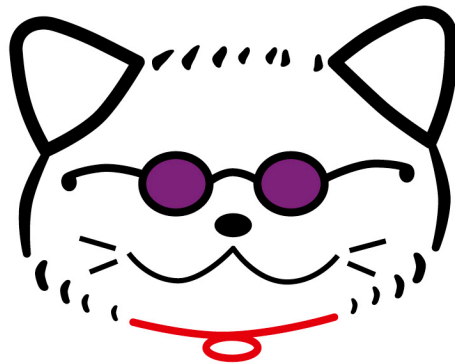


# Program

## **Ninth International Conference on Parallel and Distributed Computing, Applications and Technologies**



**PDCAT 2008**

**University of Otago  
Dunedin, New Zealand  
1-4 December 2008**



# Table of Contents

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# General Information

## Name Badges

In addition to having your name, the holder contains your tickets to the reception and conference dinner. These tickets are needed to speed entry into the venue. It also has a username and password you can use to access the campus wireless network.

## Internet Access

There are two ways to access the Internet during the conference:

1. Computers are available around the Castle Lecture Theatre concourse. These computers are logged in at the beginning of each day. Please leave them logged in when you are done. If they get logged out, use the username posted on the eStop to login. The password is pdcats. It takes about 3 minutes to login so be patient.
2. Wireless Internet is available around the Castle Lecture Theatre complex. Detailed instructions are included at the end of this programme. For the wireless network, you need this specific information:

Network to use: UO-CONFERENCE

Username: pdcats2008

Password: 200812-1-4

## Reception

The reception is on Tuesday, 2 December beginning at 6:00PM. It is held at St. Margaret's College. St. Margaret's is a short (3 minute) walk from the Castle Lecture Theatre complex where the conference is being held. You will be asked for your reception ticket when entering.

## Conference Dinner

The conference dinner is on Wednesday, 3 December beginning at 7:00PM. It is held at St. Margaret's College. St. Margaret's is a short (3 minute) walk from the Castle Lecture Theatre complex where the conference is being held. You will be asked for your dinner ticket when entering.

## Lunch

Lunch is on your own. There are many restaurants on George St. from Albany St. south through the southern loop of Moray Pl. Restaurants also located around The Octagon and around Moray Pl. Refer to the map in your conference bag or the partial map of the city included below.

## **Sipper Bottles**

You received a sipper bottle when you checked in at the registration desk. Please use this when attending all conference sessions. Due to university regulations, no glasses or cups are permitted in the lecture theatres.

## **Parking**

There is no parking available within the campus itself, which is a tow-away area. You can park in Dundas St. and other streets to the north of the campus. Note there are some spaces reserved to Ride-Share that requires two special tokens.

