Inspirational, brilliant.
Cannot wait to use all the resources back in school.

After two days of being back to normal, still on a high after inspirational #ASEconf.

2018 Conference Delegates
Message from the Editor-in-Chief

From its first issue in 2011, *Education Sciences* (ISSN 2227-7102) has grown as a scholarly international open access journal. Its aim remains to publish extended full-length research papers that have the scope to substantively address current issues in education. As a member of the Committee on Publication Ethics (COPE), our goal has been to disseminate high quality research. Our publisher, MDPI, takes the responsibility to enforce a rigorous double-blind peer-review together with strict ethical policies and standards to ensure to add high quality scientific works to the field of scholarly publication.

**Call for Paper:**

**Special Issue "Interactive Simulations and Innovative Pedagogy for Conceptual Understanding in Science Education"**

*Guest Editor: Assoc. Prof. David Geelan; Submission Deadline: 31 January 2019*


**Interesting Papers**

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The Association for Science Education Annual Conference 2019
Wednesday 9 - Saturday 12 January at the University of Birmingham, B15 2TT

Highlights
A quick view of some of the experts and lead practitioners at the ASE Annual Conference.

Secondary
Practicals, cognitive science, exam board updates and more.

Primary
How can you help your students grow their science capital?

FE
Ideas, updates and support for teaching Science in Technical Education.

Conference overview
Themed programmes, exhibition, hotel deals & booking details

Day listings
Full listings for Wednesday, Thursday, Friday & Saturday

The Association for Science Education is the UK’s largest subject association. We are driven by, and for, teachers and technicians who are passionate about science teaching and learning.

“Excellent... Lots of tips to make things work more easily in the classroom.” Conference Delegate
Keynotes and special events
Discover a selection of lectures, workshops and debates across the Conference programme.

ASE President – Sir John Holman
ASE is delighted to announce that Sir John Holman will take on the role of our President in 2019. At the Annual Conference, Sir John Holman will be presenting his work with the Education Endowment Foundation (EEF) on Evidence-based Secondary Science. (122) Friday 10am
To extend the discussion of the EEF’s review, the Wellcome Trust will be hosting a TeachMeet to share teachers’ ideas and approaches to Evidence-based Secondary Science, followed by a lunch where you can continue the conversation. (233) Friday 12-2pm

Science Teacher SOS: One Year On
This guide for teachers on how to manage a work-life balance has made a positive difference to many science teachers and has been adopted by other subjects. Dr Andy Chandler-Grevatt will lead a discussion on its impact. (15) Thursday 10.30am

Inspiring Ideas from America
Page Keeley is an author, speaker, and consultant who works with school districts and STEM organisations throughout the U.S. and internationally in the areas of formative assessment and teaching for conceptual change. She is giving two talks: New Topic Starting Point (115) Friday 3pm; So What Do They Understand? (116) Saturday 4.10pm

Schools’ Exhibition
Teachers from schools and colleges, across all phases, bring along displays of classroom work. All teachers exhibiting get a free day at the conference. To register interest, email nicola@seventhcorner.co.uk. Friday 9am–12.30pm

Reforms in Technical Education
The DfE intends T Levels to be on a par with A levels and to provide young people with a choice between technical and academic education post-16. Hear from the DfE Policy Lead on T Level Teacher Readiness so that you can know about the choices your students can make. (306) Thursday 2pm

SMART Spaces
Dr Liam O’Hare shows how research evidence can be used to improve GCSE science revision. Spaced learning involves teachers delivering the same content across multiple sessions, with breaks in between. (294) Thursday 3pm

Science Capital
Science capital is a concept that can help us understand patterns in science participation - why some people engage with science and others do not. In particular, it helps shed light on why particular social groups remain underrepresented in post-16 science, and why many young people do not see science careers as being ‘for me’, nor see themselves as a ‘science person’. Professor Louie Archer leads research into how we can grow science capital for all young people. (288) Friday 1.30pm

Rewriting History
Angela Saini is an independent British science journalist and presenter. Her book “Inferior: How Science Got Women Wrong and the New Research That’s Rewriting the Story” challenges the gender stereotypes so often presented to students. (17) Thursday 11am

Mr Shaha’s Recipes of Wonder
Alom is a Physics teacher, splitting his time between a comprehensive school in London and a university technical college in Watford. When he’s not teaching, he is working as a film-maker, writer and science communicator. Join Alom to be taken on a tour of Mr Shaha’s Recipes for Wonder… All you need are a few simple items from your kitchen cupboards and the power of curiosity! (288) Saturday 9am
Intriguing Demonstrations. Neil Monteiro
ASE’s favourite science magician returns to the conference with an array of practical demonstrations that appear to defy logic. Grab his ideas to head back to school and inspire and intrigue your students. (460) Saturday 10am

Mitigating the Effect of Family Background
This study, funded by the Royal Society of Chemistry, looks at how students from disadvantaged backgrounds can be encouraged to study chemistry once it is no longer compulsory. Professor Michael Reiss presents the study’s findings. (224) Friday 9am

Students as Researchers
Find out how you can do research with your students which improves attainment and aspiration. Becky Parker, Director of the Institute for Research in Schools (IRiS), introduces some of the teachers who are involving their students in research. Projects discussed will include MELT, Genome Decoders, Higgs Hunters, Ionic Liquids, Vertigo, CERN@school and Well World. (37) Friday 2pm

Lessons from Stephen Hawking
Stephen Hawking died in March. What have we learned from him about the universe, science, and life? Kitty Ferguson, the award-winning and international bestselling author of Stephen Hawking’s biography, presents an even deeper portrait of the legendary physicist’s life and scientific theories. (189) Thursday 3pm

Johnny Ball
We are excited to welcome back Johnny Ball, who delighted audiences at the last Annual Conference. After his talk, Johnny Ball will be at the ASE Hub to sign books. “Johnny was brilliant but isn’t he always!” - Conference delegate 2018. (287) Friday 11am

Better Memory
Dr. van der Spoel is a chartered psychologist, who specialises in using the mind as an effective tool for life learning. Find out how you can balance focus, motivation and study behaviour to guide and support your students during their exam preparation. (345) Saturday 10am

Primary Pop-up
Packed with ideas, the Pop-Up brings offers an inspiring range of hands-on resources created by teachers. “Pop-up primary was really great. Did lots of networking, good ideas, met lots of teachers” - Conference delegate 2018. (349) Friday 2.35pm
Think a digital textbook is a PDF? **Think again!**

Kognity’s *curriculum-aligned intelligent textbooks* for GCSE sciences couple highest quality interactive content with our platform’s data-driven formative assessment approach. This ensures that students have access to engaging content and exam prep material, and can continuously see their individual strengths and weaknesses. Teachers can track their students’ progress, allowing them to differentiate their teaching and automate assessment based on each student’s needs.

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**Exclusive ASE offer**

Try Kognity’s intelligent textbooks for 6 weeks at your school for only **£50 (instead of £200)** by emailing [info@kognity.com](mailto:info@kognity.com) by **February 1st 2019**!

Meet us at **ASE’s Annual Conference** for a demonstration of how Kognity can help enhance your students’ learning!
Secondary science educator...
Why you should attend the ASE Annual Conference.

We have over 200 sessions exploring secondary science teaching and learning so whatever your issues to tackle or interest to pursue, the ASE Annual Conference has something to offer.

• Manage curriculum content in an engaging way
• Understand the new assessment and specifications for you and your students
• Support students in transition both from primary and onto sixth form
• Develop your knowledge and skills for teaching all the sciences
• Collect ideas for practicals using easy-to-access equipment
• Implement strategies for engaging all students in science
• Support your less able and stretch your more able students
• Make effective use of technology in science learning
• Learn how to develop your science team
• Discover how to formalise your own Professional Learning Journey

The whole department can benefit from coming along as there are sessions for technicians, NQTs, subject specialists and heads of department. With about 1,000 science educators attending each day, the ASE Annual Conference also offers a unique chance to meet other teachers to share ideas and challenges.

• Explore the free exhibition with around 100 science education organisations offering resources, equipment, curriculum updates and ideas.
• Grab the chance for this invaluable INSET. Where else do you get so much expertise in the same place at the same time?
• Use the friendly expertise of the ASE 11-19 Committee to ask any questions on science education.
• Attend for one or more days, whatever fits with your available time and budget.

“Really good ideas and really good discussion on the table. Made me really enthusiastic to go back to school and try out ideas!”

Conference Delegate
A Secondary guide to the conference

The sheer scale of the programme can be daunting... Follow our suggested pathways and search the online programme.

**Role: Biology HoD**
**Department focus:** Gaining guidance on the development of curriculum pathways for all abilities.
**Personal CPD focus:** I want to update my knowledge and understanding of effective leadership.
**Personal interest:** Effective practical work.

- **Thursday 10 January**
  - 0900-1000  Marking and Improving Student Outcomes in Maths-Related Questions (401)
  - 1030-1130  The Structure of Assessment in OCR’s Reformed Science Qualifications (374)
  - 1200-1300  Raising Achievement for All (347)
  - 1400-1500  Progression from KS3 to Higher Education: Curriculum Pathways in Science (182)
  - 1500-1600  Fixing KS3 Science (82)
  - 1600-1700  Developing Teachers’ Skills to Reach Higher Grades (275)

- **Friday 11 January**
  - 0900-1000  Mitigating the Effect of Family Background on Students’ Science Aspirations (224)
  - 1000-1100  Making STEM for Everyone: Reaching under-served audiences (307)
  - 1100-1200  Effective Science Leadership in Secondary Education (364)
  - 1230-1330  Improving Progress and Closing the Gaps: Pupil-premium students (367)
  - 1400-1500  Frontier Science: Making sure medicines work for children! (416)
  - 1600-1700  Using Career Contexts to Teach Science (24)

- **Saturday 7 January**
  - 0900-1100  The Science of Learning Part II: Making the most of long term memory (47)
  - 1100-1200  Assessment for Learning in Science: Reflections and restatement from practice and research (56)
  - 1200-1300  Fast, Formative Feedback from Tests (390)
  - 1400-1500  Developing Higher Order Thinking in Secondary Science (301)

**Role: NQT Science**
**Department focus:** I will be attending sessions related to the required practicals.
**Personal CPD focus:** Looking for opportunities to develop my understanding of science pedagogy.
**Personal interest:** I particularly enjoy practical work and want to extend my repertoire.

- **Thursday 10 January**
  - 0930-1030  In a Little You Can See A Lot (320)
  - 1100-1200  AQA & ITe: Support for your first years in teaching (175)
  - 1200-1300  ‘Chocolate is Good For you!’ Rewriting the Headlines (93)
  - 1400-1500  Science for SEND Learners (256)
  - 1500-1600  Required Practical Exam Questions (393)
  - 1600-1700  Using Cameras in Science Teaching and Learning (107)

- **Friday 11 January**
  - 0900-1000  Schools’ Exhibition (405)
  - 1000-1100  Making STEM for Everyone: Reaching under-served audiences (307)
  - 1100-1200  AO2: They know it but can they apply it? (295)
  - 1400-1500  CLEAPSS Hands-on Workshop (317)
  - 1500-1600  New Topic! Starting Point (115)
  - 1600-1700  Being ‘The Grown Up’ and ‘Knowing Your Buttons’ (325)

- **Saturday 12 January**
  - 0900-1000  Teaching STE(A)M Abroad (41)
  - 1000-1100  Written Feedback (348)
  - 1100-1200  Lunch & visit Exhibition Marquee
  - 1230-1330  Easy Differentiation (284)
  - 1400-1500  Developing Higher Order Thinking in Secondary Science (301)

**Role: Chemistry Teacher**
**Department focus:** I want to find out more about ways to enhance my GCSE teaching; particularly difficult concepts and practical ideas.
**Personal CPD focus:** Develop my understanding of cognitive science and how different methods of teaching can improve student outcomes.
**Personal interest:** I still take delight in finding new ways to look at and present chemistry concepts.

- **Thursday 10 January**
  - 0930-1030  Marking and Improving Student Outcomes in Maths-Related Questions (401)
  - 1100-1200  Reimagining the Chemistry Practical (121)
  - 1200-1300  Bar-Model Problem-Solving (38)
  - 1400-1500  Evidence-Informed Teaching in Secondary: the Good, the Bad and the Ugly (45).
  - 1500-1700  Chemistry Doesn’t Just Happen in Test Tubes (105)
  - 1700-1800  CLEAPSS Hands-on Workshop (313)

- **Friday 11 January**
  - 0900-1000  In a Little You Can See A Lot (321)
  - 1030-1130  Teaching Supramolecular Chemistry (276)
  - 1200-1300  Do They Really Get It? Mimicry and misconceptions (242)
  - 1330-1430  ‘Chocolate is Good For you!’ Rewriting the Headlines (93)
  - 1500-1600  New Topic! Starting Point (115)
  - 1600-1700  Developing Higher Order Thinking in Secondary Science (301)

- **Saturday 12 January**
  - 0900-1000  A-level Organic Chemistry in a Box (143)
  - 1000-1100  Getting the Best Out of my Memory (345)
  - 1100-1200  Assessment for Learning in Science: Reflections and restatement from practice and research (56)
  - 1200-1300  Integrated Instructions in Practical Work (90)
  - 1400-1500  Developing Higher Order Thinking in Secondary Science (301)
**Role: Secondary Trainee Teacher - Physics subject focus**
I want to build on my training by networking with teachers to gain effective practice ideas. I also want to develop a strong grounding in approaches to teaching physics. I’m looking forward to the Exhibition; a chance to collect loads of free resources and chat to lots of experts.

