



UNIVERSITY OF  
**STIRLING**

***Guide To Creating Academic Posters  
Using Microsoft PowerPoint 2010***

**INFORMATION SERVICES**

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## **Section 1 - Introduction**

This document is intended to offer a brief guide on using Microsoft PowerPoint 2010 to create academic posters. Such posters are a common feature of academic conferences and many conferences have specific poster sessions for delegates to browse all the posters and discuss the work depicted on them.

Academic posters are characterised by being large in size (typically A0 or A1) and containing a mixture of text and images, often with graphs.

This document is divided into a number of Sections:

### Section 2 - Initial Preparation

- Essential preparation work such as setting the page size, orientation and setting up guides to help positioning of items

### Section 3 - Text Boxes

- Creating, positioning, sizing and editing items of text on the poster

### Section 4 - Images

- Inserting photographs, images and illustrations on the poster, positioning and sizing them

### Section 5 - Graphs from Excel

- Inserting graphs on the poster, positioning and sizing them

### Section 6 - Miscellaneous

- Some other tools and hints and tips for using PowerPoint for the development of a poster

### Section 7 - Printing

- Tips on how best to print your completed poster

## Section 2 - Initial Preparation

### 2.1 Overall Design

This document does not cover design, but before you start using PowerPoint you must have a good idea of the overall design of your poster, especially your key elements and the message(s) you are trying to convey. Remember that although visual impact of a poster is important, it cannot disguise poor content. It may be helpful to sketch out on a piece of paper before you start the position, size etc of the key elements of text and images you are thinking of using: judicious use of white space and colour can make a significant difference to the ease of reading your poster.

Before you follow any of the steps in this guide you should have confirmed with the conference organiser any specification details for the poster eg size, orientation etc.

Sizes are usually specified in terms of the ISO A-sizes, with A0 being the largest with A5 being the smallest (postcard size). Table 1 below has the dimensions of the ISO A-sizes.

**Table 1 - List of ISO A Paper Sizes**

|    | <b>Height (cm)</b> | <b>Width (cm)</b> |
|----|--------------------|-------------------|
| A0 | 118.9              | 84.1              |
| A1 | 84.1               | 59.4              |
| A2 | 59.4               | 42.0              |
| A3 | 42.0               | 29.7              |
| A4 | 29.7               | 21.0              |
| A5 | 21.0               | 14.8              |

The majority of posters will be A0, A1 or A2.

### 2.2 Page Size and Orientation

- Start PowerPoint and begin with a blank presentation (if there is no blank presentation click on the **File** tab at the top left hand side of the screen, click

## Initial Preparation

on **New**, then click on **Blank Presentation** and finally click on the **Create** icon).

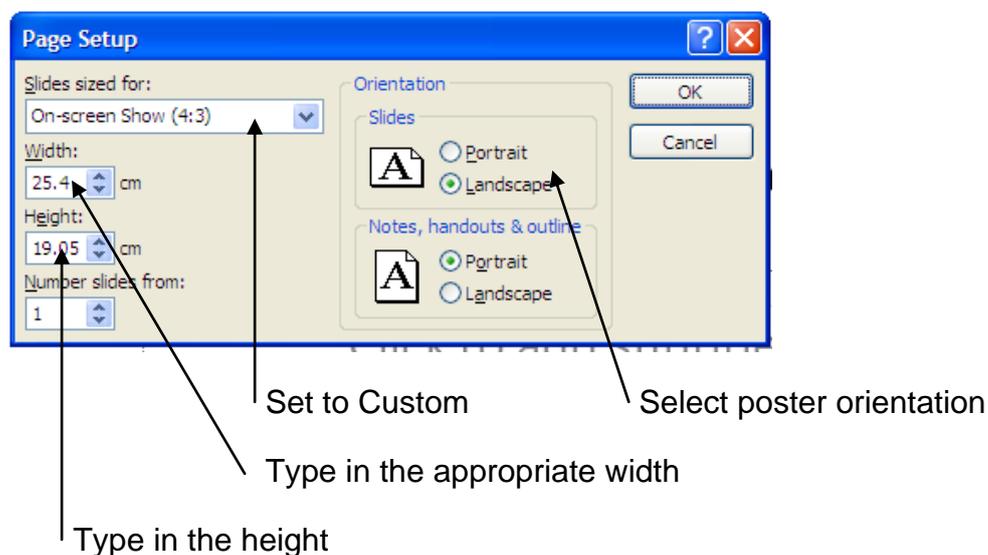
- The first step is to set the paper size. Click on the **Design** tab to bring up the **Design** ribbon, then click on the **Page Setup** icon on the left of the screen, as shown in Figure 1 below.

**Figure 1 - Design Ribbon and Page Setup**



- The **Page Setup** dialog box as illustrated in Figure 2 below will appear.

**Figure 2 - Page Setup Dialog**



- Click on the downward arrow to the right of the box under the **Slides sized for** label and select **Custom** by clicking on it. Then type in the **Width** of your poster in cms (using the values from Table 1 above if you know the ISO A size). Then type in the **Height**, again in cms.
- Portrait orientation is vertical orientation, the same as the orientation of the pages in this guide. Landscape orientation is horizontal orientation. Both types of orientation are commonly used for posters. Click on the radio button to the left of **Portrait** in the **Slides** area of **Orientation** if you want your poster to be

## Initial Preparation

in portrait mode; or click on the radio button to the left of **Landscape** in the **Slides** area of **Orientation** if you want your poster to be in landscape mode.

- Click on the **OK** button to close the dialog box.
- Next you need to ensure that the slide you are working on for your poster is not pre-formatted by PowerPoint ie is a blank slide. Click on the **Home** tab and in the **Slides** group click on **Layout**. In the drop down **Office Theme** menu which appears click on the icon above **Blank**.

## 2.3 Background Colour

If you want to colour the majority of your poster then this is best achieved by applying colour to the background. To do this you need to choose the appropriate background style.

- Click on the **Design** tab and in the **Design** ribbon click on the down arrow to the right of **Background Styles** on the right of the screen as shown in Figure 3 below.