## **Medical and Emergency Facilities**

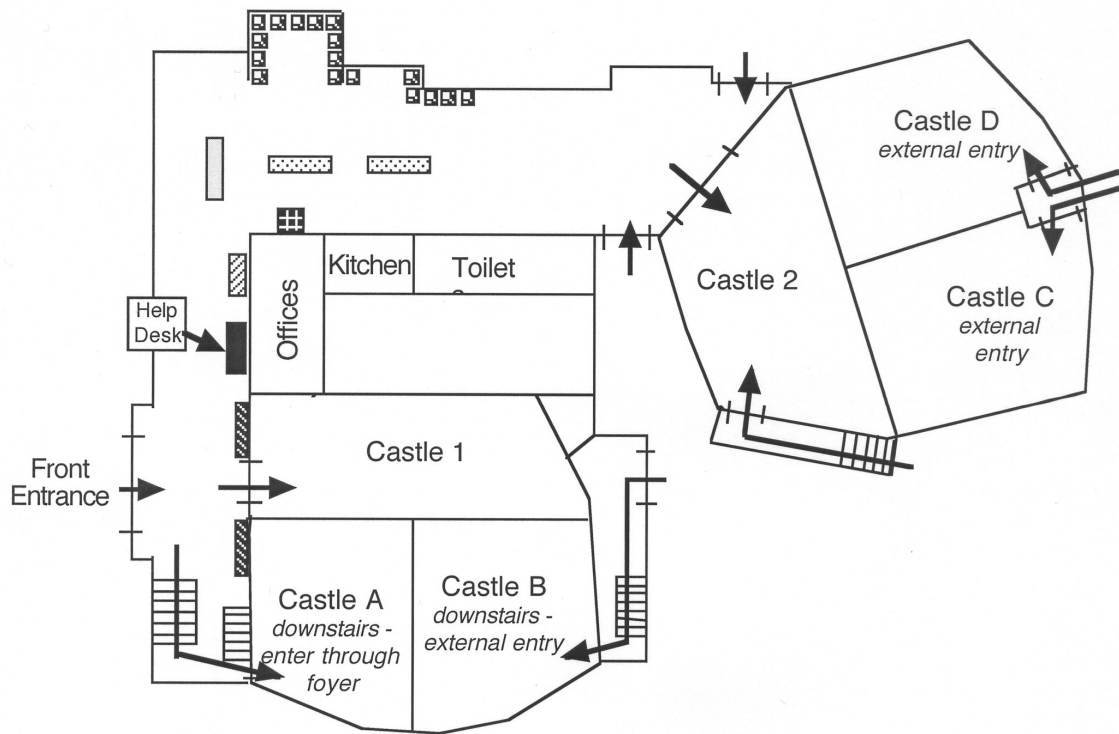
*Emergency:* dial 111

*Urgent Doctors:* 95 Hanover St., Phone 479-2900, Hours: 8 AM – 11:30 PM every day

*Urgent Pharmacy:* 95 Hanover St., Phone 477-6344, Hours: Monday-Friday 10 AM – 10 PM every day

# Conference Venue

The conference is the Castle Lecture theatres. A map of the building is shown below. The keynote addresses and the opening ceremony are held in Castle 1. The tutorials, workshops, and the conference sessions are held in Castle A, B, C, and D. The rooms are specified in the list of presentations later in this program.



Key	
➔	Entry to rooms
⊠	E-stops
▤	Morning & Afternoon Teas
■	Help Desk
▨	Noticeboards
▩	VIP Tours & Travel Desk
⊞	Water

# Campus Map

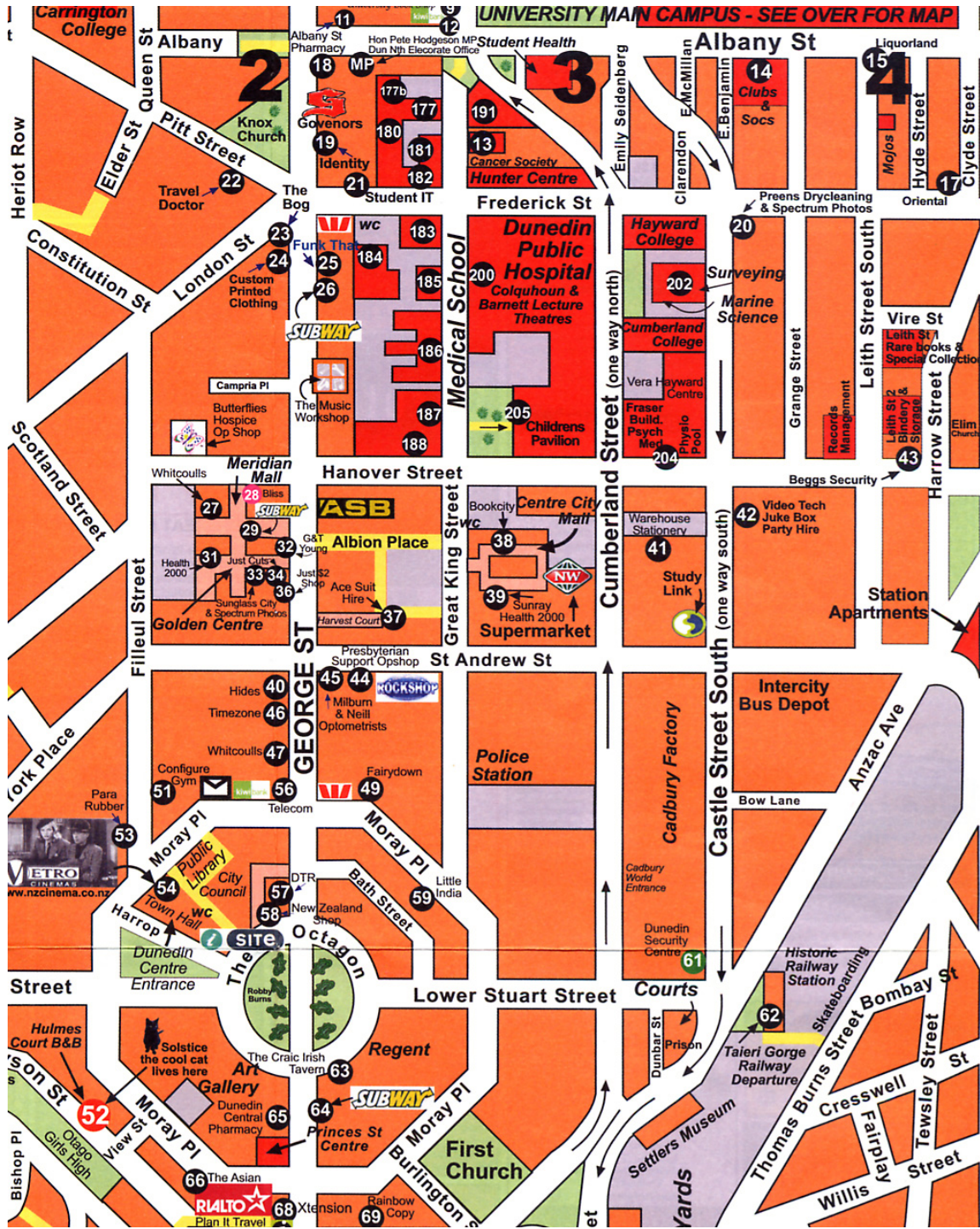
Your conference bag has a map of the campus and the central city. This are included compliments of Norman Wood Enterprises. Partial views of these maps are given below.

