

# Presentation and Talk: Lessons Learned

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## 1 Presentation Preparation

Below I chose to list key points, which I suffer for most. These need special emphasis when composing content (bulletpoints) and assembling slides together.

**Scale.** Digestible chunks, brevity

**KISS.** Keep It Short and Simple (variation of the real acronym)

**Pace.** Avoiding too much too early, depth to be reached progressively

**Focus.** Visual clutter to be avoided

**Clarity.** Mind line width, font size

**Flow.** Logical structure, rhetoric, good orientation

**Levels.** Make use of bullet sublevels when either possible or appropriate; use hierarchy

**Consistency.** No place for sloppy or inconsistent placements of objects

## 2 Delivery/Talk

**Speed.** Moderate pace

**Eye Contact.** Talk to bulletpoint (projected slide), but also direct head at the audience

**Orientation.** Always know which slide comes next, i.e. familiarity with the presentation needed

**Inspirer (Web link):** <http://www.veen.com/jeff/archives/000483.html>

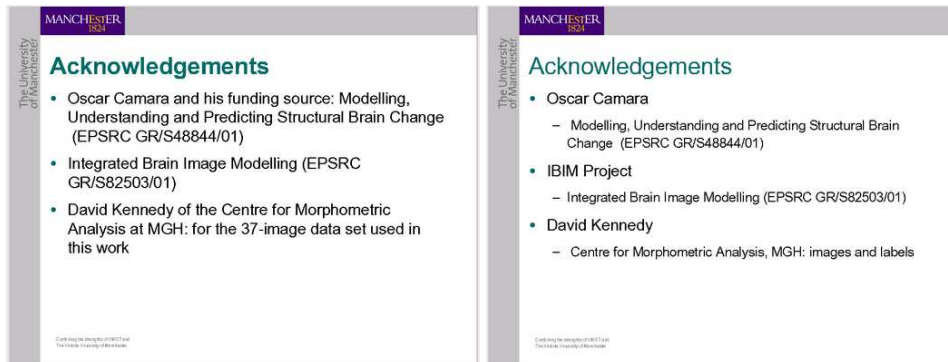


Figure 1: Use hierarchy, isolate distinct elements, e.g. author, grant number

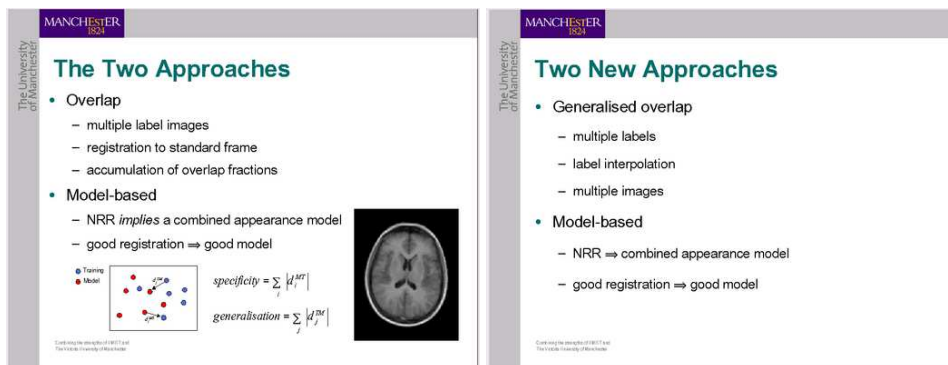


Figure 2: Do not jump to the 'meat' of the work too early (introductory slide)

### 3 Example Slides

Looking at the obvious differences side-by-side, downsides are made more apparent. Shown on the left are a given slides at the very start (draft); on the right lies the final version of the corresponding slide.