Figure 3 - Background Styles

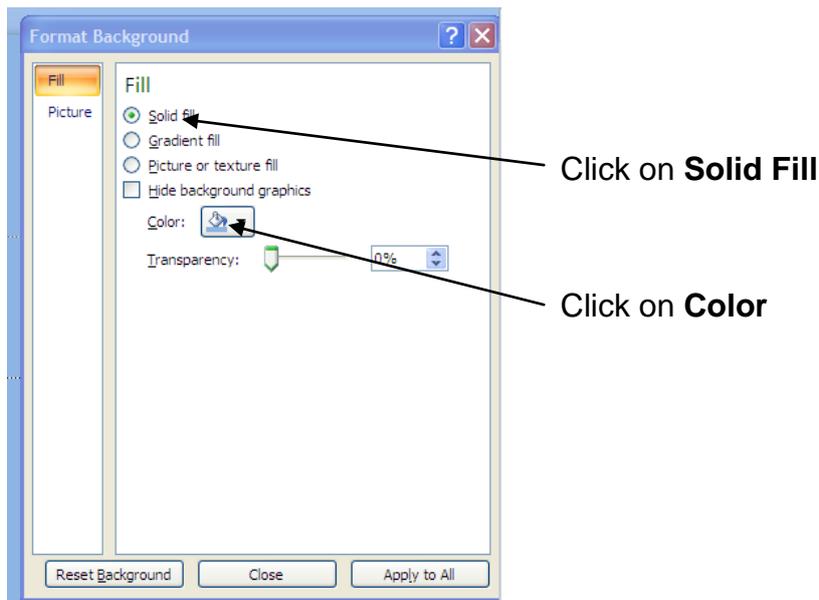


Click on arrow by **Background Styles**

- Click on **Format Background** towards the bottom of the pop up box which appears to display the **Format Background** dialog box as shown in Figure 4 below. Click on **Solid Fill** and then click on the icon to the right of the **Color** label. Choose your required background colour by clicking on the appropriate colour in the resulting pop up box which appears. Close the dialog box by clicking on the **Close** button.

## Initial Preparation

**Figure 4 - Format Background Dialog**



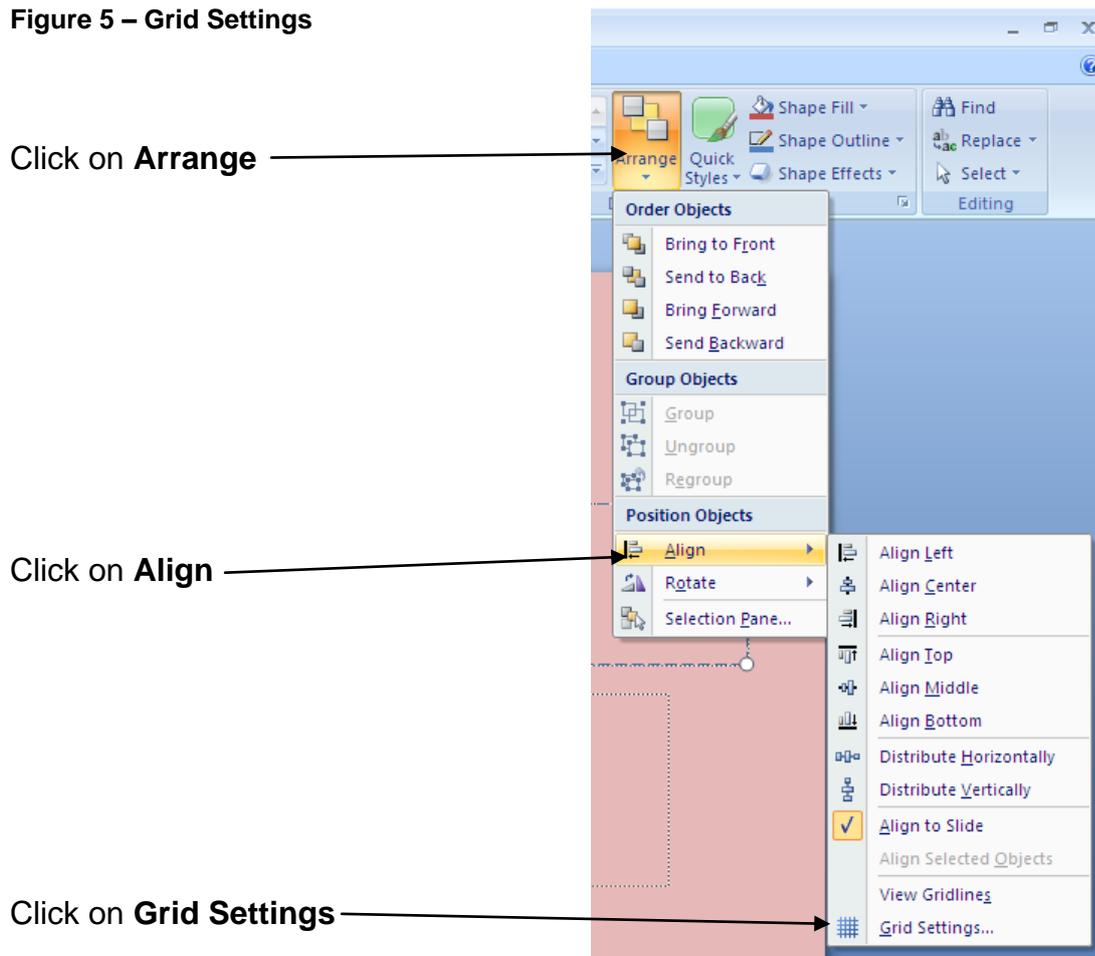
## 2.4 Grid and Guidelines

Placing text boxes, images, graphs etc in exactly the right place can be difficult. Fortunately, PowerPoint has two useful tools to make this easier. The Grid tool is like working with paper with squares on and the squares are not visible when you print. Guidelines sit on top of the Grid and are very useful when working with large posters where all items are not always visible as they enable you to line up text boxes and images across the whole poster.