The map below shows most of the campus with the conference venue, St. Margaret's College, and the Executive Residence, and the path to take between them.



# Dunedin Map

This map shows the heart of the city. The university sits above this map toward the right.



# Conference Schedule Overview

Monday (1 December)				
Time	Castle A (32)	Castle B (32)	Castle C (40)	Castle D (40)
8:00 - 9:00	Registration			
9:00 - 10:30	SeNAmI Workshop Session 1	Tutorial 2A (Passive Network Analysis using Libtrace)	Tutorial 1A (The GreIC Project: Advanced Grid-Database Management)	Tutorial 3A (Multi-core Programming)
10:30 - 11:00	Morning Tea			
11:00 - 12:30	SeNAmI Workshop Session 2	Tutorial 2B (Passive Network Analysis using Libtrace)	Tutorial 1B (The GreIC Project: Advanced Grid-Database Management)	Tutorial 3B (Multi-core Programming)
12:30 - 2:00	Lunch			
2:00 - 3:30	SeNAmI Workshop Session 3		Tutorial 4A (Simulation for Large-Scale Distributed Computing Research)	Tutorial 3C (Multi-core Programming)
3:30 - 4:00	Afternoon Tea			
4:00 - 5:30	SeNAmI Workshop Session 4		Tutorial 4B (Simulation for Large-Scale Distributed Computing Research)	Tutorial 3D (Multi-core Programming)

Tuesday (2 December)					
Time	Castle A (32)	Castle B (32)	Castle C (40)	Castle D (40)	
8:00 - 9:00	Registration				
9:00 - 10:30	Welcome & Keynote (Castle 1) Looking Toward Exascale Computing <i>Pete Beckman</i>				
10:30 - 11:00	Morning Tea				
11:00 - 12:00	Keynote (Castle 1) Global Experimental Testbeds for Studying Future Internet Technologies <i>Max Ott</i>				
12:00 - 1:30	Lunch				
1:30 - 3:00	PPAM Invited Talk	Formal Languages and Programming Languages (55, 24, 96)	Interconnection Networks (15, 86)	PlanetLab Panel	Session 1
	PPAM Workshop 1				
3:00 - 3:30	Afternoon Tea				
3:30 - 5:30	PPAM Workshop 2	Task Scheduling and Resource Allocation (83, 4, 36, 93)	Grid Computing Systems (92, 72, 44, 104)	PlanetLab Panel	Session 2
6:00 - 8:00	Reception at St. Margaret's College				



Wednesday (3 December)					
Time	Castle A (32)	Castle B (32)	Castle C (40)	Castle D (40)	
8:00 - 9:00	Registration				
9:00 - 10:00	Keynote (Castle 1) Virtual Organizations by the Rules <i>Carl Kesselman</i>				
10:00 - 10:30	Morning tea				
10:30 - 12:00	HPDataGrid Workshop 1	High Performance Computing (80, 28, 77)	Fault-Tolerance and Reliability (89, 95, 65)	Power-Aware Computing (69, 107)	Session 3
12:00 - 1:30	Lunch				
1:30 - 3:00	HPDataGrid Workshop 2	High Performance Computing (60, 88, 33)	Fault-Tolerance and Reliability (16, 109, 85)	Parallel/Distributed Algorithms (35, 7, 14)	Session 4
3:00 - 3:30	Afternoon tea				
3:30 - 5:30		Computer Networks (29, 97, 37, 17)	Intelligent Computing (48, 51)	Parallel/Distributed Algorithms (2, 34, 59, 53)	Session 5
7:00 - 10:00	Conference Dinner at St. Margaret's College				

