

# M DELS 2011

16–21 October 🐨 Wellington 🐨 New Zealand

## Conference Handbook

Organized by

Victoria University of Wellington



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# Welcome

Welcome to Wellington, the “*coolest little capital in the world!*”

Wellington may be small (less than 400,000 residents) but it sports many natural and man-made attractions. The combination of green hills, blue ocean and yellow beaches – take a stroll to Oriental Parade while you are here – inspired another saying: “*You can't beat Wellington on a good day!*” Weather permitting, you will be able to validate this claim when enjoying a splendid view of the Wellington harbour as you approach the Carter Observatory in Wellington's iconic Cable Car, and of course, when walking along the waterfront on your way to the location of the conference's banquet location, the signature “Beehive” building.



Wellington film directors, such as Jane Campion (“The Piano”) and Sir Peter Jackson (“Lord of the Rings”), and the Weta Workshop / Weta Digital studios (“King Kong”, “Avatar”) have earned Wellington the nickname “Wellywood”.

Another Wellington highlight is the conference venue for MODELS 2011 itself, the Museum of New Zealand Te Papa Tongarewa, most commonly referred to as “Te Papa” (Our Place). The Māori part of its name roughly translates to “the place of treasures of this land”.

MODELS 2011 has selected “*Modeling in 2020*” as a theme to encourage fresh thinking about the future role of modelling in complex systems engineering. To this end, MODELS 2011 features

- special *vision papers* as part of the Foundations Track. (→ session S5.a)
- a “*Modeling Visions*” session with invited presentations. (→ session S4.a)
- a panel on the topic “*When will Code become Irrelevant?*”.

Injecting new thoughts into the modelling community was furthermore the motivation for choosing two of MODELS 2011's three high-calibre keynote speakers from outside the software modelling domain. As a result MODELS 2011 participants are treated not only to Formula, a formal specification language and toolset for describing, transforming and analyzing models (Wolfram Schulte), but also to considering software from a “design studies” perspective (Marian Petre) as well as – a first for MODELS – fascinating insights to animated computer generated faces by a two times Academy Award winner (Mark Sagar).

On behalf of all organisers, I wish you an enjoyable stay at MODELS 2011, Wellington, and New Zealand.

Thomas Kühne  
(General Chair)

# Organisers

<b>General Chair</b>	Thomas Kühne
<b>Local Chairs</b>	Stuart Marshall Hui Ma
<b>Program Chairs</b>	Jon Whittle (Foundations) Tony Clark (Applications)
<b>Publicity Chair</b>	Werner Heijstek
<b>Workshop Chair</b>	Jörg Kienzle
<b>Tutorial Chair</b>	Vasco Amaral
<b>Panel Chair</b>	Colin Atkinson
<b>Doctoral Symposium Chairs</b>	Joerg Evermann Ivan Porres
<b>Educators' Symposium Chairs</b>	Marion Brandsteidl Andreas Winter

