David Gompertz ESG
Oct	The Permian Extinction – The Great Dying	John Cartmell
Nov	More Silica Wonders, (following on from April 2018) Questions on clocks and the appreciation of scale; comments on Extinctions	Pete Dewell David Cox ESG and PD
Dec	A scientifically themed Christmas quiz	John Cartmell
2020 Jan	Prof Grabiner Maths DVD “The odds are ... ” the problem of “chance”. Measuring the Weather (prior to February visit to a met station)	Pete Dewell
Feb	14th: Wellesbourne Met station and talk on HRI/WCRC, Prof Collier “Half a life in science” (seemed pretty full)	Visit Daryl Barber
March	The Group entered suspended animation due to Covid19	
May	On-line presentation – Introduction to DNA	Anne Lacey ESG
June	On-line – Laboratory aspects of organ transplantation – a life in science	Shirley Jobson ESG
July	On-line – Hooke on the moon’s craters Discussion on Vapour trails & Clouds (Topic from David Pattenden)	Pete Dewell

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2020 Aug	On-line – Evolution of the Solar System	David Jones Bromsgrove Astronomical Society
Sept	On-line – Domestic Science:– Fuses; Why, What, How? Cooking with Microwaves	David Pattenden Pete Dewell
Oct	On-line – The Periodic Table	John Cartmell
Nov	On-line – Black Holes	David Jones B. A. S.
Dec	All talks on-line until further notice – Christmas Quiz (for a testing time?)	John Cartmell
2021 Jan	Rubber and the uses of this amazing material	Gary Lacey ESG
Feb	How medicines were discovered	M. Hollingsworth U3A Subject Advisor for Science
March	Introduction to Geology 1 Fossils and stratigraphy	Hilary Edgeley Malvern Geology Group
April	Introduction to Geology 2 Minerals and rocks	Hilary Edgeley
May	Life from the Dawn of Earth Time, slow emergence of Pre-Cambrian life	Alan Gray Malvern U3A
June	Human Colonisation of Space; what can, what might, what won't happen	Leigh Edwards Exeter U3A
July	From Oboes to Ice Cream – Scientific links from Wm Herschel to Margaret Thatcher with connecting excursions Wheels – rotating connexions and solutions to interlocking wheels	Pete Dewell David Pattenden
August	From Mushrooms to Molecular Motors; fungi to spinning molecules that make our chemistry and environmental DNA studies	David Gompertz
Sept	Darwin: early thoughts, and revisions leading to the <i>Origin</i> and then the <i>Descent</i>	John Cartmell
Oct	No Meeting	
Nov	The UK Vegetable GeneBank, Warwick Crop Centre, Wellesbourne, Warwick University Life Sciences	Dr Charlotte Allender, Director, UKVGB
Dec	Christmas Quiz	Anne Lacey, John Cartmell
2022 Jan	Composite materials, varieties, manufacture and uses	Gary Lacey
Feb	Neutrinos, discovery and history, they're everywhere, almost numberless	John Freeland (ex ESG)
March	Current Met Office research into continuous 3D humidity measurements	Pete Dewell
April	Green Energy: a clear and unbiased discussion of the options	Jeff Douglas ESG
May	Numbers: a rational approach to what makes them different from each other	Jenny Pattenden ESG
June	“Two millennia too early” – the Antikythera mechanism, or ancient orrery	John Cartmell
July	Some Aspects of Covid – Sample pooling and Sewage to reduce testing	Pete Dewell
Sept	The eye – receptor cells, the start of the seeing process	Anne Lacey
Oct	‘The RI Christmas Lecture 2022-and-a-half’ on the topic ‘A modern use for a simple Christmas toy’: Finding and correcting errors in data with parity	David Pattenden
Nov	“Sheila”. The story of the effects, detection and confirmation of Phenylketonuria and the struggle to find a treatment.	Anne Green, late BU Prof Paediatric Biochemistry
Dec	Quiz time (everyone's a winner)	Anne and John
2023 Jan	Microscopes, mushrooms and my family history: combining the three	David Gompertz
Feb	The Mind – what makes you You, even with illusions Part 1	John Cartmell
March	The Circulatory System. The heart, how it works, what can go wrong and ways of fixing problems	Louis Thomas ESG
April	My Life in Science: an account of a varied life leading the way in many aspects of medical biochemistry	David Gompertz

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2023 May	Micro and nano plastics: could they affect human health?	Dr Rosemary Waring
June	The Mind. Science of Problem Solving. Including the differences between human and AI methods of play in Chess, Go and Noughts and Crosses.	John Cartmell
July	The Lunar Society c. 1765 – c. 1813; well known and not so well known members and their activities.	Anne & Gary Lacey
Sept	Junk DNA    Subsequent meetings will resume in Webheath Village Hall	John Cartmell