

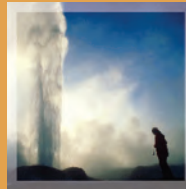
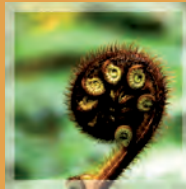


# APMP 2012

Asia Pacific Metrology Programme

25 – 30 November 2012  
Wellington, New Zealand

Visit [www.confer.co.nz/apmp2012](http://www.confer.co.nz/apmp2012)



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## The 28th APMP

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## General Assembly

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and

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## Related Meetings

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# Overall Schedule

APMP 2012 • Asia Pacific Metrology Programme • 25 - 30 November 2012 • Wellington, New Zealand

## WORKSHOPS

**Fri 23 Nov**

**Sat 24 Nov**

09:00 to 12:30	TCEM	Pressure & Vacuum Symposium	DEC & TCQM	TCQS	TCEM (at MSL)	Pressure & Vacuum Symposium	DEC & TCQM	TCL	TCRI	TCPR
		Lunch				Lunch				
13:30 to 17:00	TCEM	Pressure & Vacuum Symposium	DEC & TCQM	TCQS		Pressure & Vacuum Symposium	DEC & TCQM	TCL	TCRI	TCPR

## GENERAL ASSEMBLY AND RELATED MEETINGS

	<b>Sun 25 Nov</b>	<b>Mon 26 Nov</b>	<b>Tue 27 Nov</b>	<b>Wed 28 Nov</b>	<b>Thu 29 Nov</b>	<b>Fri 30 Nov</b>	<b>Sat 1 Dec</b>
09:00 to 12:30	EC1    TCC	All TC	All TC    DEC 2	Symposium "Measuring the Measurers"	General Assembly	General Assembly	Lab Tour
	Lunch    Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
13:30 to 15:00	DEC 1	All TC	All TC	NMI    Lab Tour Directors Workshop	General Assembly	General Assembly	
15:30 to 17:00	DEC 1    All TC		EC-TCC		General Assembly	EC 2	
19:00 start	Reception	TC/DEC Dinner	Free	APMP Dinner	GA Dinner		

Note: Breaks on each day will be: Morning 10:00 to 10:30, Lunch 12:30 to 13:30, Afternoon 15:00 to 15:30



# Introduction

APMP 2012 • Asia Pacific Metrology Programme • 25 - 30 November 2012 • Wellington, New Zealand

## Welcome

MSL is pleased to welcome you to the 28th APMP General Assembly and Related Meetings. We hope that you will enjoy your stay in Wellington and be able to take some time to enjoy the local sights.

There are two major venues for this event and so please take time to study the timetable and maps carefully. The workshops and committee meetings are being held at the downtown Pipitea Campus of Victoria University of Wellington in Bunny Street, near the railway station. The General Assembly is being held in the Wellington Town Hall some 1.5 km away in Wakefield St.

## APMP 2012 Organisation

Tim Armstrong and Keith Jones would like to thank all of the MSL/IRL and Conferences and Events staff who contributed to running APMP 2012. Particular thanks are due to Ngaire Raikabula and Cynthia Lendrum for overall coordination of the event.

## Access to Events

The Wednesday morning symposium is open to all. Registration is required for all meetings and social events.

Please note that meeting chairs reserve the right to exclude participants who are not formally members of the relevant committee. In particular the early morning session of the General Assembly on Friday 30 November is only for representatives of full member economies. Associate members, guests and observers are welcome to join the General Assembly after the morning break.

Guests and observers should inform the chair of their desire to participate.

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# Sponsors

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We gratefully acknowledge the support of our sponsors and exhibitors. Please take the opportunity to visit the exhibitors in the Rutherford House Foyer on Monday and Tuesday.