Thursday (4 December)					
Time	Castle A (32)	Castle B (32)	Castle C (40)	Castle D (40)	
8:00 - 9:00	Registration				
9:00 - 10:00	Keynote (Castle 1) Case Studies in Computer Network Measurement <i>Tony McGregor</i>				
10:00 - 10:30	Morning tea				
10:30 - 12:00	Sensor Networks (102, 61, 57)	Algorithms for Cryptographic Systems (18, 56)	Parallel/Distributed Architecture (108, 12, 101)	NZHPC Workshop 1	Session 6
12:00 - 1:30	Lunch				
1:30 - 3:00	Sensor Networks (94, 40)		Parallel/Distributed Architecture (42, 75, 85)	NZHPC Workshop 2	Session 7
3:00 - 3:30	Afternoon tea				
3:30 - 5:00				NZHPC Workshop 3	Session 8

# Monday (1 December)

## 8:00 – 9:00 Registration (Castle Concourse)

### Tutorial 1

#### The GreIC Project: Advanced Grid-Database Management

S. Fiore, S. Vadacca, A. Negro - Euro-Mediterranean Centre for Climate Change (CMCC) and University of Salento, Italy

9:00 – 10:30 Session 1 (Castle C)

10:30 – 11:00 Coffee Break (Castle Concourse)

11:00 – 12:30 Session 2 (Castle C)

### Tutorial 2

#### Passive Network Analysis using Libtrace

Shane Alcock (WAND Group at the University of Waikato, New Zealand)

9:00 – 10:30 Session 1 (Castle B)

10:30 – 11:00 Coffee Break (Castle Concourse)

11:00 – 12:30 Session 2 (Castle B)

### Tutorial 3

#### Multi-core Programming

Zhiyi Huang, Mariusz Nowostawski, Tim Huang (University of Otago, New Zealand)

9:00 – 10:30 Session 1 (Castle D)

10:30 – 11:00 Coffee Break (Castle Concourse)

11:00 – 12:30 Session 2 (Castle D)

2:00 – 3:30 Session 1 (Castle D)

3:30 – 4:00 Coffee Break (Castle Concourse)

4:00 – 5:30 Session 2 (Castle D)

### Tutorial 4

#### Simulation for Large-Scale Distributed Computing Research

Martin Quinson (INRIA LORIA / University of Nancy, France)

2:00 – 3:30 Session 1 (Castle C)

3:30 – 4:00 Coffee Break (Castle Concourse)

4:00 – 5:30 Session 2 (Castle C)

## **Sensor Networks and Ambient Intelligence (SeNAI 2008)**

### **9:00 – 10:30 Session 1 (Castle A)**

Chair: Boon-Chong Seet

RSDA: Reputation-Based Secure Data Aggregation in Wireless Sensor Networks

*Hani Alzaid, Ernest Foo, and Juan Gonzalez Nieto*

Energy-Efficient Resource Management in Distributed Wireless Imaging Sensor Networks

*Cheng Fu, Bang Wang, and Hock Beng Lim*

Dynamic Network Formation in Ambient Information Networking

*Naoki Wakamiya and Masayuki Murata*

### **10:30 – 11:00 Coffee Break (Castle Concourse)**

### **11:00 – 12:30 Session 2 (Castle A)**

Chair: Boon-Chong Seet

Agent Migration and Communication in WSNs

*Conor Muldoon, Gregory M.P. O'Hare, Michael J. O'Grady, and Richard Tynan*

Cross-Layer Design in Wireless Cognitive Networks

*Yenumula Brahmananda Reddy and Clifton Bullmaster*

Developing an Ambient Home Care System: Context Toolkit-Based Design and Implementation

*Ana Hristova, Ana M. Bernardos, and José R. Casar*

### **12:30 – 2:00- Lunch**

### **2:00 – 3:30 Session 3 (Castle A)**

Chair: Boon-Chong Seet

Ambient-Assisted Living for an Aging Society: From Passive Monitoring to Prevention and Therapy