# Keynotes

*Soundings Theatre*



**Marian Petre**, Open University, UK

*The Value in Muddling Around Modelling*

Wednesday, 19 October, 9.15 – 10.30



**Mark Sagar**, Weta Digital, NZ

*Creating Models for Simulating the Face*

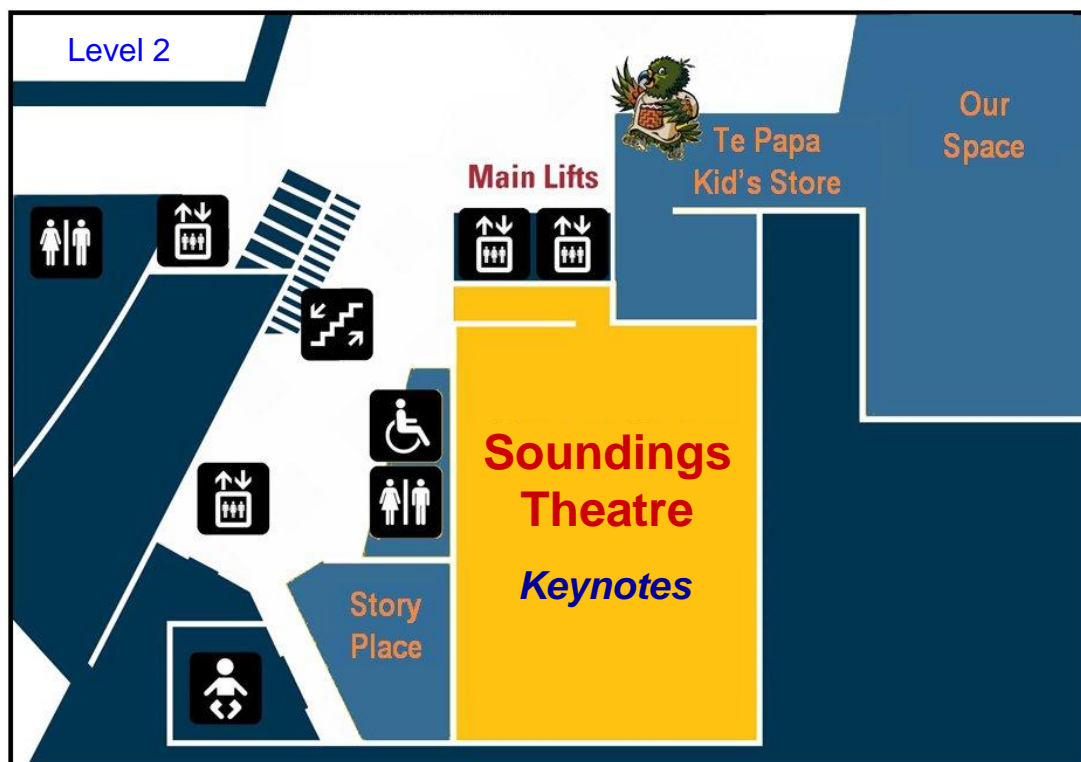
Thursday, 20 October, 9.15 – 10.30



**Wolfram Schulte**, Microsoft Research, USA

*Finding Models in Model-based Development*

Friday, 21 October, 9.15 – 10.30



# Panel

*Soundings Theatre, Thursday, 20 October, 16.00*

## **When will Code become Irrelevant?**

Modelling has made significant strides since the introduction of the UML in the 1990s and now plays a role in most software engineering projects. However, it is still usually regarded as a means-to-an-end rather than an end itself, with “code” (in third generation, high level programming languages like Java) still being regarded as the primary software artefact driving software projects, especially those following “agile” development methods. The question addressed by this panel is when, if ever, will this situation change in mainstream software engineering practice and when will models taken centre stage in software projects rather than play a supporting role? In other words when will high level, 3GL “code” become irrelevant to software engineers, just as assembler code, machine code and byte code are irrelevant to them today. Another way of casting the question is “when will models become the code?” This will be the day when modelling finally fulfils its promise of raising the level of abstraction at which software systems are described, and high-level source code will simply become an internal, machine-oriented representation format.

### **Panelists**

- Gregor Engels, Universität Paderborn, Germany
- Brian Henderson-Sellers, University of Technology Sydney, Australia
- Bernhard Rumpe, RWTH Aachen, Germany
- Wolfram Schulte, Microsoft Research, USA
- Bran Selic, Malina Software Corp., Canada

### **Moderator**

- Colin Atkinson, Universität Mannheim, Germany

# Satellite Events Overview

## Workshops

Sunday	W1	VARY	Variability for You
	W2	MPM	Multi-Paradigm Modeling
Monday	W3	EESMod	Experiences and Empirical Studies in Software Modelling
	W4	Models@run.time	Models at Runtime
	W5	MoDeVVa	Model-Driven Engineering, Verification and Validation
Tuesday	W6	CMA	Comparing Modeling Approaches
	W7	ME	Models and Evolution
	W8	ACES MB	Model-Based Architecting and Construction of Embedded Systems

## Tutorials

Sunday	T1	Generating Systems from UML
	T2	SysML vs. UML2. A Detailed Comparison
	T3	The Theory and Practice of Modeling Language Design
Monday	T4	Applying Model Driven Engineering Technologies in the Creation of Domain Specific Modeling Languages
	T5	Formal Modeling with FORMULA. From Specifications to Design Space
Tuesday	T6	Formal Visual Modelling
	T7	Mathematics and Metamodeling

