Workshop 1

The aim of workshops is open time to work on, and get help progressing your project. The format for the workshop is not fixed, but each week I would like you to follow the advice I would give any research student:

1. **read** something;

2. **do** something; and

3. **write** something.

This week we have been talking about tessellations, so for instance,

1. Start by finding something on the Internet about symmetry, tessellation, wallpaper patterns, tilings, quiltings, and so on. Wikipedia makes a good starting point, but don't stop there.

2. Try to implement what you have read. You can use Matlab or Inkscape, or something else.

3. Write some short notes about what you have done into an Overleaf document. Include a figure, and a BiBTeX reference.

Here are some ideas to show you what I mean but you don't need to do all or even any of these, just do something cool.

1. Take one of the tessellations talked about in class, and generate (using whatever medium you like, *e.g.,* Matlab or Inkscape or ...). Then try to find a tessellation we didn't do in class, and build that.

2. Implement Conway's pinwheel (or some other) tiling in Matlab or Inkscape. Now try adding a pattern to each tile, and see what happens.

3. Take the group of tiles called `proposed_tiling.svg` from http://www.maths.adelaide.edu.au/matthew.roughan/notes/AMP1/11other.html and show why it can't be used to construct a tessellation of the plane.

I'm not going to teach you Inkscape, but here are a few resources to help get started:

- On the web page at http://www.maths.adelaide.edu.au/matthew.roughan/notes/AMP1/11other.html, you will find a few starter SVG files.

- There are a set of Inkscape tutes at https://inkscape.org/en/learn/tutorials/.

- Advice on polygons for Inkscape
  https://design.tutsplus.com/tutorials/quick-tip-fun-tricks-with-inkscapes-polygon-tool--vector-14959.

- Video on tessellation with Inkscape https://www.youtube.com/watch?v=XJbzrsHPKpM using the *clone* tool (see http://www.linuxformat.com/wiki/index.php/Inkscape_-_cloning_and_tiling).

You **do not** have to hand anything up. However, you should not limit your exploration of this topic to 50 minutes. You should expect (in the long run) that you will need to put in a couple of hours work (towards your project) for each workshop. But today we are just starting out.

You can also ask questions about your practical, or any other aspects of the course.