

#### UN5390: Scientific Computing I

Fall 2015

Designing proactive paradigms to leverage orchestrated cutting-edge visionary channels with matrix dynamic functionalities by employing high performance computing infrastructure

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### Introduction

Include a very brief description, ala elevator pitch, that someone not in your area of research can understand. Must not exceed one paragraph with three-four sentences.

Lorem Ipsum is simply dummy text of the printing and typesetting [1] industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book [2]. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularized in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software [3].

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## Description

Describe what you are going to do and how you are going to do it? This can be technical, and intended for someone in your area of research. This section can include any mathematics, graphics, and preliminary work that has already been done (either by you or someone else). No more than five references, and must not exceed three paragraphs with five-six sentences per paragraph.

Contrary to popular belief, Lorem Ipsum is not simply random text [4, 5]. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, *consectetur*, from a Lorem Ipsum passage, and going through the cites of the word in classical literature, discovered the undoubtable source [1].

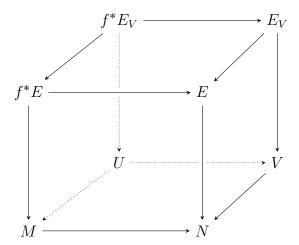


Figure 1: Boxed representation of the future of our universe

$$\pi_{\text{newton}} = 2 \sum_{n=0}^{\infty} \frac{2^n (n!)^2}{(2n+1)!} \qquad \pi_{\text{madhava}} = \sqrt{12} \sum_{n=0}^{\infty} \frac{(-3)^{-n}}{2n+1}$$
(1)

From Eqn. (1), sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo [1, 4, 5]. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, consectetur, sed quia non numquam eius modi tempora dolore magnam aliquam quaerat voluptatem.

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#### References

[1] J. D. Watson and F. H. C. Crick. Molecular structure of nucleic acids: A structure for deoxyribose nucleic acid. *Nature*, 171:737, 1953.

- [2] General public. *TEXamples*. http://www.texample.net/tikz/examples/, 2014.
- [3] Unknown author. The Planet Math. http://planetmath.org/encyclopedia/Sphere.html, 2009.
- [4] N. Giordano and H. Nakanishi. *Computational Physics*. Pearson Prentice Hall, Upper Saddle River, NJ, USA, 2006.
- [5] A. Einstein, B. Podolsky, and N. Rosen. Can quantum-mechanical description of physical reality be considered complete? *Phys. Rev. B*, 47:777, 1935.

# Guidelines

- 1. Do not edit this file directly as it might be periodically overwritten with changes.
- 2. Copy ProjectWork\_Description.tex as ProjectWork\_john.tex (where john is your Michigan Tech ISO username).
  - Edit ProjectWork\_john.tex.
- 3. Keep your research advisor happy by making timely progress. He/She controls the score for this project, worth 25% of the final grade.
- 4. Turn in weekly status report, using the provided ProjectWork\_StatusReport.tex as template before 11:59 pm on Friday starting week # 10. Each such report is worth 1%.