## Symposia

Monday	DS	Doctoral Symposium
Tuesday	ES	Educators' Symposium

# Satellite Events: Sunday, 16 October

	Angus Room	ICON	Rangimarie 1	Rangimarie 2
08.30	Registration (Oceania Room)			
09.00	T1 Generating Systems from UML	W2 MPM	T3 The Theory and Practice of Modeling Language Design	W1 VARY
10.30	Morning Tea (Oceania Room)			
11.00	T1 Generating Systems from UML	W2 MPM	T3 The Theory and Practice of Modeling Language Design	W1 VARY
12.30	Lunch (Oceania Room)			
14.00	T2 SysML vs UML2	W2 MPM	T3 The Theory and Practice of Modeling Language Design	W1 VARY
15.30	Afternoon Tea (Oceania Room)			
16.00	T2 SysML vs UML2	W2 MPM	T3 The Theory and Practice of Modeling Language Design	W1 VARY
17.30	Sessions Finish			

# Satellite Events: Monday, 17 October

	Angus Room	ICON	Rangimarie 1	Rangimarie 2	Rangimarie 3
08.30	Registration (Oceania Room)				
09.00	W3 EESMod	W5 MoDeVva	W4 Models@run.time	T4 Applying Model Driven Technologies...	Doctoral Symposium
10.30	Morning Tea (Oceania Room)				
11.00	W3 EESMod	W5 MoDeVva	W4 Models@run.time	T4 Applying Model Driven Technologies...	Doctoral Symposium
12.30	Lunch (Oceania Room)				
14.00	W3 EESMod	W5 MoDeVva	W4 Models@run.time	T5 Formal Modeling with FORMULA	Doctoral Symposium
15.30	Afternoon Tea (Oceania Room)				
16.00	W3 EESMod	W5 MoDeVva	W4 Models@run.time	T5 Formal Modeling with FORMULA	Doctoral Symposium
15.30	Sessions Finish				
18.30	Carter Observatory Reception				

## Satellite Events: Tuesday, 18 October

	Angus Room	ICON	Rangimarie 1	Rangimarie 2	Rangimarie 3
09.00	Educators' Symposium <i>Teaching Certain Topics</i>	W7 ME	W6 CMA	W8 ACES MB	T6 Formal Visual Modelling
10.30	Morning Tea (Oceania Room)				
11.00	Educators' Symposium <i>Practical Approaches in Teaching and Teaching in Practice</i>	W7 ME	W6 CMA	W8 ACES MB	T6 Formal Visual Modelling
12.30	Lunch (Oceania Room)				
14.00	Educators' Symposium <i>Teaching Approaches and Modeling Skills</i>	W7 ME	W6 CMA	W8 ACES MB	T7 Mathematics and Metamodelling
15.30	Afternoon Tea (Oceania Room)				
16.00	Educators' Symposium <i>Discussion on Modeling Curriculum</i>	W7 ME	W6 CMA	W8 ACES MB	T7 Mathematics and Metamodelling
17.30	Sessions Finish				