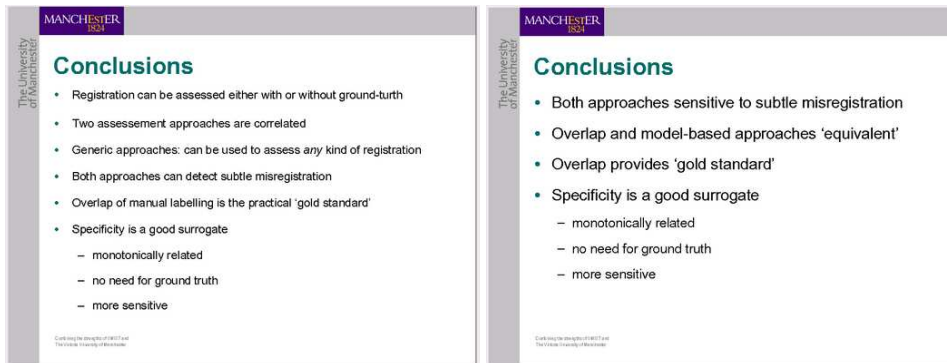


Figure 3: Avoid over-filling the slides, be concise

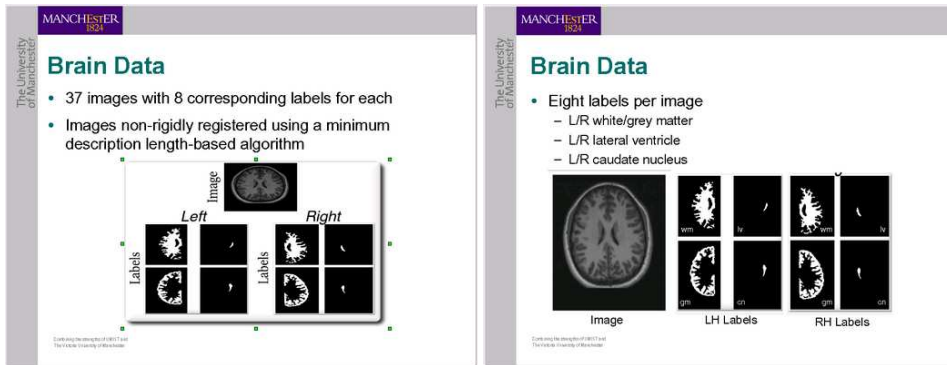


Figure 4: Visual structure to be avoided; two-line bulletpoint are undesirable

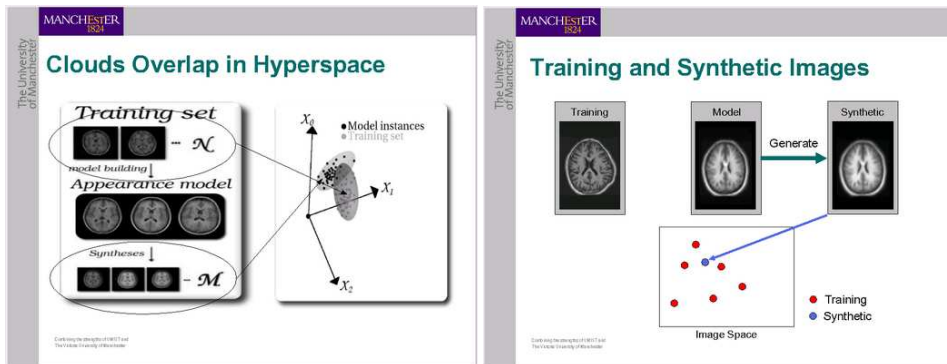


Figure 5: Simplify where possible, animate to make content traceable

### Generalisation and Specificity

- Derive Generalisation and Specificity from distances
- Short distances imply better model, thus better registration

● Model examples  
× Training set

### Model Quality

- Training
- Synthetic

Given measure  $d$  of image distance

$$\text{Specificity} = \sum_i |d_i^{ST}| \quad \text{Mean distance to nearest training image}$$

$$\text{Generalisation} = \sum_j |d_j^{TS}| \quad \text{Mean distance to nearest model image}$$