*Guest Lecture by Professor Luca Benini (University of Bologna, IT)*

A Sensor Grid Infrastructure for Large-Scale Ambient Intelligence

*Mudasser Iqbal, Hock Beng Lim, Wenqiang Wang, and Yuxia Yao*

### **3:30 – 4:00 Coffee Break (Castle Concourse)**

**4:00 – 5:30 Session 4 (Castle A)**

Chair: Boon-Chong Seet

Decision Experiment of Attenuation Constant During Location Estimation in RSSI

*Kazuya Tateishi and Tetsushi Ikegami*

Human Body Detection Using MIMO-UWB Radar Sensor Network in an Indoor Environment

*Go Shingu, Kenichi Takizawa, and Tetushi Ikegami*

Towards Cross-Disciplinary Research in Sensor-based Ambient Intelligence Systems

*Closing Presentation by Program Chair*

## **Tuesday (2 December)**

**8:00 – 9:00 Registration (Castle Concourse)**

**9:00 – 9:30 Conference Opening (Castle 1)**

Paul Werstein – Local Organising chair

Geoffrey White – University of Otago, Research Pro Vice-Chancellor

John Hine – General Chair

Zhiyi Haung – Program Committee co-chair

**9:30 – 10:30 Keynote (Castle 1)**

Chair: Hong Shen

Looking Toward Exascale Computing

*Pete Beckman, Argonne National Laboratory*

**10:30 – 11:00 Coffee Break (Castle Concourse)**

**11:00 – 12:00 Keynote (Castle 1)**

Chair: Krys Pawlikowski

Experimental Testbeds for Studying Future Internet Technologies

*Max Ott, NICTA (Australia's ICT Research Centre of Excellence)*

**12:00 – 1:30 Lunch Break**

**1:30 – 3:00 Session 1**

**Castle A: PPAM 2008: Programming Parallel Applications for Multi-cores (Part 1)**

Chair: Mariusz Nowastawski

Invited Talk – James Goodman

Exploring the Emerging Applications for Transactional Memory

*Jiaqi Zhang, Wenguang Chen, Xinmin Tian, and Weimin Zheng*

## **Castle B: Formal Methods and Programming Languages**

Chair: Yamin Li

Formal Semantics of a Subset of the Paderborn's BSPLib

*Frédéric Gava and Jean Fortin*

Formal Analysis of PANA Authentication and Authorisation Protocol

*Steven Gordon*

Conceptual Modelling and Program Generation for Dynamic Interactive Systems

*Courtney Powell and Kiyoshi Akama*

## **Castle C: Interconnection Networks**

Chair: Cheng Zhong

Set-to-set Disjoint Paths Routing in Dual-cubes

*Shietung Peng and Keiichi Kaneko*

Are Uniform Networks Scalable?

*Takashi Yokota, Kanemitsu Ootsu, and Takanobu Baba*

## **Castle D: PlanetLab Panel (Part 1)**

Chair: Krys Pawlikowski

NGN/NGI Research and Experimentation

Panel members:

*Adnon Al-Anbuky* (AUT, Auckland)

*Brian Carpenter* (University of Auckland)

*Peter Komisarczuk* (University of Victoria, Wellington )

*Max Ott* (NICTA, Sydney, Australia)

*Krys Pawlikowski* (University of Canterbury)

*Harsha Sirisena* (University of Canterbury)

*Thomas Zinner* (University of Wuerzburg, Germany)

*Richard Harris* (Massey University)

**3:00 – 3:30 Coffee Break (Castle Concourse)**

## 3:30 – 5:30 Session 2

### Castle A: PPAM 2008: Programming Parallel Applications for Multi-cores (Part 2)

Chair: Mariusz Nowastawski

Virtual Aggregated Processor in Multi-core Computers

*Z. Huang, Andrew Trotman, Jiaqi Zhang, Xiangfei Jia, Mariusz Nowostawski, Nathan Rountree, and Paul Werstein*

A Framework for Concurrency in Numerical Simulations Using Lock Free Data Structures: The Graph Parallel Architecture GraPA

*Peter Klein, Dimo Maleshkov, and Dimitar Asenov*

The Layer Disruption Model: A Runtime Approach to Multi-Core Processors

*Javier Iparraguirre and Mitchell D. Theys*

Multi-Core Defense System (MSDS) for Protecting Computer Infrastructure against DDoS Attacks