# Conference: Wednesday, 19 October

	Soundings Theatre	Rangimarie 1	Rangimarie 2
08.30	Registration (Oceania Room)		
09.00	Welcome (Soundings Theatre)		
09.15	Keynote: Marian Petre, " <i>The Value in Muddling Around Modelling</i> " (Soundings Theatre)		
10.30	Morning Tea (Oceania Room)		
	S1.a <b>Model Transformations</b> Chair: Zinovy Diskin	S1.b <b>Model Complexity</b> Chair: Ivan Porres	S1.c <b>Aspect Oriented Modelling</b> Chair: Gunter Mussbacher
11.00	M Drago, C Ghezzi, R Mirandola <i>Towards Quality Driven Exploration of Model Transformation Spaces</i>	J Chimiak-Opoka <i>Measuring UML Models using Metrics defined in OCL within the SQUAM Framework</i>	J Fabry, A Zambrano, S Gordillo <i>Expressing Aspectual Interactions in Design. Experiences in the Slot Machine Domain</i>
	G Kainz, C Buckl, A Knoll <i>Automated Model-to-Metamodel Transformations Based on the Concepts of Deep Instantiation</i>	A Blouin, B Combemale, B Baudry, O Beaudoux <i>Modeling Model Slicers</i>	S Ali, L Briand, A Arcuri, S Walawege <i>An Industrial Application of Robustness Testing using Aspect-Oriented Modeling, UML/MARTE, and Search Algorithms</i>
	M Tisi, S Martínez, F Jouault, J Cabot <i>Lazy Execution of Model-to-Model Transformations</i>	J Espinazo Pagán, J Sánchez Cuadrado, J García Molina <i>Morsa: a scalable approach for persisting and accessing large models</i>	W A Abed, J Kienzle <i>Aspect-Oriented Modelling for Distributed Systems</i>
12.30	Lunch (Oceania Room)		
	S2.a <b>Analysis &amp; Comprehension of Models</b> Chair: Vinay Kulkarni	S2.b <b>Domain Specific Modelling</b> Chair: Geri Georg	S2.c <b>Models for Embedded Systems</b> Chair: Rob Pettit
14.00	G Reggio, F Ricca, F Di Cerbo, G Dodero, Giuseppe Scanniello <i>A Precise Style for Business Process Modelling: Results from Two Controlled Experiments</i>	F Kraemer <i>Engineering Android Applications with UML Activities</i>	M Lettner, M Tschernuth, R Mayrhofer <i>A Critical Review of Applied MDA for Embedded Devices: Identification of Problem Classes and Discussing Porting Efforts in Practice</i>

	S Maoz, J Oliver R, B Rumpe <i>Semantically Configurable Consistency Analysis for Class and Object Diagrams</i>	J Steel, R Drogemuller <i>Domain-Specific Model Transformation in Building Quantity Takeoff</i>	A Koudri, A Cuccuru, S Gérard, F Terrier <i>Designing Heterogeneous Component Based Systems: Evaluation of MARTE Standard and Enhancement Proposal</i>
	G Bavota, C Gravino, R Oliveto, A De Lucia, G Tortora, M Genero, J Cruz-Lemus <i>Identifying the Weaknesses of UML Class Diagrams during Data Model Comprehension</i>	M Palyart, D Lugato, I Ober, J Bruel <i>Improving Scalability and Maintenance of Software for High-Performance Scientific Computing by Combining MDE and Frameworks</i>	B Schätz, B Al-Batran, B Hummel <i>Semantic Clone Detection for Model-Based Development of Embedded Systems</i>
15.30	Afternoon Tea (Oceania Room)		
	<b>S3.a</b> <b>Model Synchronization</b> Chair: Jörg Kienzle	<b>S3.b</b> <b>Model Based Resource Management</b> Chair: Shahar Maoz	<b>S3.c</b> <b>Analysis of Class Diagrams</b> Chair: Hiroshi Miyazaki
	H Song, G Huang, F Chauvel, W Zhang, Y Sun, H Mei <i>Instant Bidirectional QVT Transformation for Runtime Models</i>	B Hamid, S Gürgens, C Jouvray, N Desnos <i>Enforcing S&amp;D Pattern Design in RCES with Modeling and Formal Approaches</i>	M Elaasar, Y Labiche <i>Diagram Definition: a Case Study with the UML Class Diagram</i>
16.00	M Clavreul, S Mosser, M Blay-Fornarino, R France <i>Service-oriented Architecture Modeling: Bridging the Gap Between Structure and Behavior</i>	K Lind, R Heldal <i>A Model-Based and Automated Approach to Size Estimation of Embedded Software Components</i>	Feinerer, G Salzer, T Sisel <i>Reducing Multiplicities in Class Diagrams</i>
	Z Diskin, Y Xiong, K Czarnecki, H Ehrig, F Hermann, F Orejas <i>From State- to Delta-based Bidirectional Model Transformations: The Symmetric Case</i>	F Fleurey, B Morin, A Solberg, O Barais <i>MDE to Manage Communications with and between Resource-Constrained Systems</i>	
17.30	Sessions Finish		
18.30	Conference Reception		

