

# Travel Report from Monash University Melbourne, Australia

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## Introduction

After presenting my Licentiate Thesis I decided to go abroad for some time, and after reading the following (true or not) I was determined were to go...

*“Australia has some of the best natural scenery, the weirdest wildlife, the most brilliant scuba diving and snorkeling, the best beaches, the oldest rainforest, the oldest human civilization, the best wines, the best weather, the most innovative East-meets-West-meets-someplace-else cuisine - all bathed in sunlight that brings everything up in Technicolor.”*

Hence, after some initial discussions with Prof. Heinz Schmidt at Monash University, and with my supervisors at Mälardalen University, I was on my way down-under.

## Australia – The Country

Australia is huge. All in all, Australia covers more the 5 % of the world's area, or over 7.680.000 sq km (i.e. 17 times Sweden, see the figure). The coastal line of Australia is over 34.000 km (to be compared with the equator that is 40.000 km). The climate in the southern part of the country (i.e. the coldest areas) is approximately the same as in the southern part of Europe. These are some reasons why I think Australia is so fantastic; plenty of free space, never too crowded, wonderful beaches and beautiful weather.



*Comparing the size of Australia with western Europe*

## Australia – The People

Australia is like a huge melting-pot. People from all over the world, however mainly from Europe, have immigrated over the last centuries. Together with the nice and sunny weather, the far-flung beaches, the wildlife, the rainforest, etc., etc. this makes Australia the perfect place to live with the most relaxed, jet hard working, and open minded people I have ever met.

## Melbourne – The Most Livable City in the World

Melbourne is rated by The Economist Intelligence Unit as the world's most 'liveable' city. And I must say that I tend to agree...



*The most livable city in the world*

Melbourne is a city with about 3.4 million people (of which 66% were Australian-born). The land-size equals greater London – meaning that the city is very wide spread.

## Monash University

Monash is Australia's most internationalised university. It has eight campuses including one in Malaysia and one in South Africa, and centres in London, UK and Prato, Italy. Monash has more than 53,000 students from over 100 countries, speaking almost 100 languages. In total, Monash has 75 research centres and more than 2400 academic staff publishes some 5000 research works annually.

During my stay, I worked together with Professor Heinz Schmidt and Doctor Ian Peake, both at The Monash University Centre for Distributed Systems and Software Engineering. This centre aims at advancing foundations, methods and practice of distributed systems and software engineering. The centre focuses on methods and tools for modelling, analysing, constructing and maintaining large distributed software systems. Areas of particular interest are component technology, software architecture, mobile systems, distributed databases, cluster computing and adaptive networks.

Mainly, I was cooperating with Doctor Ian Peake within the project called Extra-Functional Consistency and Prediction for Component-Based Control Systems (eCAP-CBCS). The project develops and implements a new model for prediction and consistency checking of extra-functional, i.e., quantitative software properties (such as worst-case time, space complexity and reliability) relevant for software components in distributed real-time control systems. The objective of the project is to enable cost effective embedded control system design by modelling and predicting extra-functional properties, without needing to produce expensive prototypes.

Our work efforts main contribution is summarised in the research paper: *Component-Based Context-Dependent Hybrid Property Prediction*. In this paper we present a method that enables resource-efficient component-based control software by extending hybrid property prediction methods (i.e. combining static and dynamic techniques) to be context-dependent, enabling less pessimistic extra-functional component property predictions and, hence, improved resource utilisation.

## Living Abroad

The time I spent in Australia was really challenging (new environment, new friends, new colleagues, etc.) but overall – it was great fun! I really recommend spending some time abroad.