**Thursday 10 January**
- 0930-1030  21st Century Physics (319)
- 1100-1200  flipped Physics Teaching (195)
- 1200-1400  TeachMeet: Evidence-informed Practice in Science Teaching – including a buffet lunch hosted by Wellcome Trust (233)
- 1400-1500  What Does it Mean to be a Competent Scientist at A-level? (264)
- 1500-1700  The Universe is Expanding & Space is Wobbling - How Do We Know? (30)

**Friday 11 January**
- 0900-1000  Schools’ Exhibition (405)
- 1000-1100  Evidence-based Secondary Science (122)
- 1230-1330  Teaching Physics in Context (136)
- 1400-1500  Hands-on Static Electricity (229)
- 1600-1700  Difficult Ideas in Physics (384)

**Saturday 12 January**
- 1000-1100  Astrophysics Teaching Drop-in (84)
- 1100-1200  TeachMeet: Evidence-informed Practice in Science Teaching – including a buffet lunch hosted by Wellcome Trust (233)
- 1200-1400  TeachMeet: Evidence-informed Practice in Science Teaching – including a buffet lunch hosted by Wellcome Trust (233)
- 1400-1500  What Does it Mean to be a Competent Scientist at A-level? (264)
- 1500-1700  The Universe is Expanding & Space is Wobbling - How Do We Know? (30)

**Role: Technician**
I can only attend on Thursday. I want to get lots of ideas for effective, low-cost practicals.

**Thursday 10 January**
- 0830-0930  Exhibition Marquee - for freebies!
- 0930-1030  Chemical Escape Rooms - second year (190)
- 1100-1200  Making Sensors of Circuit Boards (171)
- 1230-1330  Technician Hints and Tips (83)
- 1400-1500  Hands-on Static Electricity (229)
- 1500-1600  Earth Science Out-of-doors (58)
- 1600-1700  Chemical Magic (254)
- 1700-1800  CLEAPSS Hands-on Workshop (313)

**Role: With responsibility for STEM**
I want to hear from people who have taken part in successful STEM enrichment. I work with our local primary schools so will look at cross-phase ideas too. I will also be updating my own real-world science knowledge. I’m only attending on the Thursday and Friday.

**Thursday 10 January**
- 0830-0930  Exhibition Marquee
- 0930-1030  Nurturing Schools “Naturehoods” (289)
- 1030-1130  Classroom Science Investigation: From CSI to the Forensic Scientist (19)
- 1130-1230  Science Week - The Key to Building Engagement in Science (388)
- 1530-1630  Teaching Secondary Environmental Education Through STEM (305)
- 1530-1630  Neuroscientists in Secondary Schools (88)

**Friday 11 January**
- 0900-1000  Schools’ Exhibition (405) - This should have lots of great ideas from other schools to support my STEM Club.
- 1000-1100  Making STEM for Everyone (307)
- 1100-1200  Evidence-based Secondary Science (122)
- 1200-1400  TeachMeet: Evidence-informed Practice in Science Teaching – including a buffet lunch hosted by Wellcome Trust (233)
- 1400-1500  STEM Career Inspiration (250)
- 1500-1700  The Universe is Expanding & Space is Wobbling - How Do We Know? (30)

**Saturday 12 January**
- 0900-1000  Best Evidence Science Teaching (428)
- 1000-1100  Strategies for Developing Resilience (43)
- 1230-1330  Is Feedback the Tail or the Dog? (125)
- 1500 - Go and get my book signed by Alice Roberts!

**Role: Secondary Trainee Teacher - to fit around my studies.**
I want to find out more about teaching and learning! As I start on my career it is a good time to look at support for developing professionally.

**Thursday 10 January - Twilight sessions**
- 1500-1630  Teaching and assessing maths in science (370)
- 1630-1700  Biology Practicals that Work (2)
- 1700-1800  Discovering Light in the Classroom: 6-month exposure cameras (184)
- 1800-1900  CLEAPSS Hands-on Workshop (314)

**Saturday 12 January**
- 0900-1000  Best Evidence Science Teaching (428)
- 1000-1100  Teaching and assessing maths in science (370)
- 1200-1400  Strategies for Developing Resilience (43)
- 1230-1330  Is Feedback the Tail or the Dog? (125)
- 1500 - Go and get my book signed by Alice Roberts!

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“My experience at the conference has affected the way I think about teaching science, and furthered my appreciation of CPD.”

Conference delegate

Use the online programme to create your own CPD conference programme. Each session has a unique number (in brackets) so you can find specific ones or search by phase, theme or subject.

www.ase.org.uk/annual-conference

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www.oxfordsecondary.co.uk/science  @OxfordEdScience
Science Capital

What is it and how can we inspire young learners?
Science capital is a concept which gives us a valuable insight into why and how some people participate in and engage with STEM-related experiences - and why some do not.

Our Primary Programme includes Professor Louise Archer who is leading research into science capital and understanding patterns in science participation, and Alom Shaha whose latest book offers experiments galore to do easily at home or in school, helping every child grow their science capital.

Each day also offers a range of workshops from teachers and advisers on science capital - as well as other streams, including:

- Education for Sustainable Development
- Assessment
- Literacy & Creativity
- Science Enquiry
- Subject leadership
- Practicals
- STEAM

Alom Shaha
Saturday 12 January
9-10am
Followed by a book signing.

Professor Louise Archer
Friday 11 January
1.30-2.20pm
For more information on Science capital, go to UCL Institute of Education: bit.ly/ScienceCapitalUCL

Life enhancing career
Support STEM students with free to use careers resources

Clinical pharmacologist
Medical representative
Materials scientist
Bioinformatician
Financial analyst
Statistician

Our careers website includes case studies of over 80 individual people who actually work in the industry; from people who joined the industry straight from school, through to those with postgraduate degrees and postdoctoral experience. We have a poster featuring some of these people too, this can be ordered through the website.

The site also provides a searchable database of pharmaceutical and contract research companies – an excellent starting place if you are looking for a work placement or a job.

To find out how you could contribute to the discovery, development or supply of new medicines in the UK visit the website.
Primary science teacher...
Why you should attend the ASE Annual Conference

Whether you are a Science Coordinator looking for guidance, a science specialist looking to enhance your subject knowledge, or a new classroom teacher looking for support, our programme has content for you.

- Guides to assessment
- Practicals that can be done in class with easy-to-access equipment
- Initiatives to support Primary science from Wellcome Trust, National Farmers’ Union, Practical Action and many more
- Creative approaches - music, art, drama and stories - to explore scientific ideas
- Science through animals and insects
- Ideas for using the outdoors for science learning
- Strategies for encouraging children to develop scientific enquiry skills
- Cross-curricular projects encompassing engineering, careers, the environment, history and technology
- Approaches to embedding literacy in science
- Resources to support expanding the curriculum

With over 400 Primary educators attending, the ASE Annual Conference also offers a unique chance to meet other teachers of science to share ideas and challenges.

- Explore the free exhibition where around 100 science education organisations offer resources, equipment, curriculum updates and ideas.
- Grab the chance for this invaluable INSET. Where else do you get so much expertise in the same place at the same time?
- Meet the ASE Primary Committee for friendly, expert advice on any aspect of science teaching.
- Attend for one or more days, whatever fits with your available time and budget.

"One of the best new CPD inputs I have had in a long time. This has really peaked my interest and motivated me to share and implement changes in school."

Conference Delegate
Primary Programme

Literacy & Creativity
Embedding literacy and employing creativity can arm students with vital skills and help all children engage with science.

Thursday 10 January
- 0930-1030 Teaching Literacy & Science (205) - The Little Story Telling Company
- 1030-1130 Science Through Stories (173) - Jules Pottle
- 1200-1300 Linking Science & Literacy for Improved Student Outcomes (44) - NSTA

Friday 11 January
- 0930-1030 The Stories of Science (150) - Canterbury Christ Church University
- 1040-1140 Linking Science & Literacy for Improved Student Outcomes (354) - NSTA
- 1145-1245 Teaching Literacy & Science (355) - The Little Story Telling Company
- 1540-1640 Drama & Science (186) - Greenhill & Tranmere Park Primary Schools
  Or SunSpaceArt (92) - University of Cambridge

Saturday 12 January
- 1035-1135 Dramatising Learning for Science for KS1&2 (75) - Oxford Brookes University
- 1140-1240 Thinking, Doing, Talking Science (149) - Oxford Brookes University
- 1505-1605 The Art of Science: Using rocks and fossils in art to communicate science (63) - ESTA
- 1610-1710 Creativity in Science (109) - Dr Susan Burr

Science Capital
An exploration of why and how some people participate in and engage with STEM-related experiences - and why some do not.

Thursday 10 January
- 1400-1500 Scientist of the Week (28) - Northumbria University

Friday 11 January
- 0930-1030 Primary Science for All: Attention Please (29) - Sheffield Institute of Education
- 1040-1140 Primary Science Homework: A pencil-free approach (68) - University of Gloucestershire
- 1145-1245 STEM Career Inspiration (250) - Primary Science Teaching Trust (PSTT)
- 1330-1430 Brenda Keogh Lecture: Science Capital (288) - Professor Louise Archer
- 1540-1640 Science Capital in Primary School (1) - Wimbledon High School

Saturday 12 January
- 0900-1000 Mr Shaha’s Recipes for Wonder (4) - Alom Shaha
- 1035-1135 A Context to Build Science Capital (158) - CIEC
  Or Awe and Wonder: Sprinkle of scientific sparkle (127) - St Mary’s University Twickenham
- 1145-1245 STEM Career Inspiration (250) - Primary Science Teaching Trust (PSTT)
  Or Science in my Pocket (463) - Nina Spilsbury
- 1505-1605 EYFS: Getting the right space (197) - Linda Atherton
- 1610-1710 Developing Child Leaders of Science (48) - Science for Life
  Or EYFS: Wow science (198) - Linda Atherton

Education for Sustainable Development (ESD)
“Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future.” UNESCO

Thursday 10 January
- 0930-1030 Nurturing Schools’ “Naturehood” (289) - Earthwatch Europe
- 1030-1130 Teaching Primary Environmental Education Through STEM (304) - NAEE
- 1200-1300 Let’s Talk About Animals (302) - Stuart Naylor
- 1400-1500 SEEd (Sustainability and Environmental Education) (291) - Margaret Fleming
- 1505-1605 The Art of Science: Using rocks and fossils in art to communicate science (63) - ESTA

Friday 11 January
- 0930-1030 Ocean Plastics in the Primary Classroom (68) - Encounter Ed
- 1040-1210 Active Earth: Living Fossil (57) - STA
- 1505-1605 Exploring Rock, Soil, Water, Fossil (59) - ESTA
- 1610-1710 Developing Child Leaders of Science (48) - Science for Life
- 1540-1640 Science Capital in Primary School (1) - Wimbledon High School

Saturday 12 January
- 0900-1000 Mr Shaha’s Recipes for Wonder (4) - Alom Shaha
- 1035-1135 A Context to Build Science Capital (158) - CIEC
- 1145-1245 STEM Career Inspiration (250) - Primary Science Teaching Trust (PSTT)
- 1505-1605 EYFS: Getting the right space (197) - Linda Atherton
- 1610-1710 Developing Child Leaders of Science (48) - Science for Life
- 1540-1640 Science Capital in Primary School (1) - Wimbledon High School

STEM
STEM: Science, Technology, Engineering and Maths; or you can add the Arts and get STEAM. Whichever way, it is has a valuable role in primary teaching, encouraging a cross-curricular and real-world approach to learning.

Thursday 10 January
- 0930-1030 A Window to the World: Inspiring pupils with real-world resources (451) - Discovery Education
- 1030-1130 Exploring Rock, Soil, Water, Fossil (59) - ESTA
- 1200-1300 Science from the Ends of the Earth (145) - Encounter Edu
- 1400-1500 Primary Science in 360°: Using VR for scientific investigations (252) - hi-impact consultancy
- 1530-1630 Augmented Reality in the Primary Classroom (85) - Education Harbour

Friday 11 January
- 0930-1030 Early LifeLab (139) - Early LifeLab
- 1040-1140 Space in the Primary Curriculum (245) - Science Technology Facilities Council
- 1540-1640 Children and Parents as Engineers (183) - University of the West of England
Subject Leadership & Assessment
ASE provides an invaluable support network for science and STEM subject leaders. On Thursday, the focus is on leading students’ science learning; on Friday and Saturday it is assessing that learning.