# Conference: Thursday, 20 October

	Soundings Theatre	Rangimarie 1	Rangimarie 2
08.30	Registration (Oceania Room)		
09.00	Announcements (Soundings Theatre)		
09.15	Keynote: Mark Sagar, " <i>Creating Models for Simulating the Face</i> " (Soundings Theatre)		
10.30	Morning Tea (Oceania Room)		
11.00	S4.a <b>Modeling Visions (Invited)</b> Chair: Jon Whittle	S4.b <b>Verification &amp; Validation</b> Chair: Gregor Engels	S4.c <b>Refactoring Models</b> Chair: Bernhard Rumpe
	Ø Haugen <i>Modeling — Back to the Future?</i>	A García-Domínguez, D Kolovos, L M Rose, R F Paige, I Medina-Bulo <i>EUnit: a Unit Testing Framework for Model Management Tasks</i>	F Steimann <i>Constraint-Based Model Refactoring</i>
	R France <i>A Future Without Model-Driven Software Development</i>	Y Moffett, A Beaulieu, J Dingel <i>Verifying UML-RT Protocol Conformance using Model Checking</i>	M Akiyama, S Hayashi, T Kobayashi, M Saeki <i>Supporting Design Model Refactoring for Improving Class Responsibility Assignment</i>
	B Selic <i>The Could Be, Should Be, and (Likely) Will Be of Model-Based Engineering</i>	H Cichos, S Oster, M Lochau, A Schürr <i>Model-based Coverage-driven Test Suite Generation for Software Product Lines</i>	
12.30	Lunch (Oceania Room)		

	S5.a <b>Modeling Visions</b> Chair: Gianna Reggio	S5.b <b>Logics and Modeling</b> Chair: Robert France	S5.c <b>Development Methods</b> Chair: Bran Selic
14.00	D Zapanuks, M Hauswirth <i>The Essence of Structural Models</i>	A Ramirez, B Cheng <i>Automatic Derivation of Utility Functions for Monitoring Software Requirements</i>	M Houssaini, M Kleiner, L Roucoules <i>Model-based (Mechanical) Product Design</i>
	C Wilke, S Götz, J Reimann, U Aßmann <i>Towards Model-Based Energy Testing</i>	M Balaban, M Kifer <i>Logic-based Model Level Software Development with F-OML</i>	S Izukura, K Yanoo, T Osaki, H Sakaki, D Kimura, J Xiang <i>Applying a Model-Based Approach to IT Systems Development using SysML Extension</i>
	U Fahrenberg, A Legay, A Wasowski <i>Make a Difference! (Semantically)</i>	K Stenzel, N Moebius, W Reif <i>Formal Verification of QVT Transformations for Code Generation</i>	V Kulkarni, S Barat, U Ramteerthkar <i>Early Experience with Agile Methodology in a Model-driven Approach</i>
15.30	Afternoon Tea (Oceania Room)		
16.00	Panel, " <i>When will Code become Irrelevant?</i> " (Soundings Theatre) Gregor Engels, Brian Henderson-Sellers, Bernhard Rumpe, Wolfram Schulte, Bran Selic. Moderator: Colin Atkinson		
17.00	Panel Finishes		
18.45	Conference Banquet (Parliament)		

# Conference: Friday, 21 October

	Soundings Theatre	Rangimarie 1	Rangimarie 2
09.00	Announcements (Soundings Theatre)		
09.15	Keynote: Wolfram Schulte, " <i>Finding Models in Model-Based Development</i> " (Soundings Theatre)		
10.30	Morning Tea (Oceania Room)		
	S6.a <b>Model Transformations</b> Chair: Colin Atkinson	S6.b <b>Verification &amp; Validation</b> Chair: Juergen Dingle	S6.c <b>Model Integration and Collaboration</b> Chair: Sébastien Gérard
11.00	S Maoz, J Ringert, B Rumpe <i>CD2Alloy: Class Diagrams Analysis Using Alloy Revisited</i>	M Johansen, Ø Haugen, F Fleurey <i>Properties of Realistic Feature Models make Combinatorial Testing of Product Lines Feasible</i>	A Jensen, B Cheng, H Goldsby, E Nelson <i>A Toolchain for the Detection of Structural and Behavioral Latent System Properties</i>
	T Yuki, A Floch, S Derrien, B Combemale, S Rajopadhye, R France, C Guy <i>Model-Driven Engineering and Optimizing Compilers: A bridge too far?</i>	E Jackson, D Balasubramanian, T Levendovszky <i>Reasoning about Metamodeling with Formal Specifications and Automatic Proofs</i>	A Cuccuru, S Gérard, F Terrier <i>Defining MARTE's VSL as an Extension of Alf</i>
	D Wagelaar, M Tisi, J Cabot, F Jouault <i>Towards a general composition semantics for rule-based model transformation</i>	F Hermann, H Ehrig, F Orejas, K Czarnecki, Z Diskin, Y Xiong <i>Correctness of Model Synchronization Based on Triple Graph Grammars</i>	R Zhang, A Krishnan <i>Using Delta Model for Collaborative Work of Industrial Large-scaled E/E Models</i>
12.30	Conference Closes		

