



**ATM-MA JOINT CONFERENCE**  
Chesford Grange, Warwick Monday 15 - Thursday 18 April 2019

**TECHNOLOGY STRAND**  
10 sessions - coordinated by Douglas Butler



**A GREAT OPPORTUNITY TO IMPROVE YOUR USE OF DIGITAL RESOURCES**

- Monday 16:00-17:30 **A PROBLEM SOLVING USING WEB RESOURCES**  
Douglas Butler (TSM)

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- Tuesday 09:00-10:30 **B EXCEL AND LARGE DATA SETS**  
Mick Blaylock (Abacus Plus)

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- Tuesday 11:00-12:30 **C DESMOS FOR TEACHERS AND STUDENTS**  
Stephen Britton (Ashford School)

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- Tuesday 14:00-15:30 **X NEW TO TECH?**  
Douglas Butler (TSM): bring and share session

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- Tuesday 16:00-17:30 **D GEOGEBRA FOR BEGINNERS**  
Avril Steele (MEI)

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- Tuesday 21:00 - (QUIZ)

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- Wednesday 09:00-10:30 **E AUTOGRAPH for KS3-4, Core Maths + A level**  
Douglas Butler (TSM)

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- Wednesday 11:00-12:30 **F CALCULATORS for GCSE and A level**  
Mick Blaylock (Abacus Plus)

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- Wednesday 14:00-15:30 **G GEOGEBRA FOR EXPERIENCED USERS**  
Avril Steele (MEI)

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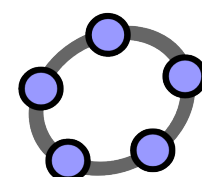
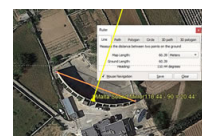
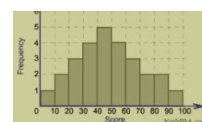
- Wednesday 09:00-10:00 **H AUTOGRAPH FOR STATISTICS/Large Data**  
Douglas Butler (TSM)

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- Wednesday 19:30 - (MUSICAL EVENING)

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- Thursday 09:00-10:30 **I MOBILE DEVICES IN THE CLASSROOM**  
Stephen Britton: bring and share session



**AUTOGRAPH BURSARIES**

*A limited number of 50% Autograph bursaries will be available to young teachers attending this joint conference. Please apply to Douglas Butler (email below) with your thoughts on how technology can help you in your teaching and what you hope to get out of attending.*

**Desmos** [www.desmos.com](http://www.desmos.com) **MA:** [www.m-a.org.uk](http://www.m-a.org.uk)  
**MEI and Geogebra** [mei.org.uk/geogebra](http://mei.org.uk/geogebra) **ATM:** [www.atm.org.uk](http://www.atm.org.uk)  
**TSM and Autograph** [www.tsm-resources.com](http://www.tsm-resources.com) **Douglas Butler:** [debutler17 \[at\] gmail.com](mailto:debutler17@gmail.com)  
**PTO for session descriptions ->**

### • A: PROBLEM SOLVING USING WEB RESOURCES

Improve your skills! We will explore the web for problem-solving ideas, including objects on Google Earth, to help you to find the best resources to incorporate them in your lesson plans.

We will find data, simulations, tutorials, texts and blogs. Then we will look at the best of the professional sites (e.g. NRICH), and amateur sites (e.g. Mr Barton Maths). Finally, we will look at ways to create your own resources and share them, using screen recording software - a must! Delegates should bring a laptop, mouse and power lead, and/or a tablet.

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### • B: EXCEL AND LARGE DATA SETS

Improve your data handling skills! Join this session to learn and share ideas about large data sets that now feature in the specifications for AS, Core Maths and A level.

In the session delegates will work with the awarding organisations' large data sets and other sources. Extracts from the data set spreadsheets (single variable, bivariate data, random samples and more) will be represented and analysed in both Geogebra and Autograph. Implications and further options for teaching and assessment will be considered. Delegates should bring a laptop, mouse and power lead.