## Sponsor Organisations



Asia/Pacific Metrology Programme



Victoria University of Wellington

**INDUSTRIALRESEARCH**  
LIMITED  
*Te Tauihu Pūtaiao*



Industrial Research Limited



Measurement Standards Laboratory



# Sponsors

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## Major Sponsors



Fluke Calibration  
[www.fluke.com](http://www.fluke.com)



Measurements International  
[www.mintl.com](http://www.mintl.com)

## Combined Major Sponsors



Agilent Technologies  
[www.agilent.com](http://www.agilent.com)



RF Test Solutions  
[www.rftest.co.nz](http://www.rftest.co.nz)

## Sponsor/Exhibitor



CPS  
[www.cps.co.nz](http://www.cps.co.nz)

## Exhibitor



Isothermal Technology  
[www.isotech.co.uk](http://www.isotech.co.uk)

[www.instrumatics.co.nz](http://www.instrumatics.co.nz)





# Workshops

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## Registration

Date Friday 23 November  
Time 08:00 - 09:00  
Venue Rutherford House, Ground Floor

## APMP TCEM AC Quantities Workshop

Date 23 November 2012  
Time 09:00 - 17:00  
Venue Railway West Wing  
Room RWW315

Date 24 November 2012  
Time 09:00 - 12:30  
*Bus transport from Rutherford  
House 08:30*

Venue MSL\*, Lower Hutt  
MacDiarmid Centre

## APMP Pressure and Vacuum Symposium

Date 23 - 24 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House  
Room RHMZ10

## APMP DEC TCQM Workshop

Date 23 - 24 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House  
Room RHMZ05

## APMP TCQS Workshop

Date 23 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House, Room RHG01

## APMP TCL Workshop

Date 24 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House, Room RHG01

## APMP TCRI Workshop

Date 24 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House, Room RHG03


## APMP TCPR Workshop

Date 24 November 2012  
Time 09:00 - 17:00  
Venue Rutherford House  
Room RHMZ11

## APMP TCTF Workshop

Date 27 November 2012  
Time 09:00 - 15:00  
*Bus transport from Rutherford  
House 08:30*  
Venue MSL\*, Lower Hutt  
MacDiarmid Centre

\* MSL is in Lower Hutt, approximately 16 km from Rutherford House. Please be on time for the bus. Return transport will be provided.



# Meetings and General Assembly

APMP 2012 • Asia Pacific Metrology Programme • 25 - 30 November 2012 • Wellington, New Zealand

VENUE abbreviations: *Rutherford House (RH)* and *Railway West Wing (RWW)*

## SUNDAY 25 NOVEMBER 2012

09:00 - 12:30	EC 1 Meeting	RHLT3
	TCC Meeting	RHG01
13:30 - 17:00	DEC 1 Meeting	RHLT3
15:00 - 17:00	Registration	RH Ground Foyer
18:00 - 20:00	Reception	RH Mezz and Ground Foyer

## MONDAY 26 NOVEMBER 2012

08:00 - 09:00	Registration	RH Ground Foyer
09:00 - 17:00	TCAUV	RWW414
	TCEM	RWW315
	TCFF	RHMZ10
	TCL	RHG02
	TCM	RHMZ11
	TCPR	RWW314
	TCQM	RHLT3
	TCQS	RHG01
	TCRI	RHG03
	TCT	RHMZ05
	TCTF	RWW413
	WGMM	RHMZ04
19:00 -	TC/DEC Dinner	Courtenay Place Restaurants



# Meetings and General Assembly

APMP 2012 • Asia Pacific Metrology Programme • 25 - 30 November 2012 • Wellington, New Zealand

VENUE abbreviations: *Rutherford House (RH)* and *Railway West Wing (RWW)*

## TUESDAY 27 NOVEMBER 2012

09:00 - 12:30	DEC 2	RWW501	
09:00 - 15:30	TCAUV	RWW414	
	TCEM	RWW315	
	TCFF	RHMZ10	
	TCL	RHG02	
	TCM	RHMZ11	
	TCPR	RWW129	
	TCQM	RHLT3	
	TCQS	RHG01	
	TCRI	RHG03	
	TCT	RWW413	
	TCTF Workshop	MSL	
	WGMM	RHMZ04	
	13:30 - 17:00	NMI User Relations*	RHMZ05
		15:30 - 19:00	EC/TCC

\* by invitation only





# Meetings and General Assembly

APMP 2012 • Asia Pacific Metrology Programme • 25 - 30 November 2012 • Wellington, New Zealand