## Legend

<b>Foundations Track</b>	<b>Vision Paper</b>	<b>Applications Track</b>	<b>Modeling Visions (invited)</b>
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# Social Events

## Carter Observatory Reception

*Carter Observatory, Monday, 17 October, 18.30 – 22.00*

Take the Cable Car (your name badge is your ticket) to the Carter Observatory set in the beauty of the Wellington Botanic Garden. Canapés, drinks, and much more(!) await you.

## Conference Reception

*Te Marae (level 4), Wednesday, 19 October, 18.30 – 22.00*

The conference reception will feature canapés, drinks, and a “New Zealand style” conference welcome, all in the comfort of the conference venue itself.

## Conference Banquet

*Beehive (Parliament), Thursday, 20 October, 18.45 – 22.00*

Grant Robertson, Member of Parliament for Wellington Central, invites conference attendees to a formal conference banquet at the Banquet Hall of the Wellington signature "Beehive" building.

## Parliament Buildings Tour

*Parliament, Thursday, 20 October, 17.45 (earlier options available)*

A special – MODELS 2011 attendees only – tour through the Wellington Parliament Buildings starts at 18.00 and will finish just in time for the conference banquet (18.45) at the banquet location. To choose this tour, please select the “17.45” option from the registration form, as this is the time you will be expected at the Parliament entrance. All tours are free, have very limited capacity, and are filled on a “first-come, first-served basis”. Register your interest at <http://tinyurl.com/MODELS-Tours>.

## Food and Drinks

Satellite events and conference attendees will receive morning tea, lunch and afternoon tea on all days that they are registered for, with the exception of Friday when only morning tea will be served.