Thursday 10 January
» 0930-1030 What Comes First; Science Knowledge or Science Skills? (207) - Cambridge Assessment International Education
» 1030-1130 Primary Science for Advisers & ITE Providers (322) - CLEAPSS
» 1200-1300 Evidence-informed Teaching in Primary: The Good, The Bad and the Ugly (22) - hi-impact consultancy
» 1400-1500 Successful Science Subject Leadership (78) - Primarily Science
» 1530-1630 Supported Online CPD: Primary teachers’ experiences (369) - STEM Learning

Friday 11 January
0930-1030 Using the PLAN Resources (233) - Naomi Hiscock
1040-1140 Developing Assessment Themes (237) - Nicola Beverley
1145-1245 Enabling Accurate Teacher Assessment in Primary Science (236) - CIEC
1540-1640 The Science Sample Test (238) - Standards and Testing Agency

Saturday 12 January
» 1035-1135 TAPS: From focused assessment to whole-school approach (269) - Bath Spa University
» 1140-1240 Fostering Reflection & Reasoning (124) - UCL Institute of Education
» 1505-1605 Assessing Primary Science Outdoors (148) - Spring Learning
» 1610-1710 So What Do They Understand? (116) - Page Keeley

Science Enquiry
“What children do in order to answer scientific questions about the world around them.”
Jane Turner, PSQM

Thursday 10 January
» 0930-1030 Promoting Curiosity (172) - University of Gloucestershire
» 1030-1130 The Nature of Children’s Questions (103) - SEERIH University of Manchester
» 1200-1300 Encouraging Pupils to Question (18) - STEMpowered Learning
» 1400-1500 Think Again! Practical Primary Chemistry (220) - Sphere Science
» 1530-1630 How Do Giraffes Eat Ice-cream? (128) - St. Mary’s University, Twickenham

Friday 11 January
» 0930-1030 How Do Scientists Think? (281) - Perimeter Institute
» 1040-1140 Authentic Science in Action (69) - JCB
» 1145-1245 Child-led Learning: What does it mean to you? (102) - SEERIH, University of Manchester
» 1505-1640 Beyond Planet Earth (458) - Professor Richard Ellis
» 1610-1710 Planning for Great Enquiry-led Learning (33) - Jane Turner

Saturday 12 January
» 1035-1135 What is Child-led Enquiry? (157) - Primary Science Quality Mark (PSQM)
» 1140-1240 What’s In My Tray? (97) - Primary - Greatwells Learning Rooms
» 1345-1535 Primary TeachMeet: Informal sharing of teachers’ ideas and top tips (352)
» 1505-1605 Creative Child Research (234) - Naomi Hiscock

Curated by the expert ASE Primary Committee, the Primary Programme offers three days of themed sessions.

Practical Science
Ideas and resources for accessible experiments and demonstrations; connecting students with real-world science

Thursday 10 January
» 0930-1030 Speedy Science (188) - Whizz Pop Bang
» 1030-1130 Glorious Gas in the KS2 Class! (202) - Catalyst Science Discovery Centre
» 1200-1300 Primary Space Science Made Easy (219) - Sphere Science
» 1400-1500 Hands-On DNA (131) - Wellcome Genome Campus Public Engagement
» 1530-1630 Fascinated by Hands-on Forensics (36) - University of Amsterdam

Friday 11 January
» 0930-1030 CLEAPSS Primary Science Practical Workshop (323) - CLEAPSS
» 1040-1140 Fun, Low-cost Primary STEM Projects with Technology for Fun (67) - TTS
» 1145-1245 Easy Practical Primary Ideas (221) - Sphere Science
» 1435-1535 Primary Pop-Up: Teachers showcase their hands-on resources (349) - ASE
» 1540-1640 P3L Electricity (151) - The Ogden Trust

Saturday 12 January
» 1035-1135 Ditch The Dirt (114) - Edmund Walsh for Practical Action
» 1140-1240 Big, Messy and Loud (118) - Primarily Science
» 1505-1605 What Happened to the Nature Table? (14) - Heron Cross Primary School
» 1610-1710 Learning with a Farm (404) - National Farmers’ Union

A great vibe for primary. Passionate, inspiring and friendly community of professionals.”
Conference Delegate
Get your conference ticket for free!

Be part of our annual STEM showcase of classroom ideas and projects:

**ASE SCHOOLS’ EXHIBITION**

9am - 12.30pm on Friday 11 January 2019

University of Birmingham

All phases welcome.

Email nicola@seventhcorner.co.uk to register your school. Schools who exhibit receive a complimentary conference pass.
FE & Skills lecturer...

Why you should attend the ASE Annual Conference

Special FE offer

For only £99, FE staff can get a year’s ASE membership plus one free day at the ASE Annual Conference 2019 (usual price is £237)

Whether you are teaching science diplomas or A-levels, or supporting the science content within vocational courses, the ASE offers valuable support:

- Insights into real-world science research to enhance your subject knowledge
- Strategies to support your less able and stretch your more able students
- Updates on T-levels
- Ideas for connecting with Higher Education and industry
- Approaches for teaching and assessment across new and existing specifications
- Easy-to-do practicals across all sciences.

The focus for the FE day, on 10 January 2019, is Science in Technical Education.

- Explore the free exhibition with around 100 science education organisations offering resources, equipment, curriculum updates and ideas.
- Grab the chance for this invaluable INSET. Where else would you find such a wealth of expertise in the same place at the same time?
- Network with teachers from a wide range of schools and colleges.

To take advantage of this offer, email conferences@ase.org.uk

FE day: Thursday 10 January

0930-1030  Artificial Intelligence Education: How should educators respond? (343) - David Swinscoe
1100-1200  Teaching and Assessing BTEC Nationals in Applied Science (263) - Chris Suter, BTEC Consultant, Pearson
1200-1300  Science in Technical Education (52) - Catherine Lloyd, Director of Land-Based Studies, Shuttleworth College
1400-1500  Reforms in Technical Education (306) - Kevin Burke, Policy Lead: T Level Teacher Readiness, DfE
1530-1630  Excellence in FE Teaching (259) - Richard Spencer, Middlesbrough College

www.oxfordsecondary.co.uk/science  @OxfordEdScience
The selected lectures focus on areas of expertise within the University of Birmingham, and the lecturers are leading researchers. So enhance your knowledge and get a glimpse of what your students could go on to study.

After each session, there will be the chance to chat with the lecturer. Grab the opportunity to make some scientific links for you, your school and your students.

**Thursday**

0930-1030  
Sharing wisdom and energy across generations (409)  
Dr Melrose Stewart, School of Sport, Exercise and Rehabilitation Sciences

1030-1130  
Environmental interactions of nanoparticles (410)  
Professor Iseult Lynch, School of Geography, Earth and Environmental Sciences

1100-1200  
Exercise & dementia (450)  
Dr Sarah Aldred, Birmingham Institute for Mental Health - School of Sport, Exercise and Rehabilitation Sciences

1200-1300  
Why We Eat What We Eat (425)  
Professor Suzanne Higgs, School of Psychology

1230-1330  
Using nanotechnology to diagnose and treat disease (447)  
Professor Tim R. Dafforn, Professor of Biotechnology

1400-1500  
Maternal fetal medicine (414)  
Dr R. Katie Morris, Institute of Metabolism and Systems Research

1500-1600  
Using epidemiology to tackle the complex epidemic of childhood obesity (419)  
Professor Peymane Adab, Institute of Applied Health Research

1600-1700  
The Human Zoo: discovering your hidden microbes and their unexpected influence on your life... (459)  
Professor Robin May, Professor of Infectious Diseases & Director, Institute of Microbiology and Infection

**Friday**

0900-1000  
Group theory (413)  
Dr Corneliu Hoffman, School of Mathematics

1000-1100  
Interdisciplinary collaborations and clinician-scientist partnerships (424)  
Dr Melissa Grant, School of Dentistry

1100-1200  
Geometry and mathematical physics (411)  
Professor Marta Mazzocco, School of Mathematics

1100-1200  
Drugs and the Magnificent Seven (446)  
Professor Mark Wheatley, Chair of Biochemical Pharmacology

1200-1300  
How do we know how much to breathe? (415)  
Dr Clare Ray, Institute of Clinical Sciences,

1400-1500  
Making sure medicines work for children! (416)  
Dr Hannah Batchelor, School of Pharmacy

1400-1500  
The Human Zoo: discovering your hidden microbes and their unexpected influence on your life... (459)  
Professor Robin May, Professor of Infectious Diseases & Director, Institute of Microbiology and Infection

1500-1600  
Mixed Reality for Training Future Emergency Medics - Blending the Best of the Real with the Best of the Virtual (417)  
Professor Robert Stone, Department of Electronic, Electrical and Systems Engineering

**Saturday**

0900-1000  
Fertility preservation (418)  
Dr Jackson C. Kirkman-Brown, Institute of Metabolism and Systems Research

1000-1100  
Risk, abuse and violence in families (421)  
Dr Caroline Bradbury-Jones, School of Nursing

1100-1200  
Microstructural characterisation of materials (422)  
Dr Artemis Stamboulis, School of Metallurgy and Materials

1200-1300  
Novel virus-host interactions (423)  
Dr Joanna Parish, Institute of Cancer and Genomic Sciences

“Treated myself to two Frontier Science lectures, fascinating and good to keep my science brain active!”

“Brilliant, fascinating and engaging!”

Conference Delegates
‘Students enjoy the practicals and it’s so rewarding seeing them building key skills’

GCSE AND A LEVEL SCIENCE

Choose the best practicals for your students. Teach your own favourites or use the ones we have developed for you.

COME AND MEET US AT THE ASE ANNUAL CONFERENCE 2019, 9-12 JAN.
ocr.org.uk/gcsescience ocr.org.uk/switchalevelscience 01223 553998
Book online
It’s the easiest way to secure your place.

Clear and simple to use, every type of order can be made at ase2019.eventbrite.co.uk.

- Book your whole department, using the Group Discount of 15% for 6 or more.
- Confirm you are an ASE member for 50% discount on the full delegate rate.
- Request payment by invoice, if needed.
- Register for Free Entry into the Exhibition only.
- Book for 1,2,3 or 4 days.

All in simple steps:

1. Go to ase2019.eventbrite.co.uk.
2. Click on ‘Tickets’.
3. Scroll down for the type of ticket you want and then use the drop-down menu to select the number of tickets wanted. Click ‘Checkout’ when you have the ticket type(s) and quantity wanted.
4. Complete the form with your contact and payment details.
5. Add in any reception tickets wanted and then ‘Pay Now’.

It’s that easy!

“Really useful tips and ideas - lots of stuff to discuss with my HoD.”

“Brilliant. Just brilliant, so much to see and do!”

“Great resources to take back to school and use straight away.”

“Excellent presentations with simple but inspiring hands-on experiments, with clear instructions.”

Conference Delegates

Conference planning

After you book on Eventbrite you’ll be redirected to sched.org to start planning your personal conference programme.

You can use Sched to search the full conference timetable, create your tailored programme and register interest for sessions; you can then receive updates from presenters.
Social Events

International Dinner 9 January
The perfect way to meet old friends and make new ones at the beginning of the Conference. This informal dinner is held on the University of Birmingham campus in the Noble Room, Staff House, so you can stroll along after the International Day programme. Or you can begin your time at ASE with the dinner, to get a feel for the event before the main conference begins on Thursday. To attend the International Dinner, add it to your booking. £36.50 per head.
Welcome drink at 6.30pm.

Association Social 11 January
Held at the Burlington Hotel, this informal buffet is the time to dine out with friends old and new. Neil Monteiro will be touring the tables to challenge your perception of scientific reasoning, and the inspirational technician, singer and comedian, Sophie Ward, will round off the evening. To attend the Association Social, add it to your booking. £36.50 per head.
Welcome drink at 7pm. The Burlington Hotel is just opposite Birmingham New Street Station.

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<td>*When you join ASE from only £3.75 a month</td>
<td>FREE*</td>
<td>£53</td>
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If you have any questions, just email conferences@ase.org.uk or call the head office team on 01707 283000.

www.oxfordsecondary.co.uk/science @OxfordEdScience
Accommodation in Birmingham

ASE has negotiated special rates with local hotels.

You need to book and pay for your room directly with the hotel. ASE is not responsible for any reservations.

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Address</th>
<th>Contact</th>
<th>£ (Single B &amp; B)</th>
<th>Discount Booking Ref.</th>
</tr>
</thead>
</table>
| Holiday Inn                  | Smallbrook Queensway, B5 4EW
www.hibirmingham.co.uk        | 0121 634 6223             | £92             | Y20                  |
| Holiday Inn Express City Centre | Central Square, B1 1HH
| Crown Plaza                  | 19 Holliday Street, B1 1HH
| Pentahotel                   | Holloway Head, Ernest Street, B1 1NS
www.pentahotels.com/Birmingham | 0121 22 8800        | £70             | ASE19                |
| Travelodge Birmingham Central Bull Ring | Upper Dean Street, B5 4SG
The Salters’ Institute is one of the country’s leaders in the field of science curriculum development, with an influence that stretches across the world. Its aims are clear - to promote the excitement of chemistry and the related sciences amongst the young and to encourage chemistry-based careers.