## WEDNESDAY 28 NOVEMBER 2012

09:00 - 12:30	Measuring the Measurers	RHLT1
13:30 - 17:00	Laboratory Tour A	MSL*
	Directors Workshop	RHLT3
19:00 - 22:00	APMP Dinner	Deloitte Gallery Level 4, Westpac Stadium

## THURSDAY 29 NOVEMBER 2012

08:00 - 09:00	Registration	Civic Ante Room
09:00 - 17:00	General Assembly	Civic Suites 1&2
19:00 - 22:00	GA Dinner	Macs Function Centre 4 Taranaki Street

## FRIDAY 30 NOVEMBER 2012

09:00 - 10:30	GA closed session	Civic Suites 1&2
11:00 - 12:30	General Assembly	
13:30 - 15:00	General Assembly	
15:30 - 17:00	EC 2 Meeting	Civic Suites 1&2

## SATURDAY 1 DECEMBER 2012

10:00 - 1300	Laboratory Tour B	MSL*
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• Buses depart from Rutherford House at 13:00

\* Bus pick up to be advised



# Symposium

28 November • Rutherford House RHLT1

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## Measuring the Measurers

A nation's standards and conformance infrastructure is essential for the viability and competitiveness of its industry, health and well-being of its citizens, and the quality and sustainability of its environment. While its importance is obvious, governments must spend wisely and citizens have a right to see their taxes spent wisely, so we must be able to demonstrate our value to the nation. The multi-million-dollar questions are what is our value and how can we measure it? Collectively, our activities reach into almost every part of an economy: trade, commerce, sport, industry, education, law, health, tourism, the list is practically endless. Not only are the impacts of our activities highly variable, the value may only be realised many links along a value chain. The aim of this set of talks is to explore ways of identifying and measuring the value of the activities of a standards and conformance infrastructure.

## Speakers

The eight speakers provide a broad range of perspectives on different aspects of a standards and conformance infrastructure. The symposium will be opened by the Hon. Simon Bridges, Minister for Consumer Affairs.

- Accreditation:** Llew Richards, CEO, International Accreditation New Zealand (IANZ)
- Legal Metrology:** Stephen O'Brien, NZ Measurement and Product Safety Service (MAPSS)
- Documentary Standards:** Rob Warner, Standards New Zealand (SNZ)
- Physical Standards:** Peter Fisk, CEO, National Measurement Institute of Australia (NMIA)
- Physical Standards:** Takashi Usuda, Director, Metrology Management Center, National Measurement Institute of Japan (NMIJ)
- Government:** Rosie Byford, Ministry of Business, Innovation and Employment (MBIE)
- Economics:** Bill Kaye-Blake, Principal Economist, NZ Institute of Economic Research (NZIER)
- International:** Barry Inglis, President, International Committee on Weights and Measures (CIPM)



# Laboratory Tours

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There are two opportunities to visit the Measurement Standards Laboratory in Lower Hutt. You will be asked to confirm the tour for which you have registered.

## **Laboratory Tour A**

On the afternoon of Wednesday 28 November buses will leave from Wellington immediately after the 'Measuring the Measurers' symposium to go to MSL. You will have the opportunity to visit a few areas of MSL and some selected parts of the wider Industrial Research campus. MSL is a small facility and so it will be appreciated if you can do your best to remain with your assigned group during the tour.

Please note that the APMP dinner starts at 19:00 back in Wellington.