To make visible the Grid and to set suitable settings for the Guide lines, click on the **Home** tab and in the **Drawing** group click on the **Arrange** icon as in Figure 5 below. In the resulting drop-down menu, click on **Align** and then **Grid Settings** as also shown in Figure 5 below.

## Initial Preparation

Figure 5 – Grid Settings

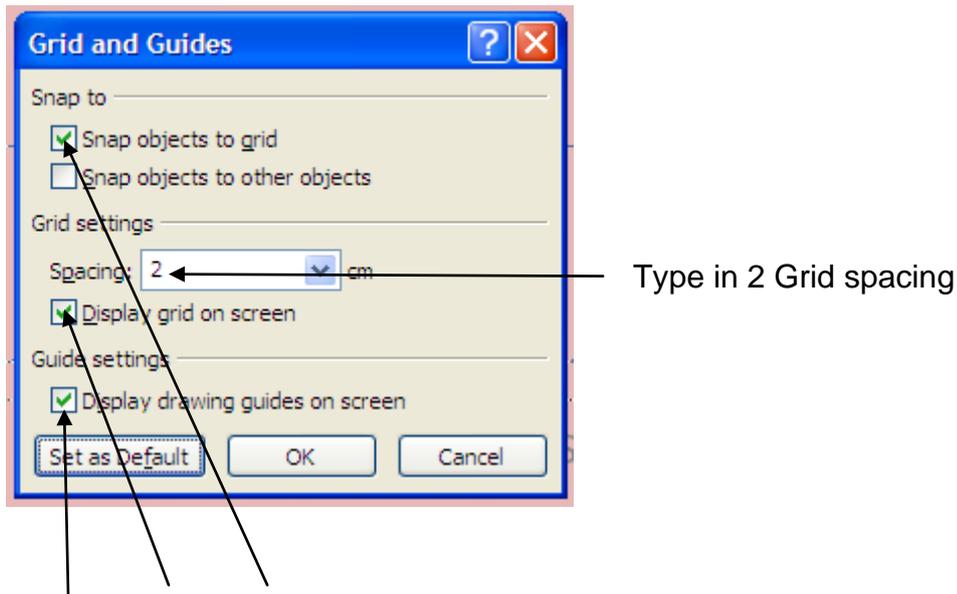


In the **Grid and Guides** dialog box (see Figure 6 below):

- if the box to the left of **Snap objects to grid** is not ticked then click on the box which should cause the tick to appear
- in the **Grid Settings** area set the grid setting to an initial 2 cm by typing 2 in the box to the right of **Spacing**
- if the box to the left of **Display grid on screen** is not ticked then click on the box which should cause the tick to appear
- in the **Guide Settings** area towards the bottom of the dialog box if the box to the left of **Display drawing guides on screen** is not ticked then click on the box which should cause the tick to appear
- click on the **OK** button.

## Initial Preparation

**Figure 6 - Grid and Guides Dialog**



Ensure that these boxes are ticked

Initially there are two Guidelines, one horizontal and one vertical, which cross at the centre of the poster. You can move these Guidelines to where you need them by moving the cursor over the Guideline you wish to move, holding down the left mouse key, dragging the Guideline to the desired location and releasing the mouse key. A numerical indicator appears during the move to enable you to position the Guideline accurately (the displayed numbers indicate distance from the centre of the poster). To help position a Guideline you can also use the grid points or display the ruler (by clicking on the **View** tab and then clicking on the radio button to the left of the **Ruler** label in the **Show** group on that ribbon). To create an additional Guideline repeat the above but with holding down the Ctrl key throughout the operation. Be careful not to drag a Guideline off the slide as this deletes that Guideline.

Save the document.

The pre-formatting and set up is now complete. You can start inputting and arranging your text and images.

## Section 3 - Text Boxes

Text boxes are the key element of a poster and PowerPoint offers a range of facilities for their creation, population and presentation.

### 3.1 Creating and Filling a Text Box

- Click on the **Insert** tab to bring up the **Insert** ribbon. In the **Text** group click on the **Text Box** icon.
- Position the cursor where you want the top left hand corner of your text box to appear on the poster, press and hold down the left mouse button, move the cursor while still holding down the left hand mouse button to where you want the bottom right hand side of the text box to appear and then release the mouse button. The border of the text box will appear. PowerPoint may re-position the right hand corner at this stage; you can manually re-position this later
- If you are typing the text in directly, then just start typing. The text will appear in the box as you type.
- If you already have some text in another document (such as in a Word document), then:
  - open that document
  - highlight the text required and then copy it to the Office clipboard by using the Edit / Copy facility of the application software (often right clicking will bring up this option in a pop-up menu)
  - return to PowerPoint
  - type in one character (PowerPoint will automatically put this character at the start of your text box)
  - hold down the Shift and Ins keys at the same time
  - the copied text should be automatically be inserted into the text box
  - delete the initial character you typed if necessary.
- PowerPoint will automatically adjust the size of the text box as you enter the text. You can change this later.

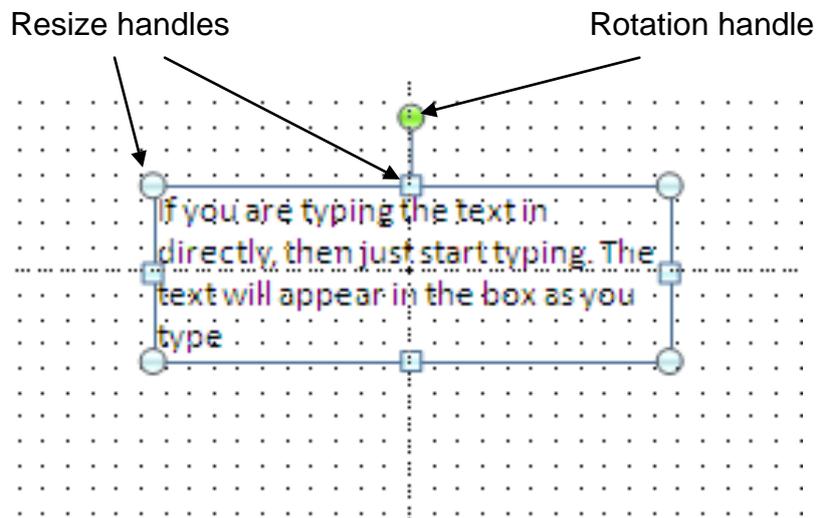
### 3.2 Selecting a Text Box

Before you can modify, resize or re-position a text box, you first must select it. You do this by clicking on it. You can recognise that the text box has been selected

## Text Boxes

because circular or square handles appear on its edges, as illustrated in Figure 7 below.

