

UNIVERSITY OF CALIFORNIA,  
IRVINE

Title of the Thesis

DISSERTATION

submitted in partial satisfaction of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

in Earth System Science

by

Peter Anteater

Dissertation Committee:  
Professor A, Chair  
Professor B  
Professor C

2016



# DEDICATION

(Optional dedication page)

To ...

“... a man who keeps company with glaciers comes  
to feel tolerably insignificant by and by.”

– Mark Twain, *A Tramp Abroad*

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# ACKNOWLEDGMENTS

I would like to thank...

(You must acknowledge grants and other funding assistance.

You may also acknowledge the contributions of professors and friends.

You also need to acknowledge any publishers of your previous work who have given you permission to incorporate that work into your dissertation. See Section 3.2 of the UCI Thesis and Dissertation Manual.)

# CURRICULUM VITAE

Peter Anteater

## EDUCATION

<b>Doctor of Philosophy in Earth System Science</b>	<b>2016</b>
University of California, Irvine	<i>Irvine, California</i>
<b>Master of Science in Earth System Science</b>	<b>2012</b>
University of California, Irvine	<i>Irvine, California</i>
<b>Bachelor of Science in Mechanical Engineering</b>	<b>2008</b>
University of California, San Diego	<i>La Jolla, California</i>

## RESEARCH EXPERIENCE

<b>Graduate Research Assistant</b>	<b>2010 – 2016</b>
University of California, Irvine	<i>Irvine, California</i>

## SELECT REFEREED JOURNAL PUBLICATIONS

**T. C. Sutterley**, I. Velicogna, E. Rignot, J. Mouginot, T. Flament, M. van den Broeke, J. M. van Wessem, C. Reijmer, “Mass loss of the Amundsen Sea Embayment of West Antarctica from four independent techniques,” *Geophysical Research Letters*, 2014. doi:10.1002/2014GL061940.

I. Velicogna, **T. C. Sutterley**, M. van den Broeke, “Regional acceleration in ice mass loss from Greenland and Antarctica using GRACE time-variable gravity data,” *Geophysical Research Letters*, 2014. doi:10.1002/2014GL061052.

**T. C. Sutterley**, I. Velicogna, B. Csatho, M. van den Broeke, S. Rezvanbehbani, G. Babonis, “Evaluating Greenland glacial isostatic adjustment corrections using GRACE, altimetry and surface mass balance data,” *Environmental Research Letters*, 2014. doi:10.1088/1748-9326/9/1/014004.

## INVITED LECTURES

<i>Time-Variable Gravity for Glacier and Ice Sheet Mass Balance</i>	August 2014
International Summer School in Glaciology	<i>McCarthy, AK</i>



## CONFERENCE PRESENTATIONS

Sutterley, T., Velicogna, I. Recent Greenland Thinning from Operation IceBridge ATM and LVIS Data. *Poster, Program for Arctic Regional Climate Assessment (PARCA), NASA Goddard Space Flight Center (2016).*

Sutterley, T., Velicogna, I. Rignot, E., Mouginot, J., Flament, T., van den Broeke, M., van Wessem, J., Reijmer, C. Uncertainties in sheet mass balance in Greenland and Antarctica from GRACE and comparison with other methods. *GRACE Science Team Meeting, 2015.*

Sutterley, T., Velicogna, I., Rignot, E., Mouginot, J., Flament, T., van den Broeke, M., van Wessem, J., Reijmer, C. Recent Changes in Ice Mass Balance of the Amundsen Sea Sector. *Poster, AGU Fall Meeting 2014.*

# ABSTRACT OF THE DISSERTATION

Title of the Thesis

By

Peter Anteater

Doctor of Philosophy in Earth System Science

University of California, Irvine, 2016

Professor A, Chair

The text of the abstract begins here. The text may contain a maximum of 350 words (200 for a Masters Thesis). Include a short statement of the problem you studied, a brief exposition of the methods and procedures employed in gathering the data, and a summary of your findings. No graphs, charts, or tables may be included.

# Chapter 1

## Introduction

This is an example using the L<sup>A</sup>T<sub>E</sub>X template for UCI theses and dissertation documents [Sutterley et al., 2016].

### 1.1 Background

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# Chapter 2

## First Science Chapter

The L<sup>A</sup>T<sub>E</sub>X natbib package provides multiple citation options as described in Daly and Ogawa [2010].

Figure 2.1 is just for illustration purposes, as is Table 2.1. Chapter 1 is a linked reference for the first chapter.

```
#include <iostream>
int main(int argc, char** argv) {
    std::cout << "Hello World." << std::endl;
    return 0;
}
```

**Figure 2.1:** Example source code.

$x$	$y$	$z$
14	12	-2
0	33	-25
-3	11	22
4	4	6

**Table 2.1:** Example coordinates.

# Bibliography

- P. W. Daly and A. Ogawa. natbib - Flexible bibliography support, 2010. URL <https://www.ctan.org/pkg/natbib>. Version 8.31.
- T. Sutterley, L. Otten, T. Harmon, and X. Ge. LaTeX template for thesis and dissertation documents at UC Irvine, 2016. URL <https://github.com/tsutterley/uci-thesis-latex/>.

# Appendix A

## Appendix Title

Supplementary material goes here. See for instance Figure A.1.

### A.1 Lorem Ipsum

dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

“I am glad I was up so late,  
for that’s the reason I was up so early.”  
*William Shakespeare (1564-1616), British dramatist, poet.*  
*Cloten, in Cymbeline, act 2, sc. 3, l. 33-4.*

**Figure A.1:** A deep quote.