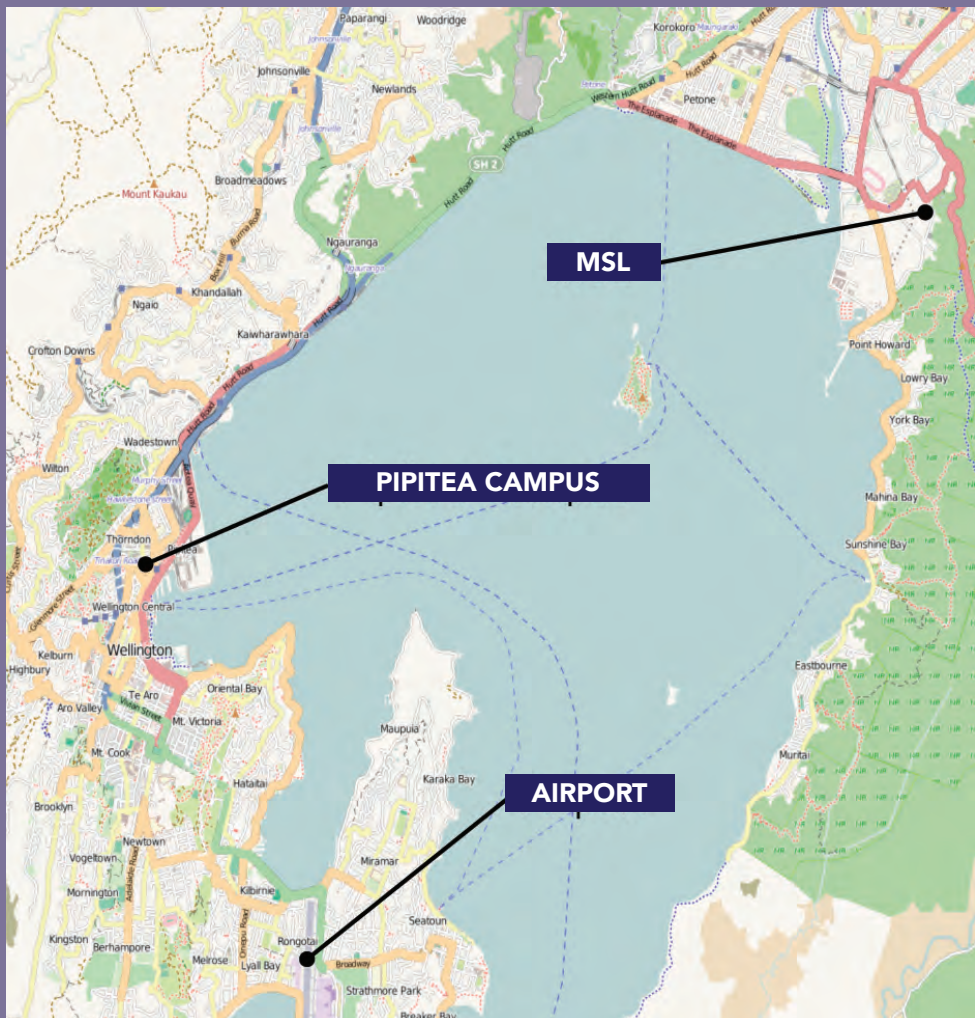
## **Laboratory Tour B**

A similar tour is being offered on the morning of Saturday 1 December. Bus pick up locations will be confirmed during the week before.