A series of popular and inspiring one day Chemistry events held at Universities and Colleges across the UK and Ireland for 11-14 year olds.

Salters’ National Awards for Science Technicians highlight and recognise the work of school science technicians.

Best Evidence Science Teaching (BEST) is a Salters’ Institute funded curriculum package for teachers of KS3 science.

Resources to encourage the formation of school chemistry clubs to make chemistry more relevant, exciting and fun!
The FREE Conference
Over 100 exhibition stands, a dedicated CPD room and a science fair - all completely FREE!

Exhibition Opening Times:
Thursday 0830-1700
Friday 0830-1700
Saturday 0830-1500

With around 100 organisations involved, the Exhibition Marquee is full of hands-on activities. The perfect place to find out what new resources are available for science teaching and learning.

The ASE CPD Room

The ASE is sponsoring a full programme of CPD that is completely free to access.

The Exhibition Marquee Seminar Room hosts a range of workshops all day Thursday - Saturday. Just register online for Free Exhibition Entry to attend any (or all) of the sessions below.

**Thursday**
0930-1000  A Window to the World: Inspiring pupils with real-world resources (451), Discovery Education Primary
1030-1130  Practical Science is a Game Changer for Primary Schools (267), Sam Saul - Empiribox Ltd Primary
1200-1300  The Wonder Why Society (337), Naomi Green - University of Birmingham Primary
1400-1500  Science for SEND Learners (260), Rob Butler - ASE 11-19
1600-1700  Alan Tunnicliffe Memorial Workshop (108), Dr Sue Dale Tunnicliffe - CASTME Primary

**Friday**
0930-1030  Neuroscientists in Primary Schools (87), Alex Collicutt - British Neuroscience Association Primary
1100-1200  Effective Science Leadership in Secondary Education (364), STEM Learning - SLP delivery 11-19
1430-1530  Word Games that Improve Learning in Primary (429), William Hurst - William’s Word Games Primary
1540-1640  SunSpaceArt (92), Dr Helen Mason - University of Cambridge All

**Saturday**
1035-1135  Curiosity-led learning (257), Renee Watson - The Curiosity Box Primary
1140-1240  Pulleys for Primary Teachers (3), Ally Caldecote - University of Warwick Primary
1400-1500  Using a Taxonomy of Skills Used in the Indirect Assessment of Practical Skills (377), OCR 11-19
Exhibition Marquee
A one-stop-shop for resources, equipment, publications (and freebies!).

A host of ideas...

**Completely FREE!**

We are once again offering free exhibition entry. So if you only want to explore the exhibition, just select the ‘Free Entry Exhibition ticket’ at ase2019.eventbrite.co.uk

Please note this special badge will not gain you access to any of the CPD sessions happening outside of the Exhibition Marquee.

*“Shared the spoils from the exhibition at school today. Can’t wait to try my biological molymod kit out!”*  
Conference Delegate

New for 2019...

**Saturday Science Fair**

Science Communicator extraordinaire, Jon Wood, will be working with his science post-graduates at the University of Birmingham to create a fair of fun and inspiring science for all ages.

So if you want to come to ASE but have family commitments on Saturday, bring them along for some entertaining science learning, giving you the chance to collect lots of resources.

If you would like to showcase your organisation at the Exhibition, please contact Ray Hancock.

e: rayhancock@ase.org.uk

t: 01707 283015
### Wednesday 9 January: International Day

The Conference begins with a smaller, tailored programme focused on ideas with a global perspective. We welcome about 200 delegates for plenaries and workshops selected by the ASE International Committee.

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<thead>
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<th>Time</th>
<th>Session</th>
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<td>1015</td>
<td>379 International Day Welcome – Shaun Reason, Chief Executive, ASE</td>
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<td>1030</td>
<td>380 How Can Assessment Literacy Support Science Teaching? All</td>
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<td>Professor Robin Millar – University of York</td>
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<td>1120</td>
<td>382 Evidence-informed Teaching: The good, the bad and the ugly All</td>
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<td>Bob Pritchard – hi-impact consultancy</td>
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<td>117 Developing Scientific Citizenship in Science Learners All</td>
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<td>166 Critical Thinking for Science Teachers All</td>
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<td>John Oversby – Science Education Futures</td>
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<td>1225</td>
<td>126 Evidence-informed CPD 11-19</td>
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<td>Ewan MacRae – Queen’s University Belfast</td>
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<td></td>
<td>381 Encouraging Pupils to Question REPEATED Primary</td>
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<td>Anita Shaw – STEMpowered Learning</td>
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<td></td>
<td>95 “What do you want to do when you grow up?”</td>
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<td>Dr Jan Maskell – Scientists for Global Responsibility</td>
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<td>1330</td>
<td>Lunch and exhibition</td>
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<td>1430</td>
<td>187 Difficult Ideas in Physics REPEATED 11-19</td>
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<td>Keith Ross – Science Issues</td>
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<td>60 International Earth Science: Earthlearningidea All</td>
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<td>Chris King – Earth Science Teachers’ Association (ESTA)</td>
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<td>40 InSTEAMational Collaboration 11-19</td>
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<td>Benedict O’Donnell – Prometeruse</td>
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<td>1535</td>
<td>268 Teaching Forces Across All Levels All</td>
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<td>Sandy Damato – Chiswick House School, Malta</td>
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<td>199 Exploring the Connection Between Science and Business in Tanzania Post-16</td>
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<td>Linsey Clark – Institute of Physics</td>
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<td>13 Global Learning in Primary Science Primary</td>
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<td>Amy Strachan – St Mary’s University, Twickenham</td>
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<tr>
<td>1640</td>
<td>386 International Panel: What are the opportunities and challenges for science education internationally in the next 5-10 years? All</td>
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**International Dinner**

Noble Room, Staff House University of Birmingham

This friendly dinner is a great way to end the International Day. Continue the day’s discussions, meet delegates from around the world and relax.

To book, add it to your Annual Conference online order [www.ase.org.uk/annual-conference](http://www.ase.org.uk/annual-conference)

£36.50 per person

Welcome drink 6.30pm. Dinner 7pm.
Linking Policy to Practice - an International Perspective

A free lunch is provided as part of the International Day to give you the opportunity to talk to teachers from different educational settings. Several of our International Day partners will be running exhibition stalls to showcase resources and project updates.

Panel members:
Dr Chris Harrison, Chair - ASE International Committee
Professor Robin Millar - University of York
Antti Laherto - University of Helsinki
Olivia Levrini - I SEE project lead / University of Bologna

ASE International Journal
Edited by Chris Harrison, this new journal is an online publication exclusively for ASE international members. Each issue focuses on an aspect of teaching science across the world. The first three journals have included articles exploring: how science works alongside, or with, other subject areas; citizen science; and how practical work can engage students in good science. www.ase.org.uk/join

I really enjoyed the International Day - day had enough flexibility while feeling well-structured. The sessions I went to worked well together. 2018 Conference Delegate
The ASE
Join the Association behind the Conference.

The heart of the Association for Science Education is its members: teachers, technicians and advisers who are committed to delivering high-quality science education to all learners.

Science education voice
The ASE plays a significant role in promoting excellence in teaching and learning of science in schools and colleges. The ASE is an independent body influencing policy and tackling the challenges in science teaching: representing the voice of its members and working closely with the science professional bodies, government, industry and business.

Regional networks
ASE is active in all regions across the UK thanks to a dedicated team of Field Officers and the enthusiasm of local members. There is a regular programme of regional CPD and networking events open to all teachers, both members and non-members. Events include free, twilight, science TeachMeets.

Expert commitment
The work of ASE is led by the expertise and passion of its member-run committees.

The nine committees focus on resources, projects and advice in their specialist area. This includes: the Primary and 11-19 groups who focus on supporting classroom teachers and senior leaders; the Research group contributes to journals, conferences and books; while the Science Technicians’ Committee organises the annual National Technicians’ Conference.

All of the committees are there to advise and support members, offering expert guidance and resources.

Professional Learning Journey
ASE works to promote and support the professionalism of all science teachers and technicians. By encouraging every educator to develop their Professional Learning Journey, the ASE supports high-quality teaching and good outcomes for young people.

A teacher’s or technician’s journey can be formally recognised through the professional register as Chartered Science Teacher (CSciTeach) or Registered Science Technician (RSciTech). This recognition offers clear career progression, and enables educators to benchmark their skills and expertise.

The Professional Learning Journey empowers teachers and technicians to take responsibility for their own progression; however, the ASE is also working with senior leadership so that schools support staff in their journey and enable them to access suitable professional development.

www.ase.org.uk
Day listings
All the CPD sessions for Thursday - Saturday

Using the listings
For each day, sessions are grouped by phase and then listed by time; they are also tagged with a theme:
- Practical Science;
- Education for Sustainable Development (ESD);
- Teaching & Learning;
- Creative Technology;
- Vocational (inc. careers);
- Research;
- Professional Learning Journey;
- Cognitive Science;
- Curriculum & Assessment.

Each session has a unique number code that you can use to find it in the online database - where session leaders will provide more information along with any links and downloads.

Times and details may change before January, so for the up-to-date conference programme, please visit www.ase.org.uk/annual-conference.

Inspirational A Level Biology Fieldwork

Field Studies Council (FSC) has a range of A level Biology field courses that meet all of the exam board specifications.

> Develop practical skills and complete core practicals at our Field Centres.
> Focus on ecology topics that students can often find difficult in exams.
> Work on mathematical and statistics skills worth 10% of students’ overall marks.
> Expert field teachers lead the teaching on our courses, so you can focus on observing individual students for practical endorsements.

See our full range of courses: www.field-studies-council.org/outdoorclassroom

An appreciation of the complexity and diversity of the natural world is only possible by experiencing it – this cannot be achieved solely in the classroom.
Head of Biology, Caterham School

Biology in the Real World: Friday

Biology in the Real World (BitRW) explores some of the biological issues and phenomena developing around the world today. Brought to you by the NUCLEUS group. (NUCLEUS is a group of about 20 bioscience learned societies and similar not-for-profit organisations.)
Thursday 10 January: Start times 0930 - 1030
Thursday 10 January: Start times 1030 - 1200

**Primary**

1030-1130 Practical Science
322 Primary Science for Advisers & ITE Providers
Jason Harding - CLEAPSS
cleapss.org.uk @CLEAPSS

1030-1130 Practical Science
304 Teaching Primary Environmental Education Through STEM
Juliete Green - National Association for Environmental Education (NAEE) UK
naee.org.uk @naee_uk

1100-1200 Curriculum & Assessment
1100-1200 Curriculum & Assessment
1100-1200 Creative Technology
Lauren McLeod - Royal Society of Biology

454 Biology: Curriculum Framework Plus
Lauren McLeod - Royal Society of Biology

**11-19**

1100-1200 Teaching & Learning
368 Science Week - The Key to Building Engagement in Science
Kim Swift - STEM Learning - SLP delivery

1100-1200 Practical Science
436 Chemical Escape Rooms - second year REPEATED
Klaus Blachut - Holbein-Gymnasium Augsburg

1100-1200 Practical Science
440 Chemical Escape Rooms - third year REPEATED
Klaus Blachut - Holbein-Gymnasium Augsburg

1115-1200 Teaching & Learning
358 BERG - Epistemic Insight: Teaching about Biology and RE
Professor Michael J Reiss - UCL Institute of Education

**All**

1100-1200 Creative Technology
17 Inferior: How science got women wrong and the new research that’s rewriting the story
Angela Saini
Followed by a book signing at the ASE Hub in the Marquee

1100-1200 Different Ways YouTube Can Make Teachers’ Lives Easier
360 BERG - How realistic is it to get children to generate their own authentic questions about the importance of biodiversity?
Professor Marcus Grace - University of Southampton

1100-1200 Teaching & Learning
38 Bar-Model Problem-Solving
Ben Rogers - Paradigm Trust
readingforlearning.org @benrogersedu

1100-1200 Teaching & Learning
93 ‘Chocolate is Good For you!’ Rewriting the Headlines
Dr Jan Maskell - Scientists for Global Responsibility
s4s.org.uk @s4sWeek

1100-1200 Teaching & Learning
226 Hands-on Electricity Generation REPEATED
Michal Marcik - Narika Corporation
michal.marcik@rika.com

1200-1300 Teaching & Learning
347 Raising Achievement for All
Rob Butler - ASE 11-19 Committee
ase.org.uk @The ASE @cleverfiend

1200-1300 Practical Science
309 CLEAPSS Hands-on Workshop REPEATED
Matt Endean - CLEAPSS
cleapss.org.uk youtube.com/CLEAPSS

1200-1300 Teaching & Learning
340 Frontier Science: Exercise & dementia
Dr Sarah Aldred - University of Birmingham

1200-1300 Teaching & Learning
362 How science got women wrong and the new research that’s rewriting the story
Angela Saini