**Figure 7 - Resize and Rotation Handles**



### 3.3 Repositioning a Text Box

Initial positioning of a text box is rarely where you want it to be. Before you can reposition the text box, you need to select it as described above. Then move the cursor anywhere along the edge of the text box, *except over the resize handles*, until the cursor changes to a cross. Press and hold down the left mouse button, move the cursor to where you want the text box to appear and release the mouse button. Your text box will be repositioned with the corners aligned to the nearest grid points.

### 3.4 Resizing a Text Box

Before you can resize a text box, you need to select it as described above. You can then either resize it using the mouse or by specifying the exact size using the **Format Shape** dialog box.

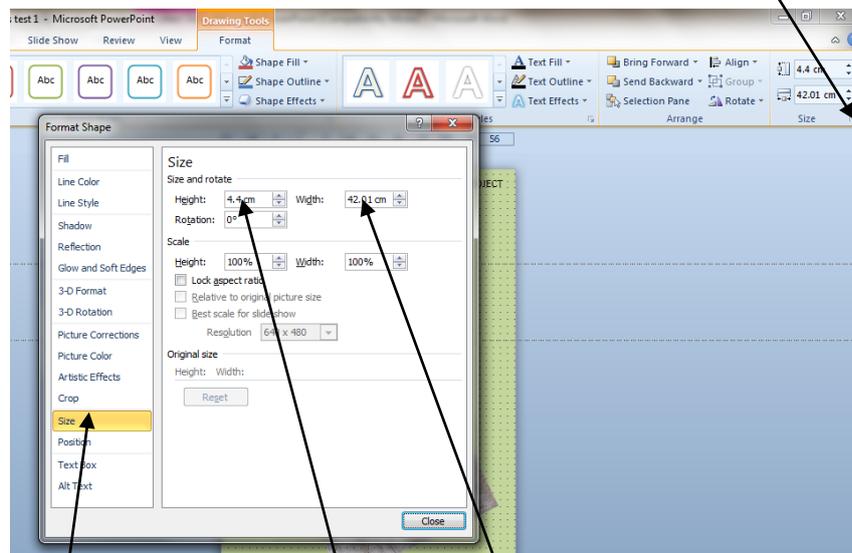
To re-size a text box using the mouse: drag on the corner resize handles and/or drag on the side resize handles (the latter to make it narrower or taller). Dragging is moving the cursor over the appropriate resize handle until the cursor changes to a double headed arrow, then pressing and holding down the left mouse button, move the cursor to where you want that corner or side of the text box to appear and releasing the mouse button. Beware that PowerPoint can be idiosyncratic in the changes it will allow you to make in this way.

Alternatively (and more reliably), click on the **Format** tab to bring up the **Format** ribbon. Then click on the downward arrow at the bottom right of the **Size** group towards the right hand side of the ribbon, as illustrated in Figure 8 below. In the resulting **Format Shape** dialog box, click on the **Size** option which appears on the left hand menu of the dialog box and then enter the required dimensions for your text box in the **Height** and **Width** boxes (see Figure 8 below). Finally click on the **Close**

## Text Boxes

button. Note that you can also use this method to specify exactly the position of your text box (in this case click on the **Position** menu on the left hand side of the **Format Shape** dialog box and enter the appropriate co-ordinates).

**Figure 8 – Format Shape Dialog**



Click to bring up **Format Shape** dialog box

Click on **Size** menu option

Enter **Height** and **Width** sizes

### 3.5 Font, Point Size and Line Spacing

To edit and format text use the usual PowerPoint/ Office tools and facilities (such as those in the **Font** group on the **Home** ribbon).

To change the font and point size of all the characters in a text box. Select the text box as described in Sub-section 3.2 above, then click on any point on the border of the text box. Finally, use the formatting tools in the **Font** group as required.

To change the font and point size of one or more characters. Highlight the character(s) by clicking immediately before and then, holding down the left mouse button, drag the cursor over the characters. Release the mouse button. Finally, use the formatting tools in the **Font** group.

Remember that the poster will need to be read some distance away and so ensure that the point size chosen is sufficiently large for this. For example for an A0 sized poster it is recommended that the normal text should have a minimum point size of

## Text Boxes

24, sub-headings should be between 50 to 60 point and the main title should be 80 point. It is recommended that the font is a widely used font such as Arial, Times New Roman, Verdana, Garamond or Palatino with Arial and Verdana best for headings. Try and use the same font throughout. You can use bold, italic, upper case and bullets for emphasis. The conference organisers might have guidelines for fonts and point sizes for you to follow.

Try to avoid shadowing, underlining or rotating text as this can make it hard to read. Typing all text in upper case can also make it difficult to read, however uppercase is appropriate for headings and titles.

Ensure that text over a background colour or picture is visible on screen – you could put a tinted box over the background to bring out the text.

Increasing the line spacing will also help to make text more readable. Line spacing can also be used to adjust subtly the spacing to make text fit in a given space.

### 3.6 Headers in Text Boxes

It is customary to have a heading at the top of each text box to summarise the type of contents in that box. You should choose a larger point size, use bold and possibly a change of colour to help make the header text stand out.

### 3.7 Changing the Shape of a Text Box

You might wish to change the shape of a text box; for example for it to have rounded corners. Before you can change the shape of a text box, you need to select it as described above. Then click on the **Format** tab, click on the **Edit Shape** label in the **Insert Shapes** group on the left of the **Format** ribbon and finally click on **Change Shape** in the resulting drop down menu. Select the desired shape from the options which appear by clicking on it. Avoid using too many different shapes in one poster as this can make it difficult to read.