*Ashley Chonka, Soon Keow Chong, Wanlei Zhou, and Yang Xiang*

### Castle B: Task Scheduling and Resource Allocation

Chair: Shietung Peng

Scheduling Algorithm Based on Force Directed Clustering

*Alistair Palmer and Oliver Sinnen*

Efficient Algorithms for Jitterless Real-Time Tasks to DVS Schedules

*Da-Ren Chen, Chiun-Chieh Hsu and Ming-Fong Lai*

Optimal Scheduling of Task Graphs on Parallel Systems

*Ahmed Zaki Semar Shahul, and Oliver Sinnen*

A Dynamic Provisioning Framework for Multi-Tier Internet Applications in Virtualized Data Center

*Yi Jin, Xu Liu, Jianfeng Zhan and Shuang Gao*

## **Castle C: Grid Computing Systems**

Chair: Steve Gordon

A Layered Virtual Organization Architecture for Grid

*Yongqiang Zou, Li Zha, Xiaoning Wang, Haojie Zhou and Peixu Li*

Operating System-level Virtual Organization Support in XtremOS

*An Qin, Haiyan Yu, ChengChun Shu, Xiaoqian Yu, Yvon Jegou and Christine Morin*

Scalable Contract Net Based Resource Allocation Strategies for Grids

*Ravish Mahajan and Arobinda Gupta*

An Experimental Analysis for Memory Usage of GOS Core

*Xiaoyi Lu, Qiang Yue, Yongqiang Zou, and Xiaoning Wang*

## **Castle D: PlanetLab Panel (Part 2)**

Chair: Krys Pawlikowski

NGN/NGI Research and Experimentation

Panel members:

*Adnon Al-Anbuky* (AUT, Auckland)

*Brian Carpenter* (University of Auckland)

*Peter Komisarczuk* (University of Victoria, Wellington )

*Max Ott* (NICTA, Sydney, Australia)

*Krys Pawlikowski* (University of Canterbury)

*Harsha Sirisena* (University of Canterbury)

*Thomas Zinner* (University of Wuerzburg, Germany)

*Richard Harris* (Massey University)

**6:00 – 8:00 Reception at St. Margaret's College**



## Wednesday (3 December)

**8:00 – 9:00 Registration (Castle Concourse)**

**9:00 – 10:00 Keynote (Castle 1)**

Chair: John Hine

Virtual Organizations by the Rules

*Carl Kesselman, University of Southern California*

**10:00 – 10:30 Coffee break (Castle Concourse)**

**10:30 – 12:00 Session 3**

**Castle A: Workshop on High Performance Data Grid (HPDataGrid)  
(Part 1)**

Chair: Sandro Fiore

A Parallel Recovery Scheme for Update Intensive Main Memory Database Systems

*Xiongpai Qin, Yanqin Xiao, Wei Cao, and Shan Wang*

MIM: Multimedia Integration Middleware, a Multimedia Services Platform  
for Grid Environments

*Leonardo Enrique Mancilla Amaya, and Claudia Lucía Jiménez Guarín*

Popularity-Driven Dynamic Replica Placement in Hierarchical Data Grids

*Mohammad Shorfuzzaman, Peter Graham, and Rasit Eskicioglu*

**Castle B: High Performance Computing (Part 1)**

Chair: Fan Dongrui

Overheads in Accelerating Molecular Dynamics Simulations with GPUs

*Tetsu Narumi, Ryuji Sakamaki, Shun Kameoka, and Kenji Yasuoka*

GPU as a General Purpose Computing Resource

*Qihang Huang, Zhiyi Huang, Paul Werstein, and Martin Purvis*

Feasibility Study of Implementing Multi-Channel Correlation for DSP Applications on  
Reconfigurable CPU+FPGA Platform

*Maxim Leonov and Vyacheslav Kitaev*

## **Castle C: Fault-Tolerance and Reliability (Part 1)**

Chair: Tony McGregor

An Adaptive Checkpointing Scheme for Peer-to-Peer Based Volunteer Computing Work Flows

*Lei Ni and Aaron Harwood*

SWPM: An Incremental Fault Localization Algorithm Based on Sliding Window with Preprocessing Mechanism

*Cheng Zhang, Jianxin Liao and Xiaomin Zhu*

Checkpointing Process Groups in a Grid Environment

*John Mehnert-Spahn, Michael Schoettner and Christine Morin*

## **Castle D: Power-Aware Computing**

Chair: Wei Wang

Chasing Gaps between Bursts : Towards Energy Efficient Large Scale Experimental Grids