1200-1300 Curriculum & Assessment
450 Frontier Science: Exercise & dementia
Dr Sarah Aldred - University of Birmingham

1230-1300 ESD
273 Positive Psychology in Education
Steve Emery - IDS
inds.co.uk

**Post-16 & FE/ Skills**

1100-1200 Curriculum & Assessment
263 Teaching and Assessing BTEC Nationals in Applied Science
Chris Suter - Pearson

1300 Quantum in the Classroom
Dave Gibbons - National STEM Learning Centre (in collaboration with the University of York’s Science Education Group)
stem.org.uk/quantum-technologies
@QCommHub @UYSEG @STEMLearningUK

**11-19**

1200-1245 ESD
360 BERG - How realistic is it to get children to generate their own authentic questions about the importance of biodiversity?
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1200-1300 Teaching & Learning
226 Hands-on Electricity Generation REPEATED
Michal Marcik - Narika Corporation
michal.marcik@rika.com

**All**

1200-1300 Research
74 School Science: Scientists’ stories
Deb McGregor - Oxford Brookes University

1200-1300 Practical Science
339 Teaching Physics Using Toys
Catherine Dunn - SSERC science3-18.org

1200-1300 Practical Science
93 ‘Chocolate is Good For you!’ Rewriting the Headlines
Dr Jan Maskell - Scientists for Global Responsibility
s4s.org.uk @s4sWeek

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1300 Quantum in the Classroom
Dave Gibbons - National STEM Learning Centre (in collaboration with the University of York’s Science Education Group)
stem.org.uk/quantum-technologies
@QCommHub @UYSEG @STEMLearningUK

**Session Listings**
Thursday 10 January: Start times 1200 - 1400

11-19

1200-1300  Teaching & Learning
18  Encouraging Pupils to Question REPEATED
Anita Shaw - STEMpowered Learning
anita@stempoweredlearning.co.uk  @anitamshaw

1200-1300  Cognitive Science
22  Evidence-Informed Teaching in Primary: The good, the bad and the ugly
Bob Pritchard - hi-impact consultancy
hi-impact.co.uk  @rjpritchard

1200-1300  Practical Science
44  Linking Science and Literacy for Improved Student Outcomes REPEATED
Bill Badders - National Science Teachers' Association (US)
baddersb@roadrunner.com  @baddersb

1200-1300  Research
145  Science from the Ends of the Earth
Jamie Buchanan-Dunlop - Encounter Edu
encounterededu.com  @encounterededu

1200-1300  Practical Science
219  Primary Space Science Made Easy
Martin Wesley - Sphere Science Ltd
spherescience.co.uk  @SphereScience

1230-1330  Practical Science
447  Frontier Science: Using nanotechnology to diagnose and treat disease
Professor Tim R. Dafforn - University of Birmingham
diagnoseandtreatdisease.org

1230-1330  Curriculum & Assessment
177  GCSE Science 2018: How was it for you and your students? REPEATED
Elise Reece - AQA
aqa.org.uk/science  @AQA

1230-1330  Curriculum & Assessment
179  Marking and Improving Student Outcomes in A2-Focused Questions REPEATED
Jane Bryant - AQA
aqa.org.uk/science  @AQA

1230-1330  Curriculum & Assessment
455  Chemistry: Curriculum Framework Plus
Daniele Gibney - Royal Society of Chemistry
danielegibney.org

1230-1330  Teaching & Learning
337  The Wonder Why Society
Sam Fisher - University of Birmingham

1230-1330  Practical Science
64  Amazing Planet: Action-packed classroom science
Chris King - Earthlearningidea
earthlearningidea.com  @EU_Earth

1230-1330  ESD
44  Linking Science and Literacy for Improved Student Outcomes REPEATED
Bill Badders - National Science Teachers' Association (US)
baddersb@roadrunner.com  @baddersb

1230-1330  Curriculum & Assessment
11-19

1200-1300  Teaching & Learning
69  BYOD Datalogging
Dan Roberts - IDS Education
idseducation.co.uk

1230-1330  Teaching & Learning
72  Sustainability & Skills in Science
David Garlovsky - Solar Active
danielegibney.org

1230-1330  Professional Learning Journey
83  Technician Hints and Tips
Adam Innis - Archway Learning Trust

1230-1330  ESD
443  Biology from the Farm
Debbie Hicks - Stokehill
stokehill.com

1230-1330  Practical Science
249  Marsquakes
Paul Denton - British Geological Survey
bgs.ac.uk/marsquake  @schoolseismo

1200-1445  ESD
359  BERG - Interpreting natural history dioramas: baselines for understanding the Anthropocene and our role in it
Dr Sue Dale Tunnicliffe

1400-1500  Curriculum & Assessment
31  Argument-Driven Inquiry in Secondary
Victor Sampson - University of Texas at Austin
argumentdriveninquiry.org  @ArgumentDriven

1400-1500  Cognitive Science
45  Evidence-Informed Teaching in Secondary: The good, the bad and the ugly
Bob Pritchard - hi-impact consultancy
hi-impact.co.uk  @rjpritchard

1400-1500  Practical Science
79  Affordable Interactive ELISA
Douglas Macdonald
mystrica.com/elisa

1400-1500  Curriculum & Assessment
182  Progression from KS3 to Higher Education: Curriculum pathways in science
Catherine Witte - AQA
aqa.org.uk/science  @AQA

1400-1500  Practical Science
229  Hands-on Static Electricity REPEATED
Michal Marcik - Nanika Corporation
michal.marcik@rika.com

1400-1500  Practical Science
246  Catalase and Immobilise Yeast
Paul Beaumont - SSERC
sserc.scot  @ssercofficial

1400-1500  Teaching & Learning
258  “I’m sad that it is gone”: Teachers’ views on teaching the nature of science at KS4
Richard Brock - King's College London
richard.brock@km.berkshire.sch.uk

1400-1500  Teaching & Learning
260  Science for SEND learners
Rob Butler - ASE 11-19 Committee
ase.org.uk @The ASE @cleverfiend

1400-1500  Practical Science
437  Chemical Escape Rooms - second year REPEATED
Klaus Blachut - Holbein-Gymnasium Augsburg

1400-1500  Practical Science
441  Chemical Escape Rooms - third year REPEATED
Klaus Blachut - Holbein-Gymnasium Augsburg

FE offer: £99 for one year's ASE membership and Thursday 10 January at the Conference.
See page 15 for details.

Post-16 & FE/ Skills

1230-1300  Teaching & Learning
293  Biology: Enrichment projects
Richard Spencer - Middlesbrough College

1230-1300  Teaching & Learning
260  Science for SEND learners
Rob Butler - ASE 11-19 Committee
ase.org.uk @The ASE @cleverfiend

1400-1500  Teaching & Learning
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1400-1500  Practical Science
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1400-1500  Practical Science
441  Chemical Escape Rooms - third year REPEATED
Klaus Blachut - Holbein-Gymnasium Augsburg
Thursday 10 January: Start times 1400-1500

**Primary**

1400-1500  Practical Science

271  Project Calibrate: A systemic approach to summative assessment of practical science
Sibel Erduran - University of Oxford
oueuc.education.ox.ac.uk/research/recent-research-projects/calibrate

1400-1500  Practical Science

310  CLEAPSS Hands-on Workshop REPEATED
Matt Endean - CLEAPSS
cleapss.org.uk  youtube.com/CLEAPSS

1400-1500  Research

270  The Truth Behind the Headlines: Thinking critically about healthcare advice
Lynda Ware - Cochrane UK
uk.cochrane.org  @CochraneUK

1400-1500  Curriculum & Assessment

369  Science GCSE for “non-scientific” students
Sarah Milne - OCR
ocr.org.uk/science

1400-1500  Teaching & Learning

435  Flipping the Classroom: From concept to reality through intelligent textbooks REPEATED
Josefin Watz - Kognity
kognity.com  @kognityed

1400-1500  Curriculum & Assessment

456  Physics: Curriculum Framework Plus
Charles Tracy - Institute of Physics

1400-1500  Professional Learning Journey

25  Primary Science in 360
Gordon Woods

**Post-16 & FE/Skills**

1400-1500  Curriculum & Assessment

306  Reforms in Technical Education
Kevin Burke - Policy Lead: T Level Teacher Readiness, DfE

1445-1530  Teaching & Learning

362 - BERG - Share and Discuss: Integrating Free Online Genomics and Bioinformatics Short Courses into School Programmes
Dr Pamela Black - University of Birmingham

New for 2019... Twilight Special for only £25

All sessions on Thursday from 3-7pm can be attended with a £25 Twilight Ticket.
Book now: ase.org.uk/annual-conference

All sessions on Thursday from 3-7pm can be attended with a £25 Twilight Ticket.
Book now: ase.org.uk/annual-conference

**Primary**

1400-1500  Vocational (including careers)

28  Scientist of the Week
Joe Shimmell - Northumbria University
nustem.uk  @nustem_uk

1400-1500  Practical Science

131  Hands-on DNA
Francesca Gale - Wellcome Genome Campus
Public Engagement  @WGCengage

1400-1500  Practical Science

220  Think Again! Practical Primary Chemistry
Martin Wesley - Sphere Science Ltd
spherescience.co.uk  @SphereScience

1400-1500  Creative Technology

252  Primary Science in 360 °: Using VR for scientific investigations
Philip Nottingham - hi-impact consultancy
@hiimpactMrN  @trysomeicytea

1500-1600  Practical Science

2  Biology Practicals that Work REPEATED: Drop-in at any time during the session.
Science and Plants for Schools (SAPS)
saps.org.uk  @SAPS_News

1500-1600  Practical Science

82  Fixing KS3 Science
Adam Boxer - JCoSS, BPP
achemicalorthodoxy.wordpress.com  @adamboxer1

1500-1600  Teaching & Learning

294  The SMART Spaces Programme
Dr Liam O’Hare - Queen’s University Belfast

1500-1600  Professional Learning Journey

366  Supported Online CPD: Secondary teachers’ experiences
Matt Cornock - STEM Learning
stem.org.uk
### Thursday 10 January: Start times 1500-1600

#### Primary

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<tr>
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<th>Session</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>1530-1630</td>
<td>Practical Science 85 Augmented Reality in the Primary Classroom</td>
<td>Alan Sheridan - Education Harbour [email] <a href="mailto:alan.sheridan@educationharbour.co.uk">alan.sheridan@educationharbour.co.uk</a></td>
</tr>
<tr>
<td>1530-1630</td>
<td>Professional Learning Journey 365 Supported Online CPD: Primary teachers’ experiences</td>
<td>Matt Cornock - STEM Learning [email] stem.org.uk</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 107 Using Cameras in Science Teaching and Learning</td>
<td>Dr Sandy Wilkinson - University of Birmingham [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Research 152 Physics Education Research – The Highlights!</td>
<td>James de Winter - University of Cambridge [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 51 Improving Science &amp; Health Education with e-Bug Resources</td>
<td>Catherine Hayes - Public Health England [email] e-bug.eu</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 215 Students’ Future Imagination in Cutting-Edge Science: The I SEE Project</td>
<td>Antti Laherto - University of Helsinki [email] iseproject.eu</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 218 What’s the Secret to a Great Science Department?</td>
<td>David Weston - Royal Society of Chemistry [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Curriculum &amp; Assessment 296 Raising Attainment</td>
<td>Naved Khan [email]</td>
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<tr>
<td>1600-1700</td>
<td>Curriculum &amp; Assessment 299 IB Science</td>
<td>David Clapp [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Practical science 223 Competency Through Challenge</td>
<td>Dr Sara Jabbari - University of Birmingham [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Practical science 241 Awe and Wonder and Animal Behaviour</td>
<td>Charlotte Evans - The Association for the Study of Animal Behaviour (ASAB) [email] ASABeducation.org</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 232 Enjoy Science Education for All</td>
<td>Minoru Itô [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Practical science 242 Frontier Science: Mathematics: a new treatment for bacterial infections?</td>
<td>Dr Sara Jabbari - University of Birmingham [email]</td>
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### 11-19

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<tbody>
<tr>
<td>1530-1630</td>
<td>Professional Learning Journey 461 Periodic Table, Worldwide, Weird and Wonderful. IT’S YIP!.</td>
<td>Gordon Woods [email]</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 406 Learning with a Farm REPEATED</td>
<td>Josh Payne - National Farmers’ Union [email] NFUEducation</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Practical Science 438 Chemical Escape Rooms - second year REPEATED</td>
<td>Klaus Blachut - Holbein-Gymnasium Augsburg [email]</td>
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<tr>
<td>1530-1630</td>
<td>Practical Science 442 Chemical Escape Rooms - third year REPEATED</td>
<td>Klaus Blachut - Holbein-Gymnasium Augsburg [email]</td>
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<td>Teaching &amp; Learning 446 Learning with a Farm</td>
<td>Josh Payne - National Farmers’ Union [email] NFUEducation</td>
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<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 449 Periodic Table, Worldwide, Weird and Wonderful. IT’S YIP!.</td>
<td>Gordon Woods [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 450 How do Giraffes Eat Ice-cream?</td>
<td>Fiona Killick - St. Mary’s University [email]</td>
</tr>
<tr>
<td>1600-1700</td>
<td>Teaching &amp; Learning 451 Periodic Table, Worldwide, Weird and Wonderful. IT’S YIP!.</td>
<td>Gordon Woods [email]</td>
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<td>1600-1700</td>
<td>Teaching &amp; Learning 452 Frontier Science: Mathematics: a new treatment for bacterial infections?</td>
<td>Dr Sara Jabbari - University of Birmingham [email]</td>
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<td>Teaching &amp; Learning 453 Awe and Wonder and Animal Behaviour</td>
<td>Charlotte Evans - The Association for the Study of Animal Behaviour (ASAB) [email] ASABeducation.org</td>
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<td>1600-1700</td>
<td>Practical science 457 The Practices of Sciences</td>
<td>Dr Sara Jabbari - University of Birmingham [email]</td>
</tr>
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### Post-16 & FE/ Skills

