CAPSTONE RESEARCH

This is the Title of My Paper

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Abstract

Type your abstract here. An abstract should be a concise summary of the key elements of your paper. It should "hook" the reader, making them want to read on. The abstract should briefly describe the problem, its relevance, and your approach to solving it. You should mention any key findings resulting from your work.

Keywords: Elastic membrane; Other keywords; Other keywords

Background

This is where you discuss the general topic from which the problem you hope to solve has emerged.

Existing research

This is where you discuss the results of any preliminary research you conducted on the topic - previous attempts to solve the problem and the methods used, different frameworks within which the problem has been posed (if they exist), benefits and shortcomings of any existing models/methods.

Specific aims

This is where you specify exactly what your model accomplishes.

Notation and Definitions

This is where you explain any non-standard notation you use and define any terminology that might not be immediately clear to a layman reading your paper.

Mathematical Development of the Model(s)

This should be the "meat" of your paper. This is where you discuss your model(s) in detail - the mathematics that underpin your model(s), the considerations (math-

ematically, physically, computationally, etc.) that gave rise to the form your model has taken, the assumptions upon which your model(s) is(are) based.

You may also include a mathemtatical analysis of your model, or this analysis could be placed in its own section or incoporated into the section entitled "Evaluation/comparison of the model(s)."

Implementation of the Model(s)

This section might also be titled "simulations," or "results." This is where you document the results that your model(s) generated. This is where you showcase your models ability to solve the problem, the efficiency with which this is done and the practicality of using your model(s) when faced with this type of problem. Any algorithms that your model(s) employ(s) should be included in this section. If figures lend insight into your methods or simulation results these should be included here. Figures should be referred to by number (cross-referenced) in the text and should contain informative, concise captions. Figure 1 is an example of one such figure.

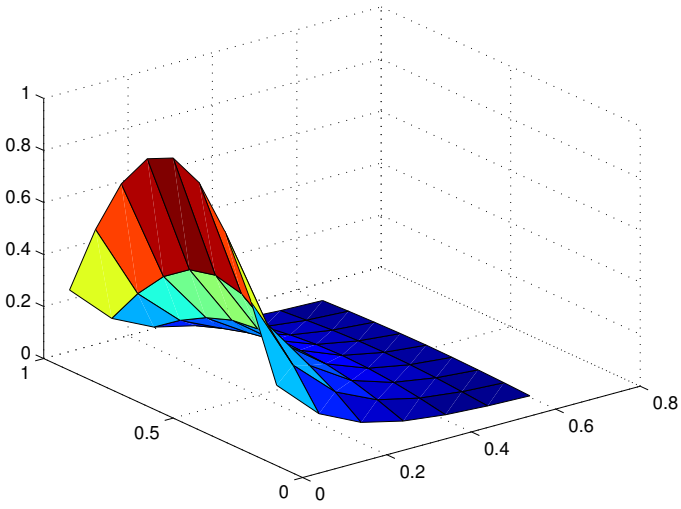
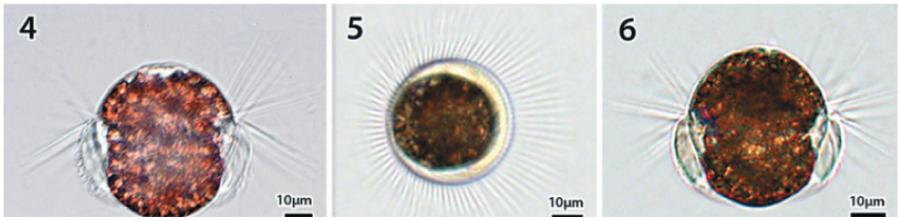


Figure 1 A solution to the heat equation. The sinusoidal initial heat profile is in the foreground. The heat at each point on the rod experiences exponential decay over time (positive time extends back and to the right).

The figure above was an EPS file, but you can also embed other types of image files. Figure 2 is a JPEG file

Figure 2 This is a Costa Rican frog.

Figure 3 Light microscopy of *Mesodinium major* in apical and lateral view. Six to eight tentacles are seen around the cytostome, which are utilized in floating in the water column and move by backward jumps [?].



You may also want to include tables in your write-up. Table 1 is an example of a table with a caption.

n	F_n
1	1
2	1
3	2
4	3
5	5
6	8
7	13
8	21

Table 1 The first few Fibbonaci numbers

Evaluation/Comparision of the Model(s)

This is where you evaluate how well your model solves the problem, its benefits as well as its shortcomings, and where you compare it to other models you have generated or that others have previously generated.

Future Considerations

This is where you discuss where you would take this project in the future if you had more time to turn it into a full-fledged research project. What sorts of limitations do you think you could overcome if this project were extended, what assumptions might you relax, what additional improvements to your model(s) would you like to see implemented if you were to continue work, what other directions could you see this research going in the future, how the specific problem could be generalized and how your model(s) could be modified to accomodate such a generalization.

Conclusions

This is where you restate the problem you attempted to solve, summerize your results, discuss in general how your model(s) were successful in completing the task you were assigned.

***To insert a reference section: First one create a .bib file.[3] This can be done manually, or can be done using Bibdesk. For this file, BibtexSample.bib has been created and included in the same folder as this .tex file. To insert a citation, one merely needs to type

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\cite{XXXXX}
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where XXXXX is the tag you have defined for the specified citation. The number appearing at the end of this sentence is an example of a citation.[1] Here's another citation.[2] And another. When you compile this document, you will notice that the corresponding references are listed in the bibliography. If you get a "[?]" showing up where your citation should be, try compiling a couple more times. This usually fixes it.***

References

1. Skool, D.W.: The number of years i have been in school, and other uncountable sets. PhD thesis, University of Independent Cascadia (2004)
2. Besse, I.: Division by zero, wearing meat-suits in tiger cages, and other bad ideas. The International Journal of Nonsense **9**(3), 102–113 (2012)
3. Darwin, C.: On the Origin of Species. John Murray, ??? (1859)