### 3.8 Borders and Text Box Background Colours

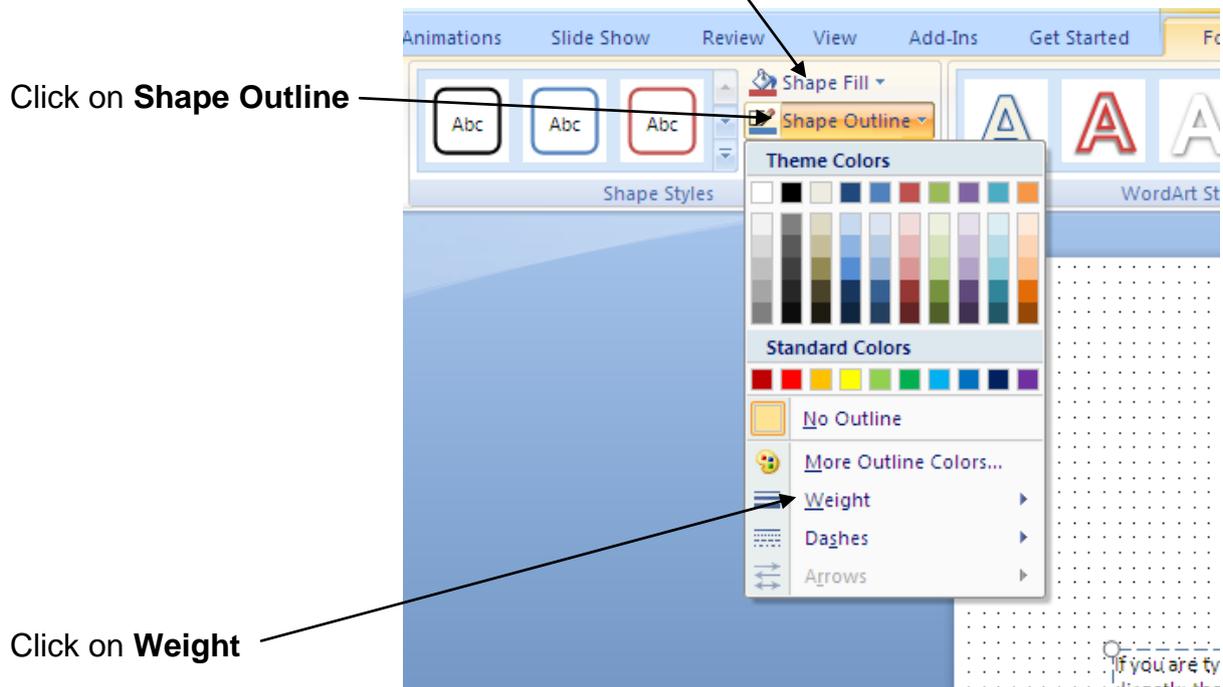
Often you will want to emphasize a block of text and the best way to do this is to change the border of the text box containing that text.

Before you can change the border of a text box, you need to select it as described above. Then click on the **Format** tab and then in the **Shape Styles** group click on the **Shape Outline** icon, as illustrated in Figure 9 below. Then click on **Weight** and choose a suitable line thickness (also see Figure 9 below).

## Text Boxes

Click on **Shape Fill** to change text box background

Figure 9 - Changing Border Sizes and Colours



Click on **Shape Outline**

Click on **Weight**

For large sized posters, to create a significantly visible border, you may need to click on the **More Lines** option rather than the specific line thicknesses presented and enter a large point value (eg 18 point) in the **Width** box in the resulting **Format Shape** dialog box.

From the **Shape Outline** drop down box you can also change the colour of the border by clicking on one of the **Theme Colors** or one of the **Standard Colors**.

Another way of emphasizing a block of text in a text box is to change the background of the text box. This is done using the same steps as above but clicking on the **Shape Fill** icon rather than **Shape Outline** (as illustrated in Figure 9 above) and then clicking on the required colour.

## Section 4 - Images

A poster without images, diagrams or graphs would be exceedingly dull and is unlikely to catch anyone's attention. It is normal to include at least one image on a poster, namely the University's logo, but often you will want to include others to augment your text and visually emphasize your key points.

### 4.1 Resolution

When including images such as photographs, scanned images and illustrations in your poster remember that these may be displayed much larger than their normal size and image quality usually decreases as the size of the image increases. It is therefore recommended that you use the highest resolution possible for your images, 300 dpi or higher. If you download graphics from the web, be aware that they are only 72 dpi and generally will not reproduce well enough for a large poster.

### 4.2 Inserting an Image

The image such as a photograph or a scanned item might be stored in a separate file and be the only item in that file. To insert such an image into your poster click on the **Insert** tab to bring up the **Insert** ribbon and then in the **Images** group click on the icon above **Picture**. Using the resulting **Insert Picture** dialog box find the file name containing the image, click on it and click on the **Insert** button at the bottom of the dialog box. The image is then inserted onto the poster. It is unlikely that the image will be inserted where you want it and for large posters it will be too small. Sub-sections 4.4 and 4.5 below contain details of how to re-position and enlarge images after they have been inserted.

Sometimes images are stored as part of another file or are on web pages. In this case, open the file containing the image using the appropriate application software, locate it and click on it or, if it is on a web page, go to that web page in your web browser. Copy the image to the Office clipboard by using the Edit/ Copy or Save Picture As facility of the application software or web browser (often right clicking will bring up this option in a pop-up menu). Then in PowerPoint with your poster open, click anywhere on the poster and click on the **Paste** icon in the **Home** ribbon.

**Copyright:** before you insert a photograph, or other image, onto your poster check that you are not infringing copyright law by doing so. If in doubt, check with the Information Centre. Copyright restrictions could include the need to attribute the author or source of the image.

### 4.3 Selecting an Image

As for text boxes, before you can resize or re-position an image, you first must select it. You do this by clicking on it. You can recognise that the image has been selected because of the appearance of the circular or square handles on its edges (as illustrated in Figure 7 above).