Figure 6: Use mathematical notation rather than be wordy

### Overlap-based Assessment

- Approximation of overlap among brain structures
- Weighting of different anatomical labels:
  - Implicit volume weighting (i.e. large labels contribute more)
  - inverse volume weighting
  - inverse label volume squared
  - label complexity (voxel intensity gradient)

$$FMP = \frac{\sum_{pairs,k} \sum_{labels,l} \alpha_l \sum_{voxels,i} MIN(A_{li}, B_{li})}{\sum_{pairs,k} \sum_{labels,l} \alpha_l \sum_{voxels,i} MAX(A_{li}, B_{li})}$$

Accumulate over all permutations of transformed labels.

### Generalised Overlap

- Fractional overlap

$$O_p = \frac{\sum_{voxels,i} MIN(A_i, B_i)}{\sum_{voxels,i} MAX(A_i, B_i)}$$

- Accumulated over labels and image pairs

$$O_{FMP} = \frac{\sum_{pairs,k} \sum_{labels,l} \alpha_l \sum_{voxels,i} MIN(A_{li}, B_{li})}{\sum_{pairs,k} \sum_{labels,l} \alpha_l \sum_{voxels,i} MAX(A_{li}, B_{li})}$$

Figure 7: Overloaded slides should be avoided; use space wisely

### Interpolated region

$A_i$  and  $B_i$  now take values in the range [0,1].

### Interpolated Label Images

- Result of applying NRR
- Label values in range [0, 1]
- Fuzzy union and intersection

$$A \cap B = \sum_i MIN(A_i, B_i)$$

$$A \cup B = \sum_i MAX(A_i, B_i)$$

Figure 8: Explanation to be expanded where it contributes

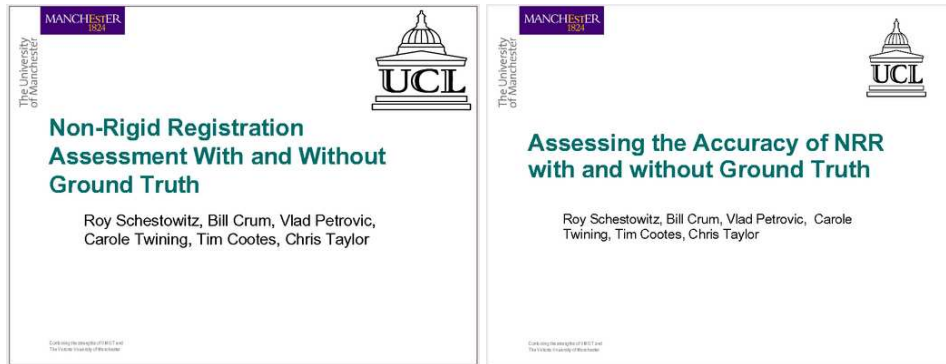


Figure 9: Use the space available, but do not over-complicate or (mistakenly) distort (referring to aspect ratio alternations)

