Poster Project • Advanced Methods (APMA 900) • Fin de Semester Activities

This term, two applied math grad classes will again conclude with a special project that is presented as a poster. In APMA900, each student will choose a subject of personal interest, with the primary restriction that the work done fits within the philosophy of this course. The poster will be formally presented at a public poster session (tentatively, Wednesday 12 December) where students and faculty will be invited for the viewing. During this time, students will accompany the poster to provide additional explanation.

The aim of the poster is to communicate results from a worked problem which illustrates the use of an asymptotic or perturbation method. The poster must display both analytical and computational components; providing a short motivation for the problem is also encouraged. The only exception to the computing part of the APMA900 poster applies to students who are in Professor Russell's class and plan to present related computational work for their APMA922 poster. The poster itself should be no more than 10 pages – variances must be requested in advance.

Possible topics can be extensions or variations of ideas presented in the lectures. The topic and research plan MUST be approved beforehand. A good source for potential problems is the text by Holmes, but other sources are also welcome. The *challenge level* of the problem should be comparable to one of the homework questions. I will be happy work with you to formulate a research plan that is suitable for this poster – *meet with me prior to the 21 November deadline.* Remaining deadlines for the term are:

- 07,12 November – no lectures.
- 14 November – investigation #4 due.
- 21 November – research plan due.
- 28 November – investigation #5 due.
- 03 December – final lecture.
- 03,05 December – presentation (in my office) of basic results, and sketch of 10 page poster.
- 12 December – poster session (tentative).

The research plan should be a one-paragraph description of the problem and associated computation. At least three references must be included (lectures notes can be quoted also). The basic results need only be presented in rough draft form (with evidence of a working computation), as well as an concept-level outline of the 10-page poster. The finished poster must be in large font suitable for public display, with fully labelled figures.

The poster should present a broader discussion of the problem including history or motivation, advantages/disadvantages of the approaches used, and full interpretation of the results. Longer calculations, if absolutely essential, should be reserved to appendix pages and be set apart from the main story.