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<tr>
<td>1530-1630</td>
<td>Cognitive Science 113 Planning Progression at KS3</td>
<td>Edmund Walsh - Collins Education [email] <a href="mailto:Edmundwalsh@hotmail.com">Edmundwalsh@hotmail.com</a></td>
</tr>
<tr>
<td>1530-1630</td>
<td>Science in Technical Education: Applied Science 232 Enjoy Science Education for All</td>
<td>Minoru Itô [email]</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 243 Competency Through Challenge</td>
<td>Michael Hinton - Babraham Institute [email] Babraham.ac.uk</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 244 Space in the Secondary Curriculum</td>
<td>Olivia Johnson - Science Technology Facilities Council [email] stfc.ac.uk</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 245 Developing Learners’ Skills to Reach Higher Grades</td>
<td>Stuart Sherman - Potentialworks Ltd [email]</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 246 Case-based Health and Safety Education</td>
<td>Jan Höper [email] Hjernekrydder</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 247 Hands-on Electricity Generation REPEATED</td>
<td>Michal Marcik - Narika Corporation [email] <a href="mailto:michal.marcik@rika.com">michal.marcik@rika.com</a></td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 249 Physics Education Research – The Highlights!</td>
<td>James de Winter - University of Cambridge [email] <a href="mailto:jed2@cam.ac.uk">jed2@cam.ac.uk</a></td>
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<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 250 Process Science in the Primary Classroom</td>
<td>Alan Sheridan - Education Harbour [email] <a href="mailto:alan.sheridan@educationharbour.co.uk">alan.sheridan@educationharbour.co.uk</a></td>
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<td>1530-1630</td>
<td>Teaching &amp; Learning 254 Chemical Magic</td>
<td>Ray &amp; Rosemary Plevey - University of Birmingham [email]</td>
</tr>
<tr>
<td>1530-1630</td>
<td>Teaching &amp; Learning 256 Visualising Science! REPEATED</td>
<td>Catherine Mellor - Timstar [email] Timstarlab</td>
</tr>
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</table>
Thursday 10 January: Start times 1630 - 1800

Primary

1630-1730 Practical science
108 Alan Tunncliffe Memorial Workshop
Kathleen Nugent - CASTME @commonwealthsec

All

1700-1800 Teaching & Learning
184 Discovering Light in the Classroom: 6-month exposure cameras REPEATED
Justin Quinnell - Real Photography Company
pinholephotography.org @justin_quinnell

11-19

1700-1830 Curriculum & Assessment
375 Review of the Outcomes of the First GCSE 9-1 Series REPEATED
Ann Wolstenholme - OCR ocr.org.uk/science

1700-1800 & 1800-1900 Practical science
313 CLEAPSS Hands-on Workshop REPEATED
Matt Endean - CLEAPSS cleapss.org.uk youtube.com/CLEAPSS

1700-1830 ASE Members’ Reception
Everyone is welcome to join the ASE team for a drink in the Exhibition Marquee - whether you are a member or not.

This informal reception is the perfect time to meet other teachers and share experiences.

The winner of the ASE Book Award will be announced at the reception.
ase.org.uk/bookshop

Take a look at the ABPI schools website

The ABPI website for schools and colleges is highly valued by teachers, up to 250,000 people use the site each month.

It provides teachers and students with high quality, free, curriculum related, interactive resources containing animations and diagrams which can be downloaded. All our resources link science topics covered in school to the world outside and, particularly, to the treatment of disease.

The site has been redesigned while keeping all your favourite features:
- Free to use
- No login required
- No adverts
- High quality animations
- Interactive questions
- Download library

For a list of topics covered or to explore the topics available for each age group visit the website www.abpischools.org.uk

www.abpischools.org.uk @ABPI_UK
Friday 11 January: Start times 0900 - 1030

11-19

0900-1000 Practical Science
35 How to Use Museums and Universities to Enhance Science Lessons
Barinur Rashid - Manchester Museum
barinur.rashid@manchester.ac.uk @MM_Connects

0900-1000 Practical Science
61 Investigating the Earth’s Structure
Chris King - Earth Science Teachers’ Association (ESTA) esta-uk.net chris@earthlearningidea.com

0900-1000 Teaching & Learning
71 Plugging into the Sun
David Garlovsky - Solar Active

11-19

0900-1000 Practical Science
321 In a Little You Can see a Lot REPEATED
Bob Worley - CLEAPSS cleapss.org.uk @CLEAPSS

0900-1000 Research
80 A Model of Civic Engagement
Dr Andrea C. Mallaburn - LJMU
ljmu.chemistryforall.co.uk @LJMU_CfA

0900-1000 Teaching & Learning
112 Are Your Students GCSE Ready?
Edmund Walsh - Collins Education
edmundwalsh@hotmail.com @cornwallscied

0900-1000 Teaching & Learning
224 Mitigating the Effect of Family Background on Students’ Science Aspirations
Professor Michael J. Reiss - UCL
m.reiss@ucl.ac.uk

0900-1000 Teaching & Learning
230 Hands-on Static Electricity REPEATED
Michal Marcik - Narika Corporation michal.marcik@rika.com

0900-1000 Curriculum & Assessment
336 Revisiting the Chemistry Required of Education
Sarah Longshaw - ASE 11-19
Committee @SKLChem @TheASE

All

0900-1030 Practical Science
76 Dramatising Science for KS2 & 3
Deb McGregor - Oxford Brookes University/ Precious Learning
@wprecious

0900-1030 Practical Science
86 Neuroscience in Primary Schools
Alex Collicutt - British Neuroscience Association
office@bna.org.uk @Britishneuro

0900-1030 Practical Science
325 CLEAPSS Primary Science Practical Workshop
Jason Harding - CLEAPSS cleapss.org.uk @CLEAPSS

0900-1030 Teaching & Learning
139 EarlyLifeLab
Hannah Davey - Early LifeLab (University of Southampton)
h.davey@soton.ac.uk @LifeLabSoton

0930-1030 Practical Science
323 CLEAPSS Primary Science Practical Workshop
Jason Harding - CLEAPSS cleapss.org.uk @CLEAPSS

0930-1030 Teaching & Learning
87 Neuroscientists in Primary Schools
Alex Collicutt - British Neuroscience Association
office@bna.org.uk @Britishneuro

0930-1030 Teaching & Learning
29 Primary Science for All: Attention please!
Joelle Halliday - Sheffield Institute of Education

0930-1030 Curriculum & Assessment
77 Creativity in Primary Science
Debbie Eccles - Primarily Science primarilyscience.co.uk

0930-1030 Practical Science
144 Ocean Plastics in the Primary Classroom
Jamie Buchanan-Dunlop - Encounter Edu
encounteredu.com @encounteredu

Primary

0930-1030 Teaching & Learning
150 The Stories of Science
Hellen Ward - Canterbury Christ Church University
Hellen.ward@canterbury.ac.uk

0930-1030 Curriculum & Assessment
235 Using the PLAN resources
Naomi Hiscock - Primary Science Education Consultancy
naomi@primary-science.co.uk @NaomiHiscock

0930-1030 Practical Science
281 How Do Scientists Think?
Miles Hudson - Perimeter Institute
resources.perimeterinstitute.ca @Perimeter

All

1000-1100 Research
122 Evidence-based Secondary Science Review from EEF
Professor Sir John Holman, ASE President

1000-1100 Professional Learning Journey
168 STEM Diagram Research Methods for Teachers
John Oversby - Science Education Futures
oversby61@gmail.com

1000-1100 Teaching & Learning
307 Making STEM for Everyone: Reaching under-served audiences
Dr Laura Hobbs - Lancaster University/ Science from the Start/ UWE Bristol @UWEWomenLikeMe

1000-1100 424 Frontier Science: Interdisciplinary collaborations and clinician-scientist partnerships
Dr Melissa Grant - University of Birmingham

Post-16 & FE/ Skills

0900-1000 Teaching & Learning
104 Stretch and Challenge your A-level Chemists
Dr Penny Robotham - The Royal Society of Chemistry
p.robotham@natmatsci.ac.uk @DrPrRobotham

0900-1000 Curriculum & Assessment
336 Revisiting the Chemistry Required of Education
Sarah Longshaw - ASE 11-19
Committee @SKLChem @TheASE

0900-1230 Teaching & Learning
405 Schools’ Exhibition
Exhibit your classroom ideas and get a FREE day at the Conference. Email conferences@ase.org.uk. Open to all phases.

0900-1000 413 Frontier Science: Group theory
Dr Corneliu Hoffman - University of Birmingham

Post-16 & FE/ Skills

1030-1130 Curriculum & Assessment
371 Preparing for first assessment in A-level Geology
Chae Cruickshank - OCR ocr.org.uk/science

Oxford Science Igniting the spark!
## Friday 11 January: Start times 1030 - 1145

### All

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<th>Venue</th>
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<tr>
<td>1030-1140</td>
<td><strong>Cognitive Science</strong></td>
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<tr>
<td>1100-1200</td>
<td><strong>Teaching &amp; Learning</strong></td>
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<tr>
<td>119</td>
<td>Philosophy for Science Education</td>
<td>James Ladyman - University of Bristol</td>
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<tr>
<td>1100-1200</td>
<td><strong>Curriculum &amp; Assessment</strong></td>
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<tr>
<td>120</td>
<td>Planning a Progressive Practical Curriculum</td>
<td>Emily Seeber</td>
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<tr>
<td>1100-1200</td>
<td><strong>Bridging the Skills Gap from GCSE to A-level</strong></td>
<td>Stella Paes - Pearson</td>
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<tr>
<td>1100-1200</td>
<td><strong>Effective Science Leadership in Secondary Education</strong></td>
<td>Chris Catto - STEM Learning - SLP delivery</td>
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<tr>
<td>1100-1200</td>
<td><strong>Teaching &amp; Learning</strong></td>
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<tr>
<td>295</td>
<td>AO2: They know it but can they apply it?</td>
<td>Ant Snowden - Telford &amp; Wrekin, School Performance &amp; Development</td>
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<tr>
<td>1100-1200</td>
<td><strong>Professional Learning Journey</strong></td>
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<td>411</td>
<td>Frontier Science: Geometry and mathematical physics</td>
<td>Professor Marta Mazzocco - University of Birmingham</td>
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<td>1110-1200</td>
<td><strong>Teaching &amp; Learning</strong></td>
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<td>Frontier Science: Drugs and the Magnificent Seven</td>
<td>Professor Mark Wheatley - University of Birmingham</td>
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<td>431</td>
<td>DNA Fingerprinting using PCR and Gel Electrophoresis REPEATED</td>
<td>Lucienne McCallum - Timstar</td>
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<td>1110-1200</td>
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<td>196</td>
<td>Challenging Science on a Budget</td>
<td>Linda Atherton</td>
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<td>355</td>
<td>Teaching Literacy &amp; Science REPEATED</td>
<td>Mandy Hartley - The Little Story Telling Company</td>
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<td>Authentic Science in Action</td>
<td>Stuart Harper - JCB</td>
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<td><strong>Teaching &amp; Learning</strong></td>
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<td>67</td>
<td>Fun, Low-cost Primary STEM Projects with Technology for Fun</td>
<td>Caroline Alliston - TTS</td>
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<td>1040-1140</td>
<td><strong>Teaching &amp; Learning</strong></td>
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<td>68</td>
<td>Primary Science Homework: A pencil-free approach</td>
<td>Colin Forster - University of Gloucestershire</td>
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<td>119</td>
<td>Philosophy for Science Education</td>
<td>James Ladyman - University of Bristol</td>
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<tr>
<td>1100-1200</td>
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<tr>
<td>287</td>
<td>Wonders Beyond Numbers</td>
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### Secondary

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<td><strong>Curriculum &amp; Assessment</strong></td>
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<td>1100-1200</td>
<td><strong>Planning a Progressive Practical Curriculum</strong></td>
<td>Emily Seeber</td>
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<td>1100-1200</td>
<td><strong>Bridging the Skills Gap from GCSE to A-level</strong></td>
<td>Stella Paes - Pearson</td>
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<td>1100-1200</td>
<td><strong>Effective Science Leadership in Secondary Education</strong></td>
<td>Chris Catto - STEM Learning - SLP delivery</td>
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**Friday 11 January: Start times 1200 - 1230**

### Session Listings

#### 11-19

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<tr>
<th>Time</th>
<th>Topic</th>
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<tr>
<td>1200-1245</td>
<td>Practical Science</td>
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<td>1200-1230</td>
<td>Creative Technology</td>
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<td>1200-1300</td>
<td>Teaching &amp; Learning</td>
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<td>1200-1300</td>
<td>Research</td>
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<td>Curriculum &amp; Assessment</td>
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<td>1200-1230</td>
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<td>1200-1300</td>
<td>Cognitive Science</td>
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#### Post-16 & FE/ Skills

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<tr>
<td>1200-1300</td>
<td>Practical Science</td>
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<td>130</td>
<td>Genome Decoders: Students at the frontline of genomics</td>
<td>Francesco Gale - Wellcome Genome Campus @WGCengage</td>
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<tr>
<td>1200-1300</td>
<td>Creative Technology</td>
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<td>161</td>
<td>Flipped Learning in Practice</td>
<td>Jennifer Jermy - Primrose Kitten primrosekitten.com</td>
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<tr>
<td>1200-1300</td>
<td>Frontier Science: How do we know how much to breathe?</td>
<td>Dr Clare Ray - University of Birmingham</td>
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<tr>
<td>1230-1330</td>
<td>Teaching &amp; Learning</td>
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<td>445</td>
<td>Illuminating Newton: Woolsthorpe Manor</td>
<td>Allison Gimingham - National Trust</td>
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### Want to win

**AMAZING PRIZES**

and present your ideas at the Houses of Parliament?