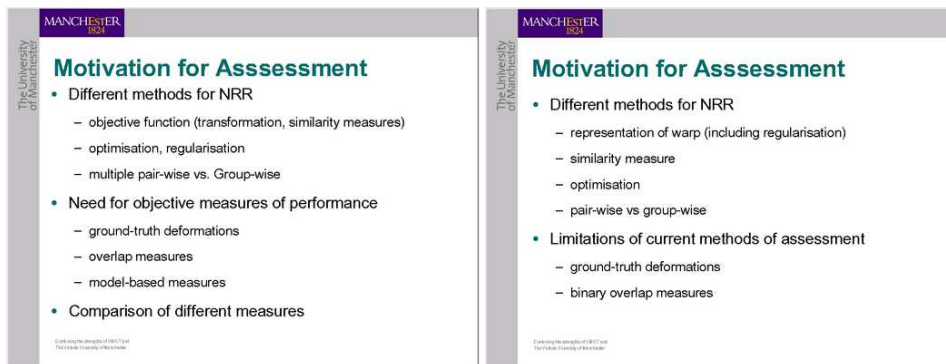


Figure 10: Shorten sentences without losing important facts

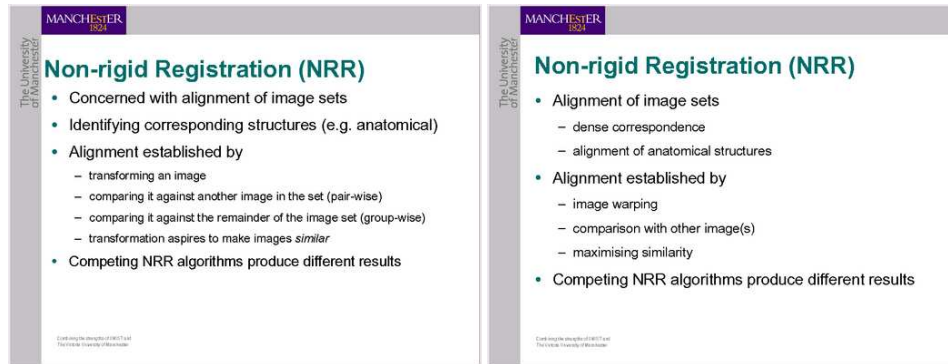


Figure 11: Bulletpoints are worth using wisely, depending on the nature of a problem's structure

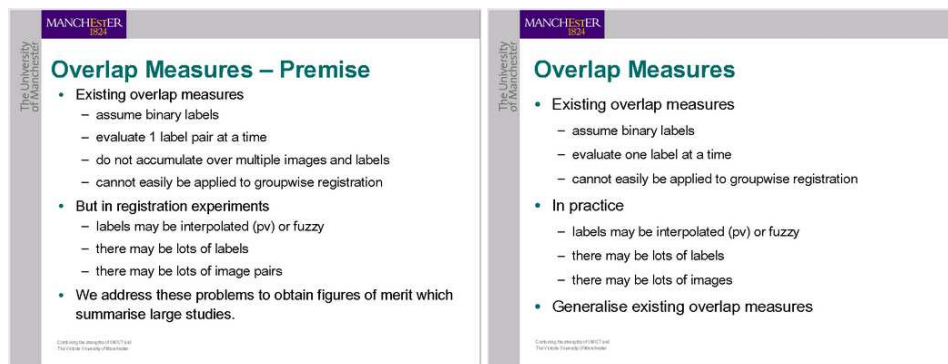


Figure 12: Adapt inserted slides to content, making it more adhesive and omitting irrelevant details

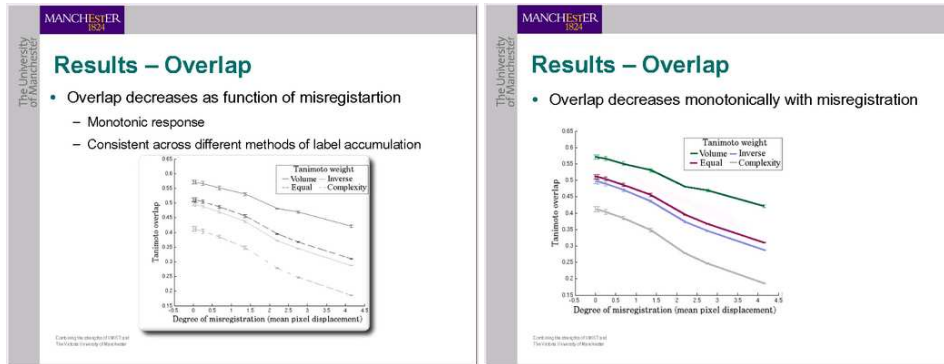


Figure 13: Avoid unnecessary visual effects, line visibility is crucial, legend clarity