*Anne-Cécile Orgerie, Laurent Lefevre, and Jean-Patrick Gelas*

A Low-Power Proxy to Allow Unattended Jabber Clients to Sleep

*Paul Werstein and Wannes Vossen*

## **12:00 – 1:30 Lunch Break**

## **1:30 – 3:00 Session 4**

## **Castle A: Workshop on High Performance Data Grid (HPDataGrid) (Part 2)**

Chair: Sandro Fiore

iGRelC: A Dashboard Implementation for Grid Environments

*Sandro Fiore, Alessandro Negro, Salvatore Vadacca, and Giovanni Aloisio*

Advances in the ProGenGrid Workflow Management System

*Maria Mirto, Massimo Cafaro, Italo Epicoco, and Giovanni Aloisio*

## **Castle B: High Performance Computing (Part 2)**

Chair: Slava Kiteav

Efficient Parallelization of a Protein Sequence Comparison Algorithm on Manycore Architecture

*Xiaochun Ye, Van-Hoa Nguyen, Dominique Lavenier, and Dongrui Fan*

Optimized Component Labeling Algorithm for Using in Medium Sized FPGAs

*Yasuaki Ito and Koji Nakano*

Bargain Cache: Using File-System Metadata to Reduce the Cache Miss Penalty

*Yingjie Zhao and Nong Xiao*

## **Castle C: Fault Tolerance and Reliability (Part 2)**

Chair: Hong Shen

LBG-SQUARE - Fault-Tolerant, Locality-Aware Co-Allocation in P2P Grids

*Gérard Dethier, Cyril Briquet, Pierre Marchot, and Pierre-Arnoul de Marneffe*

On improving the Reliability of Internet Services through Active Replication

*Narjess Ayari, Denis Barbaron and Laurent Lefevre*

A Fast-Start, Fault-Tolerant MPI Launcher on Dawning Supercomputers

*Xu Liu, Bibo Tu, Jianfeng Zhan, and Dan Meng*

## **Castle D: Parallel/Distributed Algorithms (Part 1)**

Chair: Qihang Huang

A Data-Parallel Algorithm to Reliably Solve Systems of Nonlinear Equations

*Frederic Goualard and Alexandre Goldsztejn*

A New Iterative Elliptic PDE Solver on a Distributed PC Cluster

*Norhashidah M. Ali and Kok Fu Ng*

An Effective Structure for Algorithmic Design and a Parallel Prefix Algorithm on Metacube

*Yamin Li, Shietung Peng, and Wanming Chu*

## **3:00 – 3:30 Coffee Break (Castle Concourse)**

## **3:30 – 5:30 Session 5**

### **Castle B: Computer Networks**

Chair: Laurent Lefevre

Trust Enhanced Anonymous Routing in Mobile Ad-Hoc Networks  
*Min-Hua Shao and Shin-Jia Huang*

Node-disjoint Alternative Dual-path Routing for Data Salvation in Mobile Ad hoc Networks  
*Chu-Hsing Lin, Fuu-Cheng Jiang, Jen-Chieh Chang, and Frode Eika Sandnes*

Performance and Evaluation of Message Transmission Mechanism in Operation Management Platform of ForCES Routers  
*Ke Qian, WeiMing Wang, and Ming Gao*

DCSVS: Distributed Collaborative Set-top-box Video Service  
*Chao Liu, Hao Chen, and Dejiang Ye*

### **Castle C: Intelligent Computing**

Chair: Nathan Rountree

Finding Interaction Partners Using Attitude-Based Decision Strategies  
*Toktam Ebadi, Maryam Purvis, and Martin Purvis*

Parallel Pattern Recognition Using a Single-Cycle Learning Approach  
*Anag Hudaya Muhamad Amin and Asad I. Khan*

### **Castle D: Parallel/Distributed Algorithms (Part 2)**

Chair: Qihang Huang

A Parallel Algorithm for Block Tridiagonal Systems  
*Heng Zhang, Wu Zhang and Xian-He Sun*

An Efficient Parallel Algorithm for H.264/AVC Encoder  
*Shuwei Sun and Shuming Chen*

Parallelization and Acceleration Scheme of Multilevel Fast Multipole Method,  
*Wu Wang, Yangde Feng and Xuebin Chi*

Parallel Approximate Multi-Pattern Matching on Heterogeneous Cluster Systems  
*Cheng Zhong, Zeng Fan, and Defu Su*