**PRIZES INCLUDE**

- Fully funded farm visits
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- Class packs of data loggers
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**The challenges:**

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Sign up now at:

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Friday 11 January: Start times 1230 - 1400

11-19

1230-1330  Teaching & Learning
200 LifeLab: Educating young people for lifelong health
Lisa Bagust - LifeLab, University of Southampton
southampton.ac.uk/lifelab  @LifeLabSoton

1230-1330  Practical Science
216 What's your Policy for Good Practical Science?
Richard Needham - ASE
@ViciaScience  @TheASE

1230-1330  Teaching & Learning
367 Improving Progress and Closing the Gaps: Pupil premium students
Natalie Hewitt - STEM Learning - Greater Manchester SLP
stem.org.uk

1300-1500  Practical Science
253 Yes You Can!
ASE Health & Safety Group

1300-1600  Practical Science
356 Biology Practicals that Work REPEATED: Drop-in at any time during the session.
Science and Plants for Schools (SAPS)
saps.org.uk  @SAPS_News

1330-1430  Teaching & Learning
185 Learning to Love Chemistry
Katherine Richardson - King’s College London
katherine.k.richardson@kcl.ac.uk

1330-1430  Creative Technology
225 Secondary Science in 360° - Using VR for scientific investigations
Philip Nottingham - hi-impact consultancy
@hiimpactMrN  @trysomeicytea

1330-1430  Practical Science
278 - Make the Most of Non-core Science Time
Nicky-Jo Cooper - funNY science
fun.science.ny@gmail.com

1400-1500  Teaching & Learning
134 Theory of HEC & Its Class Management
Funashashi, Haruhiko

1400-1500  Practical Science
37 How You and Your Students Can Contribute to Scientific Research
Becky Parker - Institute for Research in Schools (IRIS)
researchinschools.org  @ResearchinSch

1400-1500  ESD
334 Get Your School to Go Green
Henry Greenwood - Green Schools Project
greenschoolsproject.org.uk

1400-1500  Theory of HEC & Its Class Management
Funashashi, Haruhiko

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134 Theory of HEC & Its Class Management
Funashashi, Haruhiko

1400-1500  Practical Science
416 Frontier Science: Making sure medicines work for children!
Dr Hannah Batchelor - University of Birmingham

1400-1500  Free-print Posters
459 Frontier Science: The Human Zoo - Discovering your hidden microbes and their unexpected influence on your life
Professor Robin May - University of Birmingham

1400-1500  Teaching & Learning
129 Effective Online Revision
Flavia Schecthman Belham - Seneca Learning
senecalearning.com  @FlaviaBelhamPhD

1400-1500  Teaching & Learning
164 Developing Applied STEM Skills at KS3
Sarah Milburn - Solutions for the Planet
solutionsfortheplanet.co.uk  @S4TP_Bigideas

1400-1500  Curriculum & Assessment
181 Marking and Improving Student Outcomes in Practical Work-focused Questions REPEATED
Elise Reece - AQA
aqa.org.uk/science  @AQA

1400-1500  Creative Technology
191 Experiments about Energy, Elements, LED & Colours
Klemens Koch - Pedagogical University Bern
klemens.koch@phbern.ch

1400-1500  Teaching & Learning
285 Word Games that Improve Learning in Secondary
Klemens Koch - Pedagogical University Bern
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cleapss.org.uk  youtube.com/CLEAPSS

1400-1500  Curriculum & Assessment
363 Ideas for teaching Anatomy & Physiology
Ann Wolstenholme - OCR
ocr.org.uk/science

1400-1500  Curriculum & Assessment
375 Writing Assessments in Science
Andy Brunning - OCR
ocr.org.uk/science

1400-1500  Curriculum & Assessment
395 GCSE Science 2018: Awarding and outcomes explored REPEATED
Julian Clarke - AQA
aqa.org.uk/science  @AQA

Primary

1330-1430  Teaching & Learning
288 Brenda Keogh Lecture:
Science Capital
Professor Louise Archer - UCL Institute of Education
@ASPIRES2science

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researchinschools.org  @ResearchinSch

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Julian Clarke - AQA
aqa.org.uk/science  @AQA

All

1330-1430  Teaching & Learning
16 How Can You Inspire and Improve the Employability of Tomorrow’s Scientists?
Andrew Croydon - Association of the British Pharmaceutical Industry
abpi.org.uk  @ABPI_UK

1330-1430  Professional Learning Journey
70 How Do PSTs Develop Professional Knowledge?
Dave Dennis - Goldsmiths University
d.dennis@gold.ac.uk

1400-1500  Teaching & Learning
209 ASE Science Practice
Marianne Cutler - ASE
iseeproject.eu  @TheASE

1400-1500  Research
99 On balance: What does research show us about balancing equations?
Dr Kristy Turner - Bolton School Boys’ Division
KLT@boltonschool.org  @doc_kristy

All

11-19

1400-1500  Teaching & Learning
427 Best Evidence Science Teaching (BEST) REPEATED
Peter Fairhurst - University of York Science Education Group
BestEvidenceScienceTeaching.org

1400-1500  Curriculum & Assessment
264 What Does It Mean to Be a Competent Scientist at A-level?
Lisa Greatorex - Pearson
pearson.com/uk  @Pearson_UK

1400-1500  Curriculum & Assessment
389 Fast, formative feedback from Tests REPEATED
Dr Andy Chandler-Grevatt - OUP
oxfordsecondary.co.uk/science

1400-1500  Teaching & Learning
129 Effective Online Revision
Flavia Schecthman Belham - Seneca Learning
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William Hurst - William’s Word Games
williamsgames.org

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Matt Endean - CLEAPSS
cleapss.org.uk  youtube.com/CLEAPSS

1400-1500  Curriculum & Assessment
363 Ideas for teaching Anatomy & Physiology
Ann Wolstenholme - OCR
ocr.org.uk/science

1400-1500  Curriculum & Assessment
375 Writing Assessments in Science
Andy Brunning - OCR
ocr.org.uk/science

1400-1500  Curriculum & Assessment
395 GCSE Science 2018: Awarding and outcomes explored REPEATED
Julian Clarke - AQA
aqa.org.uk/science  @AQA
Friday 11 January: Start times 1400 - 1540

1400-1500 Practical Science
433 Visualising Science! REPEATED
Catherine Mellor - Tsimstar timstar.co.uk @timstarlab

1415-1500 Practical Science
6 BitRW: Optogenetics - Shining a light on life
Dr Kathryn Garner - Biochemical Society

1430-1530 Professional Learning Journey
299 Developing Local Leadership Capacity
Christina Whittaker - SEERIHI
fascinate.manchester.ac.uk @UoMSEERIHI

1430-1530 Teaching & Learning
86 Why is Teacher-led Epistemic Enquiry so Effective?
Alex Black - ABC-Learning
alexblack@mle.abceducation.ch @alexbclearning

1500-1600 Professional Learning Journey
194 The Nature of Practical Work and its Utilization as a Tool for Thinking Skill Development (Thinking Dispositions) in Biology
Krisy Phillip

1500-1600 Practical Science
193 Reproducing the Air Pump from the 16th Century
Osamu MATSUNO tukapon.jp

1500-1700 Cognitive Science
46 The Science of Learning Part I: Working Memory and Cognitive Load Theory
Bob Pritchard - hi-impact consultancy
hi-impact.co.uk @rjpritchard

1530-1630 Practical Science
53 Assessing the Impact of CPAC
Catherine Smith - Hinckley Academy and John Cleveland Sixth Form Centre

1540-1625 Teaching & Learning
458 Beyond Planet Earth
Professor Richard Ellis - Discovery Education
discoveryeducation.co.uk

1540-1640 Teaching & Learning
1 Science Capital in Primary Schools
Alex Farrer - Wimbledon High School @STEAM_WHS

1540-1640 Teaching & Learning
12 Misconceptions, Missed Opportunities
Amy Strachan - St Mary’s University, Twickenham
padlet.com/Marysresources/StMaryScience

1500-1600 Curriculum & Assessment
426 Ofsted Science Update
Matthew Newberry HMI - Ofsted

1500-1630 Curriculum & Assessment
386 Review of the outcomes of the first GCSE 9-1 series
Ann Wolstenholme - OCR
ocr.org.uk/science

1500-1700 Practical Science
30 The Universe is Expanding & Space is Wobbling - How Do We Know?
Miles Hudson - Perimeter Institute
resources.perimeterinstitute.ca @Perimeter

1500-1700 Teaching & Learning
192 Introducing Dynamics by ‘HEC’ with Some Enjoyable Experiments
Koji TSUKAMOTO tukapon.jp @tsukapon

1500-1700 Teaching & Learning
186 Drama & Science
Kathryn Horan - Greenhill & Tranmere Park Primary Schools
k-horan@outlook.com @SciKathryn @MrsPressSci

147 Time-saving Tips
Helen Harden - ASE 11-19 Committee @TheASE helenhelenharden.co.uk @hecharden

1500-1600 Curricular & Assessment
378 Review of the outcomes of the first GCSE 9-1 series REPEATED
Ann Wolstenholme - OCR
ocr.org.uk/science

1500-1600 Practical Science
1500-1700 Practical Science
9 BitRW: Under pressure! Why plants can’t survive without osmosis
Professor Jeremy Pritchard - Science and Plants for Schools (SAPS)

1500-1600 Practical Science
98 What’s in My Tray - Secondary
Dr Katherine Forsey - Grattinells Learning Rooms
learning-rooms.com @Grattinells @DrBiol

1500-1600 Teaching & Learning
115 New Topic! Starting Point
Page Keeley

1500-1600 Teaching & Learning
384 Primary Pop-Up
Kulvinder Johal - ASE Primary Committee ase.org.uk @TheASE

1500-1600 Teaching & Learning
429 Word Games the Improve Learning in Primary
William Hurst - William’s Word Games williamsgames.org

1500-1600 Professional Learning Journey
217 So, You Want to Be a Science Writer?
Adam Browsell - Royal Society of Chemistry eic.rsc.org

1500-1600 Teaching & Learning
217 So, You Want to Be a Science Writer?
Adam Browsell - Royal Society of Chemistry eic.rsc.org

1500-1600 Teaching & Learning
53 Assessing the Impact of CPAC
Catherine Smith - Hinckley Academy and John Cleveland Sixth Form Centre

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### Friday 11 January: Start times 1500 - 1600