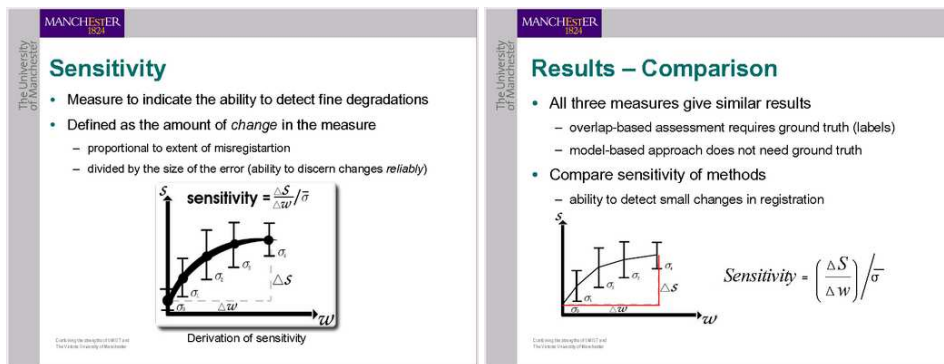


Figure 14: Always isolate formulae and figures, perhaps make use of colour

## 4 Slides with Reasonably Fine Changes

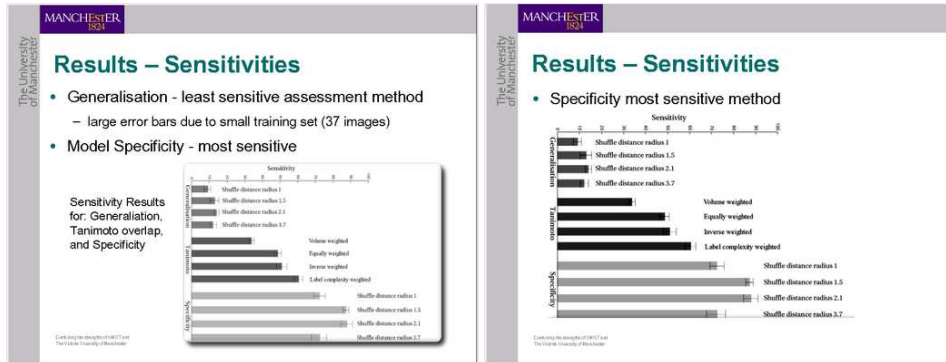


Figure 15: In important results, use entire space to shift focus

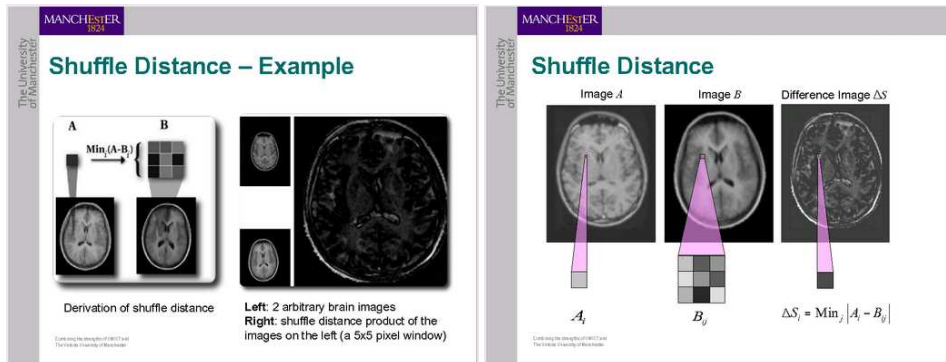


Figure 16: Avoid fragmentation of figures, use colour, be less wordy

## 5 Remainder of the Example Slides



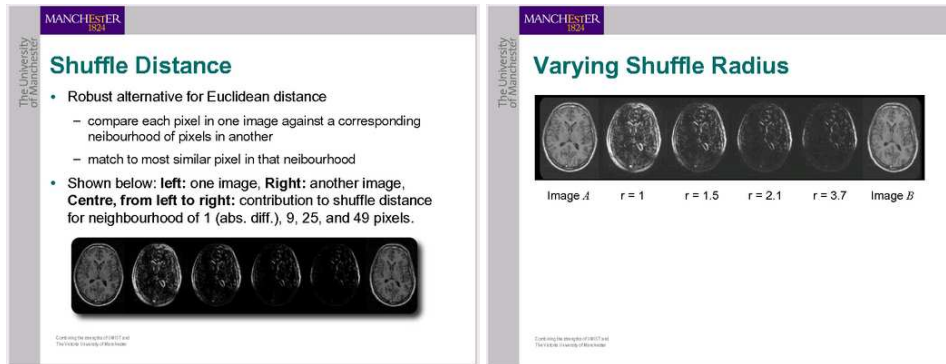