### 4.4 Repositioning an Image

This is similar as for text boxes. Before you can re-position the image, you need to select it as described above. Then move the cursor anywhere on the image, *except over the resize handles*, until the cursor changes to a cross. Press and hold down the left mouse button, drag the cursor to where you want the image to appear and release the mouse button. Your image will be repositioned with the corners aligned to the nearest grid points.

### 4.5 Resizing an Image

Again this is similar to resizing of text boxes. Before you can resize an image, you need to select it as described above. Then you can either resize an image using the mouse or by specifying the exact size using the **Format Picture** dialog box.

To resize an image using the mouse: drag on the corner resize handles and/or drag on the side resize handles (the latter to make it narrower or taller).

Alternatively, click on the **Format** tab to bring up the **Format** ribbon. Then click on the downward arrow at the bottom right of the **Size** group towards the right hand side of the ribbon, as illustrated in Figure 8 above. In the resulting **Format Picture** dialog box, click on the **Size** menu on the left hand side and then enter the required dimensions for your image in the **Height** and **Width** boxes (similar to Figure 8 above). Finally click on the **Close** button. Note that you can also use this method to specify exactly the position of your image (in this case click on the **Position** menu on the left hand side of the **Format Picture** dialog box and enter the appropriate co-ordinates).

Be careful not to distort the image while resizing it. If this is an issue there is a facility in PowerPoint to prevent this by locking the aspect ratio of an image. This is done by selecting the image as described above in Sub-section 4.3, then click on the **Format** tab, click on the downward arrow at the bottom right of the **Size** group (as illustrated in Figure 8 above) and in the resulting **Format Picture** dialog box click on the **Size** menu. Check if the box to the left of the **Lock aspect ratio** label is ticked. If not, then click the box so that a tick appears and click on the **Close** button.

## 4.6 Rotating an Image

Before you can rotate an image, you need to select it as described above. Then you can use the rotation handle (refer to Figure 7 above to help you identify its location) to rotate an image using the mouse. Alternatively, click on the **Format** tab to bring up the **Format** ribbon and then in the **Arrange** group click on the **Rotate** icon. This will bring up a drop down menu with a number of commonly used rotation options. You can also specify directly the amount of rotation by clicking on **More Rotation Options** at the bottom of the drop down menu and entering the appropriate details in the resulting **Format Picture** dialog box.

## 4.7 Use of University Logo

The Graphics and Print service of Information Services can supply a good quality version of the logo for inclusion in your poster. A 300 dpi resolution image can be downloaded from:

<http://www.marketingtools.stir.ac.uk/logos/download.php>

The logo should always be solid white or solid black if it is on background colour and it should be visible. The colour version of the logo (green and black) should be used on a white background or can be placed on a colour background as long as the logo is clearly visible.

The Development and External Affairs department of the University provides strict guidelines for the use of the University logo. These can be found at:

<http://www.marketingtools.stir.ac.uk/logos/use.php>

Appendix 1 contains a copy of this advice on the use of the University's logo which was current in June 2011.

## Section 5 - Graphs from Excel

The easiest way of handling graphs for your poster is to develop the graph using Microsoft Excel 2010, then copy the graph onto your poster in Microsoft PowerPoint 2010, and position and size as required. Remember that graph titles and labels need to be seen from a distance and so should follow the same font and point sizes as other text on your poster (refer to Sub-section 3.5 for guidelines). It is usually easier to apply these in Excel than after inserting the graph into PowerPoint although it can create a strange looking presentation in Excel.

### 5.1 Inserting an Excel Graph

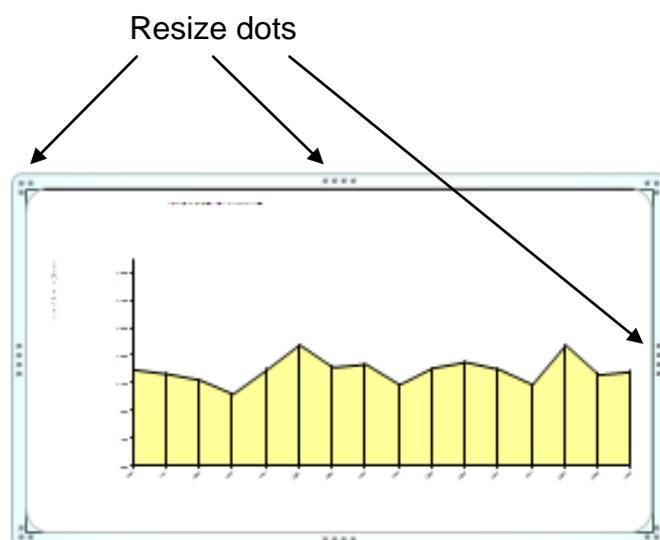
Start Excel and open the file containing the graph you wish to include on the poster. Copy the graph to the Office Clipboard by clicking on it and then from the Excel **Home** ribbon click on the **Copy** icon. Open your poster in PowerPoint and click anywhere on the poster. On the PowerPoint **Home** ribbon click on the **Paste** icon. The graph is then inserted onto the poster

As when inserting images, it is unlikely that the graph will be inserted where you want it and for large posters it will be too small. Sub-sections 5.3 and 5.4 below contain details of how to re-position and enlarge graphs after they have been inserted.

### 5.2 Selecting a Graph

As for images and text boxes, before you can resize or re-position a graph, you first must select it. You do this by clicking on it. You can recognise that the graph has been selected because of the appearance of an expanded border around the graph with resize dots along the sides and at the corners inside this expanded border as illustrated in Figure 10 below.

Figure 10 - Resize Dots for Graphs



### 5.3 Repositioning a Graph

Before you can re-position a graph, you need to select it as described above. Then move the cursor anywhere along the expanded border, *except over the resize dots*, until the cursor changes to a cross. Press and hold down the left mouse button, drag the cursor to where you want the graph to appear and release the mouse button. Your graph will be repositioned with the corners aligned to the nearest grid points.