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<td>1540-1640</td>
<td>Curriculum &amp; Assessment</td>
<td>238 The Science Sample Test</td>
<td>Adrienne Briggs - Standards and Testing Agency</td>
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<td>1600-1700</td>
<td>Curriculum &amp; Assessment</td>
<td>4 Using Career Contexts to Teach Science</td>
<td>Carol Davenport - Northumbria University, nustem.uk, @nustem.uk</td>
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<tr>
<td>1600-1700</td>
<td>Research</td>
<td>89 Has School Science Lost its Soul?</td>
<td>Birendra Singh - UCL, <a href="mailto:b.singh@ucl.ac.uk">b.singh@ucl.ac.uk</a></td>
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<td>1600-1700</td>
<td>Practical Science</td>
<td>228 Hands-on Electricity Generation REPEATED</td>
<td>Michal Marcik - Narika Corporation, <a href="mailto:michal.marcik@rika.com">michal.marcik@rika.com</a></td>
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<td>1600-1700</td>
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<td>265 Creating an Engaging 11-16 Science Learning Pathway</td>
<td>Lisa Greatorex - Pearson, pearson.com/uk, @Pearson_UK</td>
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<td>Teaching &amp; Learning</td>
<td>279 Opening ‘Triple’ For All: A KS4 Curriculum Workshop</td>
<td>Toby Osborne - Ferndown Upper School, <a href="mailto:tobyosborne@ferndup.dorset.sch.uk">tobyosborne@ferndup.dorset.sch.uk</a></td>
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<td>342 Setting Up and Managing a Regional Pupil Research Hub</td>
<td>Colin Inglis - Boroughbridge High School / IRIS</td>
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<td>Curriculum &amp; Assessment</td>
<td>398 GCSE Science 2018: Key messages to support development REPEATED</td>
<td>Elise Reece - AQA, aqa.org.uk/science, @AQA</td>
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<td>400 Marking and Improving Student Outcomes in AO2-focused Questions REPEATED</td>
<td>Jane Bryant - AQA, aqa.org.uk/science, @AQA</td>
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<td>1600-1700</td>
<td>Creative Technology</td>
<td>153 Science Rocks</td>
<td>James Rolfe, @JudgemeadowSci</td>
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<td>1600-1700</td>
<td>Practical Science</td>
<td>62 Representing Everyone in Science: Using STEM subjects to communicate diversity</td>
<td>Chris King - Earth Science Teachers' Association (ESTA), esta-uk.net, <a href="mailto:chris@earthlearningidea.com">chris@earthlearningidea.com</a></td>
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<td>1600-1700</td>
<td>Teaching &amp; Learning</td>
<td>106 Paired Mentoring: Let’s work!</td>
<td>Dr Rachael Sharpe - University of Lincoln, <a href="mailto:rsharpe@lincoln.ac.uk">rsharpe@lincoln.ac.uk</a></td>
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<td>1600-1700</td>
<td>ESD</td>
<td>292 Urban Science</td>
<td>Margaret Fleming - Urban Science</td>
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<td>Professional Learning Journey</td>
<td>325 Being ‘The Grown Up’ and ‘Knowing Your Buttons’</td>
<td>Jane Still</td>
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<td>420 Frontier Science: The songs of the stars</td>
<td>Professor Yvonne Elsworth - University of Birmingham</td>
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<td>Teaching &amp; Learning</td>
<td>208 Talking Science Debate</td>
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**Empower your students and unleash their curiosity for science and discovery.**

Wireless or USB—the versatility is built into the sensors so you have the flexibility to choose. Go Direct sensors connect directly to student computers, Chromebooks, or mobile devices so there’s no interface needed. That’s freedom, versatility, and boundless opportunity.

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Visit [www.inds.co.uk/s/godirect](http://www.inds.co.uk/s/godirect) for more information or call us on 01530 832 500.
### Saturday 12 January: Start times 1035 - 1230

#### Primary

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<td>Dramatising Learning Science for KS1 &amp; 2</td>
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<td>Deb McGregor - Oxford Brookes University/</td>
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<td>127</td>
<td>Awe and Wonder: Sprinkle of Scientific Sparkle</td>
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<td>Fiona Killick - St Mary’s University</td>
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<td>A Context to Build Science Capital</td>
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<td>Jane Winter - CIEC</td>
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<td>Renee Watson - The Curiosity Box</td>
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<td>TAPS: From Focused Assessment to Whole-school Approach</td>
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<td>Sarah Earle - Bath Spa University</td>
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<td>Perfecting Pinch Point Activities REPEATED</td>
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<td>Think Universe! All is One</td>
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<td>Dr Francisco Diego - UCL Institute of Education</td>
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<td>Dr Katherine Forsey - Gratnells Learning Rooms</td>
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<tr>
<td>1100-1200</td>
<td>Curriculum &amp; Assessment</td>
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<tr>
<td>180</td>
<td>Marking and Improving Student Outcomes in Maths-related Questions REPEATED</td>
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<tr>
<td></td>
<td>Julian Clarke - AQA aga.org.uk/science @AQA</td>
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### Primary

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<thead>
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<tr>
<td>1100-1200</td>
<td>Practical Science</td>
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<td>3</td>
<td>Pulleys for Primary Teachers</td>
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<tr>
<td></td>
<td>Ally Caldecote - University of Warwick @AllyUoWPhysics</td>
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<tr>
<td>1100-1200</td>
<td>Practical Science</td>
</tr>
<tr>
<td>97</td>
<td>What’s In My Tray - Primary</td>
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<td></td>
<td>Dr Katherine Forsey - Gratnells Learning Rooms</td>
</tr>
<tr>
<td></td>
<td>learning-rooms.com</td>
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<td>@DrBiol</td>
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<td>1140-1200</td>
<td>Practical Science</td>
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<td>465</td>
<td>Science in My Pocket</td>
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<td>Nina Spilsbury - Advanced Skills Teacher</td>
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<td>1140-1200</td>
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<tr>
<td>124</td>
<td>Fostering Reflection &amp; Reasoning REPEATED</td>
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<tr>
<td></td>
<td>Esme Glauer - UCL Institute of Education</td>
</tr>
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<td></td>
<td><a href="mailto:e.glauer@ucl.ac.uk">e.glauer@ucl.ac.uk</a></td>
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<tr>
<td>1140-1240</td>
<td>Teaching &amp; Learning</td>
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<tr>
<td>149</td>
<td>Thinking, Doing, Talking Science</td>
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<td>Helen Wilson - Oxford Brookes University</td>
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<td>1140-1240</td>
<td>Practical Science</td>
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<td>118</td>
<td>Big, Messy and Loud</td>
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<td></td>
<td>Eleanor Atkinson - Primarily Science</td>
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<td>primarilyscience.co.uk</td>
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**Saturday 12 January:** Start times 1230 - 1610

### 11-19

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:30</td>
<td>Teaching &amp; Learning</td>
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<tr>
<td>11:45</td>
<td>Curriculum &amp; Assessment</td>
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<tr>
<td>12:00</td>
<td>Primary</td>
</tr>
<tr>
<td>12:15</td>
<td>Post-16 &amp; FE/ Skills</td>
</tr>
</tbody>
</table>

### 11:30 - 13:00

- **Teaching & Learning**
  - [284 Easy Differentiation](#) by Wendy Ross-Constance - Newcastle College
  - [335 Mindfulness and the Teenage Brain](#) by Catherine Crane - Oxford Mindfulness Centre
  - [344 Genetics for Tomorrow’s World](#) by Dr Neil Ingram - University of Bristol

### 11:45 - 13:15

- **Curriculum & Assessment**
  - [125 Is Feedback the Tail or the Dog?](#) by Euan Douglas - Saint George Catholic College & ASE 11-19 Committee
  - [371 The Woodcraft Folk: Environmental Education](#) by Deborah McCahon - The Woodcraft Folk

### 12:00 - 13:30

- **Primary**
  - [140-1500 Teaching & Learning](#)
  - [156 ASE Research Publication](#)
  - [301 Developing Higher Order Thinking in Secondary Science](#) by Michelle Pope
  - [377 Using a Taxonomy of Skills Used in the Indirect Assessment of Practical Skills](#) by Neil Wade - OCR

### 12:15 - 13:45

- **Post-16 & FE/ Skills**
  - [240 Tamed: Three species that changed our world ...](#) by Professor Alice Roberts - University of Birmingham
  - [341 Teaching Science to EFL students](#) by Niki Bell - INTO Manchester

### 13:00 - 14:30

- **Teaching & Learning**
  - [204 People Power: How teachers have influenced change, and how you can do the same](#) by Lucy Rimington - Brave Teaching Ltd
  - [330 The Art of Science: Using rocks and fossils in art to communicate science](#) by Mandy Winstanley - Earth Science Teachers’ Association (ESTA)

### 13:15 - 14:45

- **Primary**
  - [140-1500 Teaching & Learning](#)
  - [241 Teaching Science to EFL students](#)
  - [372 Integrating Practical Activity from the Practical Endorsement into Teaching of A-level Geology](#) by Chae Cruickshank - OCR

### 13:30 - 15:00

- **Teaching & Learning**
  - [204 People Power: How teachers have influenced change, and how you can do the same](#) by Lucy Rimington - Brave Teaching Ltd
  - [330 The Art of Science: Using rocks and fossils in art to communicate science](#) by Mandy Winstanley - Earth Science Teachers’ Association (ESTA)

### 13:45 - 15:15

- **Primary**
  - [140-1500 Teaching & Learning](#)
  - [241 Teaching Science to EFL students](#)
  - [372 Integrating Practical Activity from the Practical Endorsement into Teaching of A-level Geology](#) by Chae Cruickshank - OCR

### 15:00 - 16:30

- **Primary**
  - [1505-1605 Curriculum & Assessment](#)
  - [148 Assessing Primary Science Outdoors](#) by Helen Spring - Spring Learning
  - [170 Primary Data Logging with Yu+](#) by Jonathan Reed - Data Harvest Group Ltd

### 15:30 - 17:00

- **Teaching & Learning**
  - [116 So What Do they Understand?](#) by Page Keesey
  - [404 Learning with a Farm REPEATED](#) by Josh Payne - National Farmers’ Union
  - [109 Creativity in Science](#) by Dr Susan Burr

### 16:00 - 17:30

- **Primary**
  - [1505-1605 Curriculum & Assessment](#)
  - [148 Assessing Primary Science Outdoors](#) by Helen Spring - Spring Learning
  - [170 Primary Data Logging with Yu+](#) by Jonathan Reed - Data Harvest Group Ltd
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Thursday 11-1, 2-4 & 5-7 / Friday 11-1 & 2-4

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Thursday Morning

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Friday Morning

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Friday Morning

Visit us at stand A12

Come and join the CLEAPSS primary team at the Primary Pop Up session on Friday lunchtime, and get hands on with lots of practical ideas you can use in the classroom
Welcome to our new website - Quickstart Guide

By Emma Hill Thursday 15 July 2019

Lift off for the new ASE website!

Latest resources

PLAN Matrices
The matrix provides an interpretation of the key learning of the National Curriculum statements, and suggestions of key vocabulary.
Pan London Assessment Network Resources

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ASE Education Group Resources

Famvention
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National Farmers Union Resources

Invigorate from the Royal Society
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Royal Society Resources

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ASE Regional Events 2018/19
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<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Contact for more details</th>
</tr>
</thead>
<tbody>
<tr>
<td>26th September</td>
<td>Science with Stories, Downton Primary School, Downton, Wiltshire</td>
<td><a href="mailto:francesevans@ase.org.uk">francesevans@ase.org.uk</a></td>
</tr>
<tr>
<td>3rd October</td>
<td>ASE Teachmeet, Beauchamps College, Leicester</td>
<td><a href="mailto:Tanyadempster@ase.org.uk">Tanyadempster@ase.org.uk</a></td>
</tr>
<tr>
<td>6th October</td>
<td>½ day Workshop on Practicals, University of Southampton</td>
<td><a href="mailto:francesevans@ase.org.uk">francesevans@ase.org.uk</a></td>
</tr>
<tr>
<td>13th October</td>
<td>ASE Cymru Wales Conference, St Fagan’s museum, Cardiff</td>
<td><a href="mailto:ceriananghard@ase.org.uk">ceriananghard@ase.org.uk</a></td>
</tr>
<tr>
<td>1st November</td>
<td>ASE Early Careers Teachmeet, Purford Park School, Portsmouth</td>
<td><a href="mailto:francesevans@ase.org.uk">francesevans@ase.org.uk</a></td>
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<tr>
<td>5th November</td>
<td>ASE Teachmeet, Bishop Grosseteste University, Lincoln</td>
<td><a href="mailto:Tanyadempster@ase.org.uk">Tanyadempster@ase.org.uk</a></td>
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<tr>
<td>17th November</td>
<td>ASE Northern Conference, Sheffield Hallam University</td>
<td><a href="mailto:patdower@ase.org.uk">patdower@ase.org.uk</a></td>
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<td>17th November</td>
<td>ASE West of England ½ day Conference, Bath Spa University</td>
<td><a href="mailto:francesevans@ase.org.uk">francesevans@ase.org.uk</a></td>
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<tr>
<td>23rd November</td>
<td>STEM/ASE Primary Conference at London Postal Museum</td>
<td><a href="mailto:francesevans@ase.org.uk">francesevans@ase.org.uk</a></td>
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<tr>
<td>9th March</td>
<td>ASE Scotland Conference, Hutchesons Grammar School, Glasgow</td>
<td><a href="mailto:tesswatson@ase.org.uk">tesswatson@ase.org.uk</a></td>
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<tr>
<td>19th June</td>
<td>ASE South East Conference, University of Surrey</td>
<td><a href="mailto:conferences@ase.org.uk">conferences@ase.org.uk</a></td>
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<tr>
<td>21st June</td>
<td>ASE (NI) Biennial Conference, Belfast</td>
<td><a href="mailto:conferences@ase.org.uk">conferences@ase.org.uk</a></td>
</tr>
</tbody>
</table>
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