Figure 17: Bind captions to images, concentrate on one aspect of the problem at a time

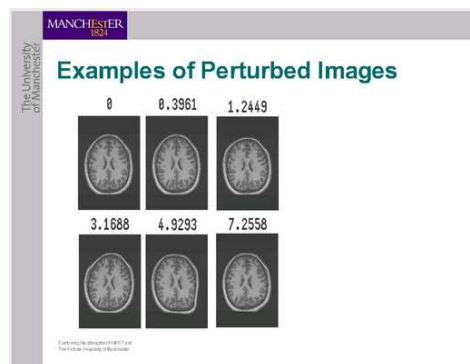


Figure 18: Show data to re-affirm confidence or trust among the audience

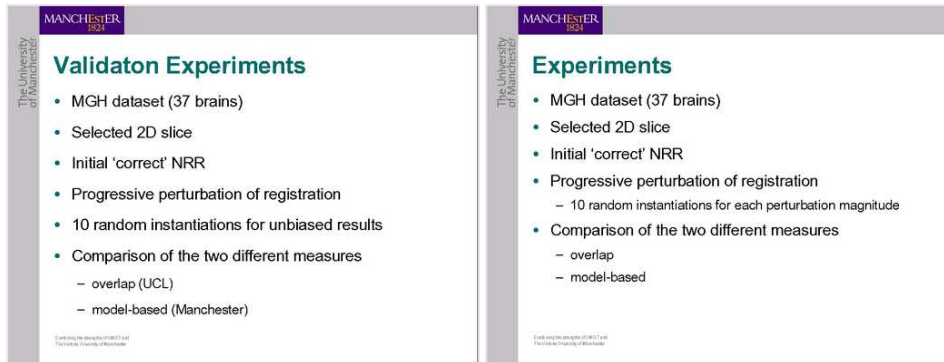


Figure 19: Simplify and shorten

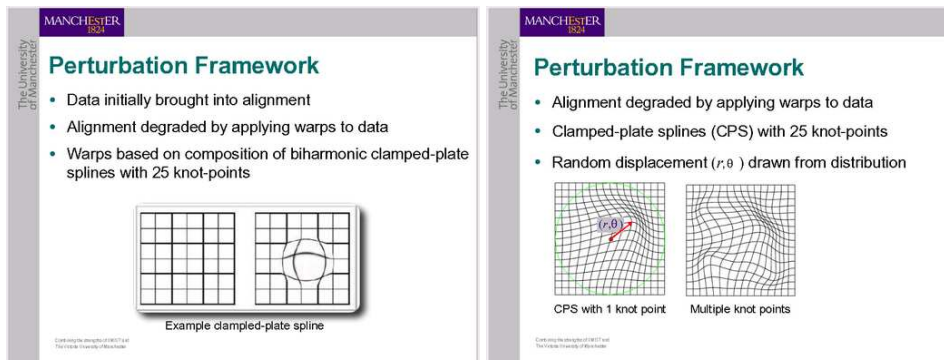


Figure 20: Figures that reflect on real algorithm rather than approximate or emulate; leave out unnecessary visualisation, use of colour