Be careful not to move the cursor over the graph itself rather than the expanded border as this will allow you to reposition the graph within the graph box itself but not move the box containing the graph around the poster.

### 5.4 Resizing a Graph

Again this is similar to resizing of images and text boxes. Before you can resize a graph, you need to select it as described above. Then you can either resize the graph using the mouse or by specifying the exact size using the **Format Chart Area** dialog box.

To resize the graph using the mouse: drag on the corner resize dots and/or drag on the side resize dots (the latter to make it narrower or taller).

Alternatively, click on the **Format** tab, then click on the downward arrow at the bottom right of the **Size** group (as illustrated in Figure 8 above). In the resulting **Format Chart Area** dialog box, click on the **Size** menu on the left hand side of the dialog box and then enter the required dimensions for your graph in the **Height** and **Width** boxes (similar to Figure 8 above). Finally click on the **Close** button. As for images you can also use this method to specify exactly the position of your graph (in this case click on the **Position** menu on the left hand side of the **Format Chart Area** dialog box and enter the appropriate co-ordinates).

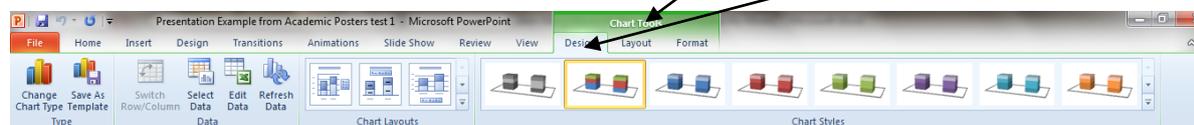
Again you need to be careful not to distort the graph while resizing it. This can be overcome if it is a problem by the same method as for images described in Sub-section 4.5 above.

### 5.5 Editing a Graph

It is possible to edit a graph once it has been inserted into your poster in the event that you wish to change the chart type, modify the labels or even change some of the base data. To do this click within the graph itself and then under the **Chart Tools** tab at the top of the screen, click on the **Design** tab to bring up the **Chart Tools Design** ribbon. The ribbon contains a number of tools for changing the type of graph, its layout and style, an example of which appears in Figure 11 below.

Click on **Chart Tools** then  
click on **Design**

**Figure 11 – Example Design Ribbon for Editing Graphs**



If you wish to change the data which generates the graph then use the appropriate icons in the **Data** group. You should note that using some of these options will automatically start Excel and invite you to make the appropriate changes in an Excel session.

### 5.6 Graph Background Colour

Graphs copied from Excel may bring with them the background colour they had in Excel and this may be different from the background colour you have chosen for your poster. If this is a problem, then you can change the graph background to the general background of the poster by selecting the graph as described in Sub-section 5.2, then clicking on the **Format** tab to bring the **Format** ribbon. Click on **Shape Fill** icon then click on the **No Fill** radio button.

In some graph or chart types there is a background colour associated with the graph or chart itself. In these cases in addition to the above steps you will also need to click on the graph or chart itself and repeat the changes. Care is needed to select the graph or chart rather than individual components such as labels and often some trial and error is required to get the right selection; the location of the resize handles is a good indicator of which elements have been selected.

## Section 6 - Miscellaneous

### 6.1 Managing Overlapping Elements

You may want some elements of your poster to overlap one another. The default order of overlapping items in PowerPoint is the last inserted or created item will be on top. It is possible to change this order if required. Select the item that you wish to be on top (using the steps in Sub-sections 3.2, 4.3 or 5.2 above as appropriate), then click on the **Format** tab and in the **Arrange** group click on **Bring Forward**.

If the item you want to be on top is completely obscured then in turn select the items covering it and from the **Format** ribbon select **Send Backward**.

### 6.2 Creating Blocks of Colour

You might wish to improve the presentation of your poster by creating blocks of colour at certain points. Click on the **Home** tab and click on the icon of the appropriate shape on the left hand side of the **Drawing** group. Click on the point on the poster where you want one corner and drag until the shape and position are as you want. To change its colour, firstly click on the shape to select it, then click on the **Format** tab. Next click on the small downwards arrow on the bottom right hand side of the **Shapes Styles** group to display the **Format Shape** dialog box. Then click on the **Fill** menu item on the left hand side of this dialog box, click on the icon to the right of the **Color** label and then click on the desired colour from the resulting pop up box.

### 6.3 Moving Around Your Poster

As you compose your poster in PowerPoint you will need to move to different areas of the poster for detailed work, but also need to look regularly at the overall layout. Clicking on the **View** tab will display the **View** ribbon where you will find two useful tools in the **Zoom** group:

- **Zoom** – for zooming in for details
- **Fit to Window** – for panning out to see the overall view of your entire poster.

You can also use the Guidelines discussed in Sub-section 2.4 to line up elements in different areas of the poster.

## Section 7 - Printing

### 7.1 Printing Whilst Drafting

If you are working on a large size poster it is unlikely that your printer will be able to print the whole poster at the full size. However you can print all of the poster to fit the size of the paper in your printer. While this will not be useful for looking at detail, it will be helpful in providing an overall look and feel of the poster and the inter-relationships of the key elements. You can do this by clicking on the **File** tab at the top left hand screen, then clicking on **Print**. Under **Settings** click on **Full Page Slides** and in the resulting **Print Layout** dialog box check that **Scale to Fit Paper** option is ticked; if not, click **Scale to Fit Paper** which will make the tick appear. Check that you are printing to the right printer, then click on the **OK** button.

### 7.2 Final Printing

The Graphics & Print service of Information Services provide a printing service for posters. Email [graphicsandprint@stir.ac.uk](mailto:graphicsandprint@stir.ac.uk) or telephone 01786 467209 for details of the service and pricing. There is a publication *Preparing Files for Large Format Printing* which contains advice to help you.