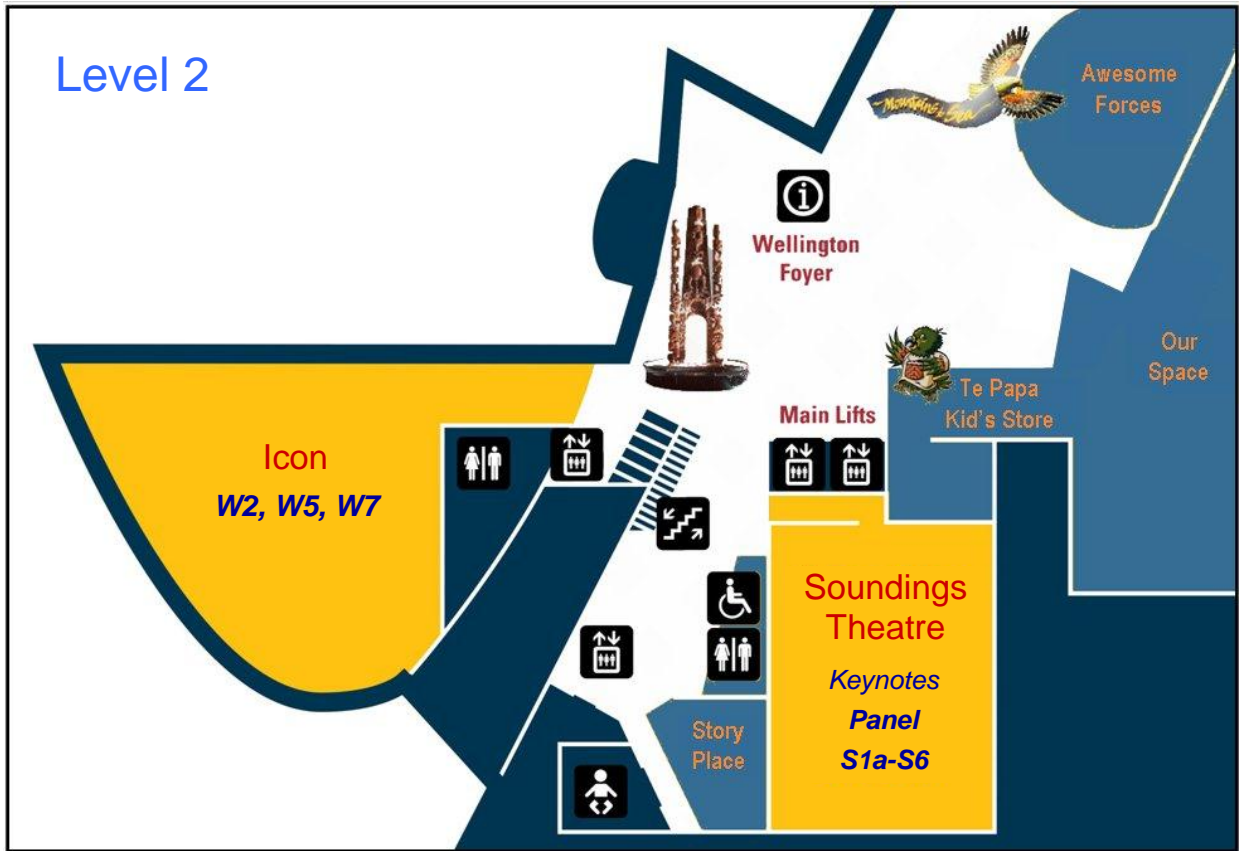
	Sun	Mon	Tue	Wed	Thu	Fri
Morning Tea	✓	✓	✓	✓	✓	✓
Lunch	✓	✓	✓	✓	✓	
Afternoon Tea	✓	✓	✓	✓	✓	
Dinner		Canapés*		Canapés	✓	

\*for Carter Observatory attendees

Vegetarian options will be available to those who have specified dietary requirements.

**Please note:** Attendees should not take food or drink out of the Oceania room and into the general museum, as food and drink are prohibited around the exhibitions.


# Venue Maps



# Internet Access

Within the museum, conference attendees may use

- the museum's WLAN with the SSID "**Te Papa**".  
No password required.
- an additional WLAN with the SSID "**modelsnz**".  
You'll need to enter the password "**models2011nz**".

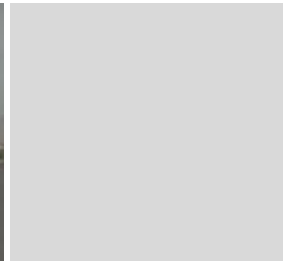
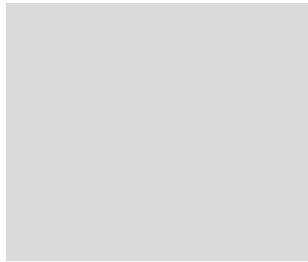
	<p>This additional network is provided by CityLink and Victoria University of Wellington. It is meant to provide more bandwidth, particularly in the Oceania room.</p>
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Outside the museum, in the Wellington central business district, you may enjoy the free WLAN with the SSID "**cbdfree**". After choosing one of several sponsors, you may use the internet for 30 min. After that period, you simply need to select a sponsor again.

# Notes



**ACM/IEEE 15th International Conference on Model Driven  
Engineering Languages and Systems**  
**Sept 30<sup>th</sup> – Oct 5<sup>th</sup> 2012, Innsbruck, AUSTRIA**



**Organized by**  
University of  
Innsbruck



**General Chairs**

Ruth Breu  
Colin Atkinson

**Program Chair**

Robert France

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**Abstract Submission Deadline**

**March 19, 2012**

**Website**

<http://modelsconference.org>

**Location**

Models 2012 will take place in the midst of Tyrol's breathtaking scenery and stunning mountains. As a university town with a strong record of academic excellence and a vibrant student scene, Innsbruck combines tradition and splendour with modern facilities. We invite you to join us in this international conference and Olympic city to help shape the modelling methods and technologies of the future.

<http://tirol.at>