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### • C: DESMOS FOR TEACHERS AND STUDENTS

Improve your skills! An introduction to using Desmos on a variety of devices, its user interface and its procedures for entering equations and sliders in various categories (Cartesian, polar and parametric). How to access the teacher online environment on "teacher.desmos.com", and how a teacher can create a dedicated student space on "student.desmos.com". There, teachers can keep an eye on student scores, and students can share graphs around the world. Please bring a laptop or tablet to take part in this session.

Delegates should bring a laptop, mouse and power lead, or a tablet with a sensibly sized screen.

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### • X: NEW TO TECH?

New to using technology in your mathematics classroom? We will look at the bewildering array of digital resources, and pick a path through the possibilities, with the overriding maxim that the chosen technology is transparent, letting the mathematics shine through.

We will discuss the hardware scene: laptops, desktops, whiteboards, touch-tvs, visualisers and tablets, then look at web-based resources, including data, simulations, blogs and online texts. Finally, the dynamic software scene: Geogebra, Desmos, Cabri, Sketchpad and Autograph. Delegates should bring a laptop, mouse and power lead, and/or a tablet with a sensibly sized screen.

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### • D: GEOGEBRA FOR BEGINNERS

Improve your skills! A chance to explore GeoGebra and to grow in confidence using it for visualisations and investigations. There will be an opportunity to learn how to use the two basic 'apps': Graphing and Geometry.

Examples for using it in the GCSE and A level classroom will be explored, for both teacher demonstrations and student tasks. We will also look at how to make use of the extensive collection of existing resources online.

Delegates should bring a phone, tablet or laptop with the GeoGebra app/software installed.

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### • E: AUTOGRAPH for KS3-4, Core Maths and A Level

Improve your skills! This session will introduce the use of attributes in Autograph 4, and look at the power of visualisation, including some of the topics that are new to GCSE: inverse functions, estimating gradients of graphs, and completing the square.

We will look at creating points, lines, circles, polygons, shapes and graphs, and using the calculator to manipulate and plot attributes. Then tried and tested lesson plans for KS3 and 4, and A level.

Delegates should bring a laptop, mouse and power lead. The latest version of Autograph 4 will be provided.

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### • F: CALCULATORS for GCSE and A level

Improve your skills! Calculators are increasingly powerful and are an essential tool in examinations. For the new A-level exams the expectation is that they should be used 'to compute summary statistics and access probabilities from standard statistical distributions'.

This session will explore features of the new advanced scientific calculators and the best approaches to embed them in teaching.

Please bring your own calculator

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### • G: GEOGEBRA FOR EXPERIENCED USERS

Improve your skills! This session will look at a number of tried-and-tested ideas for using GeoGebra in GCSE and A level. There will be an opportunity to learn how to use some of the more advanced 'views': Graphics 2, 3D Graphics, Spreadsheets (including for Statistics) and the Probability Calculator.

Finally, a look at how to save to the web and how to make resources available on a variety of devices.

Delegates should bring a laptop with GeoGebra installed along with a mouse and power lead.

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### • H: AUTOGRAPH FOR STATISTICS/LARGE DATA SETS

Improve your skills! This will include data handling topics in GCSE, Core Maths and A level. Autograph is well known for the simple but effective way it handles statistics topics.

We will look at ways to create single variable and bivariate sample data, and to analyse scatter diagrams and large data sets. The all-important topic of histograms is well covered, ensuring a correct handling of frequency density.

Delegates should bring a laptop, mouse and power lead. The latest version of Autograph 4 will be provided.

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### • I: MOBILE DEVICES IN THE CLASSROOM

Improve your skills! A practical demonstration of the effectiveness of mobile devices in the classroom and as a learning tool for mathematics. The session includes an introduction to mathematics tools such as Desmos and Geogebra and how websites such as iPad Maths and HegartyMaths can be incorporated into mathematics teachers.

All of these ideas will be brought together by demonstrating how Google Docs or Office365 can be used to manage your lessons and allow students to collaborate and submit homework. Please bring a laptop or tablet to take part in this session.

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