Graphics & Print (and many other organisations which can print your poster for you) will prefer you to send them your poster in Adobe PDF Format. When you have finalised your poster and are ready to submit it to your selected printing service, click on the **File** tab at the top left hand screen, then click on **Save As**, click on the small downward arrow to the right of **Save as type** and in the resulting drop down menu click on the **PDF** option. To the right of **File name** enter a suitable name for the PDF file and choose an appropriate location to save it. Then click on the **Save** button. If you want to use another format, you are strongly advised to check with the printing service you have chosen at an early stage.

# Appendix 1: Guidelines for Use of University Logo

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## Marketing Tools

### Logos

#### University Logo and its Use

For A4 size publications and stationery the logo must always be used at the standard size whereby the depth of the dividing line is 20mm and the overall length of the logo is 60mm. The logo should be scaled accordingly in proportion for smaller and larger publications.

To make our logo stand out don't crowd it with any other graphic elements or text. Give it as much clear space as possible. See the [Visual Identity \(pdf document 2.52 mb\)](#) for our recommendation on the amount of space to give the logo.

For consistent application of the University's logo on printed literature, it should sit either in the top or bottom right hand corner of the page. This does not apply to the design of web pages or advertising layouts where the logo sits in a top left position.

The logo should be reproduced in two colours, with the crest and the vertical dividing line in PMS 342 (green) and the text in solid black. Wherever possible the logo should be reproduced in these colours on a white background. No other colours should be used in place of either of the two colours and they should not be transposed at any time. Where there is no option for a second colour the logo should be reproduced in black only.

If the logo must be reversed out (white) from a coloured background or image, you must ensure that there is sufficient contrast so that the text can be easily read and the graphical elements (the shield and vertical line) are discernible.

# Appendix 2: Example Poster

## Towards a molecular genetic tool for health and performance monitoring of Atlantic salmon (*Salmo salar*): The TRAITS 17K cDNA microarray

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### INTRODUCTION

The UK Atlantic salmon aquaculture industry must meet a number of challenges if it is to remain sustainable and profitable. Constraints on commercial production include a.) the supply of disinfectant-free highly unsaturated oils for the salmon diet, b.) protein growth efficiency, c.) infectious disease, and d.) a long and complex lifecycle. TRAITS (Transcriptome Analysis of Important Traits in Salmon), a BBSRC funded project, was initiated to tackle these constraints (see <http://www.abdn.ac.uk/aifrc/salmon/>).

The project is a partnership involving three UK universities (Stirling, Aberdeen and Cardiff) and the Norwegian Salmon Genome Project (<http://www.salmongenome.no>), supported by ARK-Genomics and working in collaboration with Operon and Marine Harvest.

The goal of TRAITS is to develop an oligonucleotide array for probing key elements of the transcriptome involved in polyunsaturated fatty acid metabolism, protein catabolism, responses to bacterial and viral challenge, and freshwater to seawater adaptation (smoltification). We report here on a preliminary deliverable of this project, a 17K gene Atlantic salmon cDNA microarray.

### METHODS

#### Atlantic salmon cDNA clone sources

The microarray was constructed using ESTs from EU Salgene project and the Norwegian Salmon Genome Project (NSGP) supplemented with suppression subtractive hybridisation (SSH) clones generated in the TRAITS project.

SSH was performed on cDNA extracted from Atlantic salmon:

- 1) on fish oil vs. vegetable oil diet (liver tissues);
- 2) well-fed vs. starved (skeletal muscle & liver tissues);
- 3) bacterial challenged (*Aeromonas*) vs. control (gill, head kidney & liver tissues);
- 4) at freshwater / seawater transition phases (brain, gill, kidney & pituitary tissues)

#### Array Printing

The final chip comprises probes from 16,950 ESTs plus various positive and negative controls (n=281). PCR amplified cDNA inserts (& controls) are printed in duplicate on Corning GAPS II glass slides (4 x12 blocks; each block 27 x 28 spots) using a BioRobotics MicroGrid II spotter.

### CONCLUSIONS

The TRAITS cDNA microarray provides a unique trait-targeted tool for the determination of gene expression in Atlantic salmon tissues. The microarray and associated resources are available through ARK-Genomics (<http://www.ark-genomics.org>).

### ACKNOWLEDGEMENTS

This work is funded by an Exploiting Genomics grant (EGA 17674) from the BBSRC

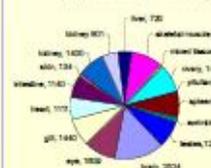


### MICROARRAY CLONE SELECTION

| Clustering (July 04) |   |                        |
|----------------------|---|------------------------|
| Input:               | Source  | No. Clones             |
|                      | SALGENE   | 11,728                 |
|                      | NSGP  | 30,564                 |
|                      | TRAITS  | 3,515                  |
|                      | GENBANK   | 57,536                 |
|                      | <b>TOTAL</b>  | <b>103,343</b>         |
|                      |   | ↓                      |
| Output:              | Type  | Available Clones       |
|                      | CONTIGS   | 13,555 → 9,042         |
|                      | SINGLETONS  | 20,820 → 9,145         |
|                      | <b>TOTAL</b>  | <b>34,381 → 18,187</b> |
|                      |   | ↓                      |
| Removed:             | Duplicate clone data (5' & 3' reads)                      |                        |
|                      | Clones that failed to grow                                | - 1,412                |
|                      | Sub-optimal insert amplifications                         |                        |
| Added:               | TRAITS selected candidate clones and later available ESTs | + 175                  |
| <b>GRAND TOTAL:</b>  |   | <b>16,950</b>          |

### CLONE STATISTICS

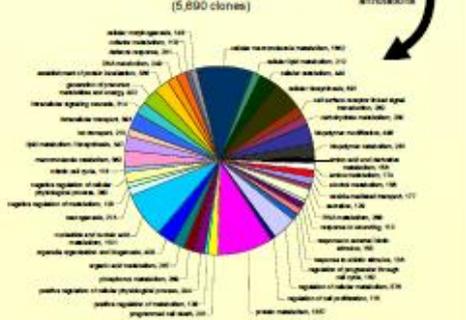
#### EST tissue distribution (16,950 clones; 15 tissue types)



#### BLASTX HOMOMOLOGY (nr protein database)



#### Level 5 GO Annotations (5,890 clones)



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