## **7:00 – 10:00 Dinner at St. Margaret's College**

## **Thursday (4 December)**

**8:00 – 9:00 Registration (Castle Concourse)**

**9:00 – 10:00 Keynote (Castle 1)**

Chair: Zhiwei Xu

Case Studies in Computer Network Measurement

*Tony McGregor, University of Waikato*

**10:00 – 10:30 Coffee break (Castle Concourse)**

**10:30 – 12:00 Session 6**

**Castle A: Sensor Networks (Part 1)**

Chair: Hong Zhu

An Effective PSO-based Node Localization Scheme for Wireless Sensor Networks

*Po-Jen Chuang and Cheng-Pei Wu*

Periodic Mobile Multi-Gateway Scheduling

*Khaled Almi'ani, Selvakennedy Selvadurai, and Anastasios Viglas*

GRE: Graded Residual Energy based Lifetime Prolonging Algorithm for Pipeline Monitoring Sensor Networks

*Zhong-wen Guo, Hanjiang Luo, Feng Hong and Peng Zhou*

**Castle B: Algorithms for Cryptographic Applications**

Chair: Raymond Scurr

Operation of Super Long Integers in Cryptographic Applications

*Shenghui Su, Jian Li, and Lei Shi*

Redundant Radix-2r Number System for Accelerating Arithmetic Operations on the FPGAs

*Kensuke Kawakami, Koji Shigemoto, and Koji Nakano*

## **Castle C: Parallel/Distributed Architecture (Part 1)**

Chair: Sandro Fiore

Switch-based Packing Technique for Improving Token Coherence Scalability

*Blas Cuesta, Antonio Robles, and Jose Duato*

Location Consistency Model Revisited: Problem, Solution and Prospects

*Guoping Long, Nan Yuan and Dongrui Fan*

An Enhancer of Memory and Network for Cluster and its Applications

*Noboru Tanabe and Hironori Nakajo*

## **Castle D: New Zealand Workshop in High Performance and Grid Computing (Invited Talks)**

Chair: Slava Kitaeff

Grid tools that scientists can use (and want to)

*Mark Gahegan (University of Auckland, NZ)*

View-Oriented Parallel Programming

*Zhiyi Huang (University of Otago, NZ)*

State of BeSTGRID: Evolving a New Zealand Research Grid infrastructure

*Nick Jones (University of Auckland, NZ)*

## **12:00 – 1:30 Lunch Break**

## **1:30 – 3:00 Session 7**

## **Castle A: Sensor Networks (Part 2)**

Chair: Zhiwei Xu

Maximizing Networking Lifetime in Wireless Sensor Networks with Regular Topologies

*Hui Tian, Hong Shen and Matthew Roughan*

Portable Object Thermal Awareness: Modeling Intelligent Sensor Network for Cool Store Applications

*Naresh Yamani, Adnan Al-Anbuky, and Amoakoh Gyasi-Agyei*

## **Castle C: Parallel/Distributed Architecture (Part 2)**

Chair: John Hine

Honeycomb: A Community-based System for Distributed Data Integration and Sharing  
*Wenlong Huang, Taoying Liu, and Yi Zhao*

Efficient Use of GUIDs  
*Christof Lutteroth and Gerald Weber*

Tupleware: A Distributed Tuple Space for Cluster Computing  
*Alistair Atkinson*

## **Castle D: New Zealand Workshop in High Performance and Grid Computing (Part 2)**

Chair: Slava Kitaeff

XtreemOS: Beyond Grid Middleware  
*John Mehnert-Spahn (Heinrich Heine Universität, Germany)*

The GreIC Portal: A Ubiquitous and Seamless Way to Manage Grid Databases  
*Sandro Fiore, Alessandro Negro, Salvatore Vadacca, Emanuele Verdesca, Alessio Leone, and Giovanni Aloisio (University of Salento, Euro Mediterranean Centre for Climate Change, Italy)*

Application-Specific Disk I/O Optimisation for a Search Engine  
*Xiangfei Jia, Andrew Trotman, Richard O'Keefe, and Zhiyi Huang (University of Otago, NZ)*

Stream Processing of Integral Images for Real-Time Object Detection  
*Chris Messom and Andre Barczak (Massey University, NZ)*

## **3:00 – 3:30 Coffee Break (Castle Concourse)**

## **3:30 – 5:00 Session 8**

### **Castle D: New Zealand Workshop in High Performance and Grid Computing (Part 3)**

Chair: Slava Kitaeff

How to Compute Faster and Cheaper: Reconfigurable HPC

*Slava Kitaev (Auckland University of Technology) and Tim Molteno (University of Otago)*

BlueFern and HPC at the University of Canterbury

*Tony Dale (University of Canterbury, NZ)*

Introduction to High Performance Computing with BlueFern

*Tony Dale (University of Canterbury, NZ)*