# Wellington Region

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# Inner City Wellington

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# Pipitea Campus

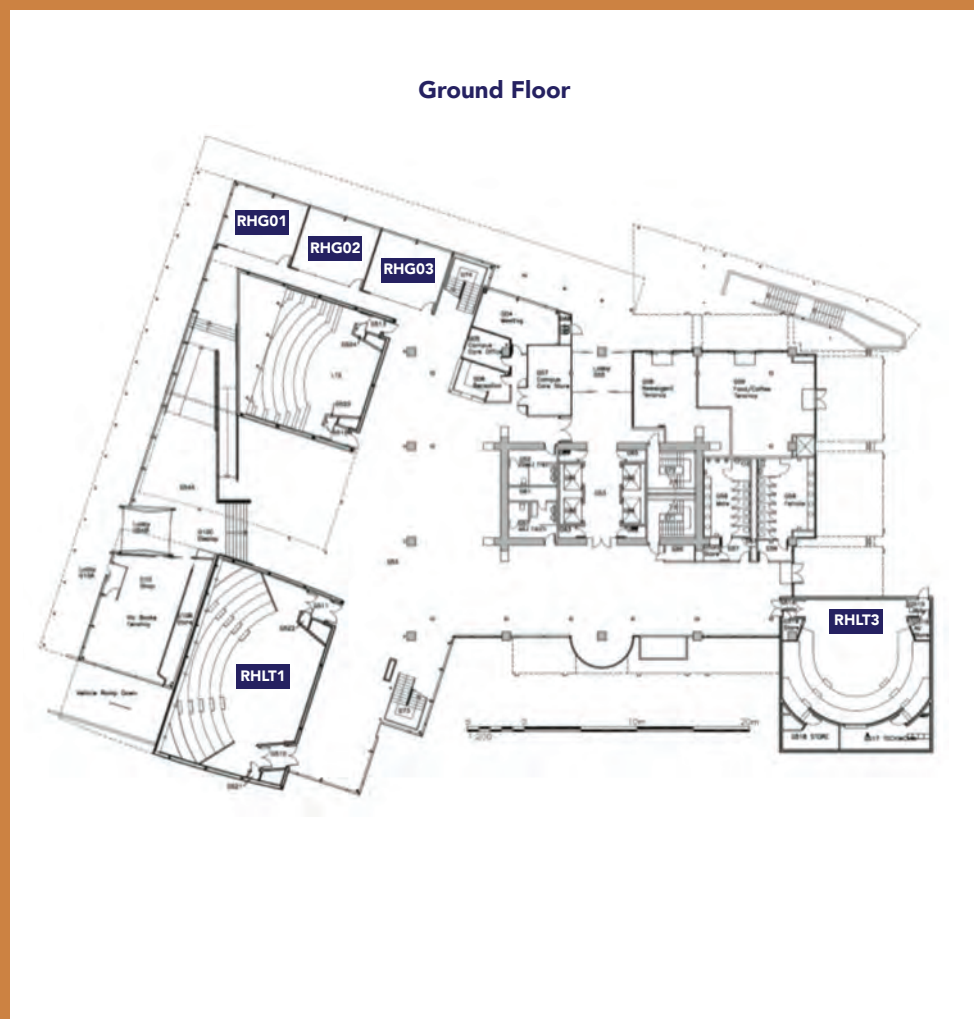




# Rutherford House

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## Ground Floor

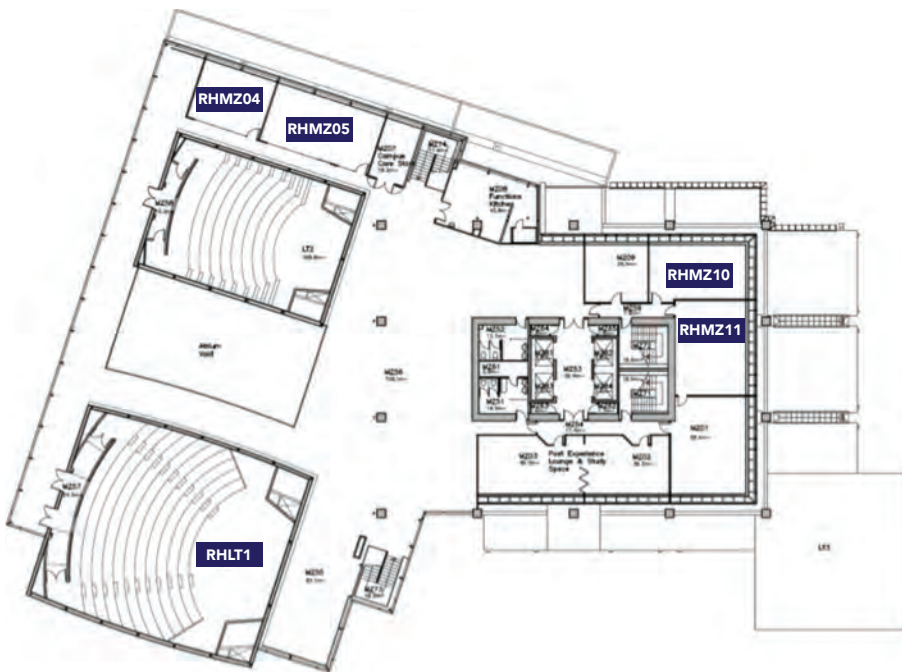




# Rutherford House

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## Mezzanine Floor







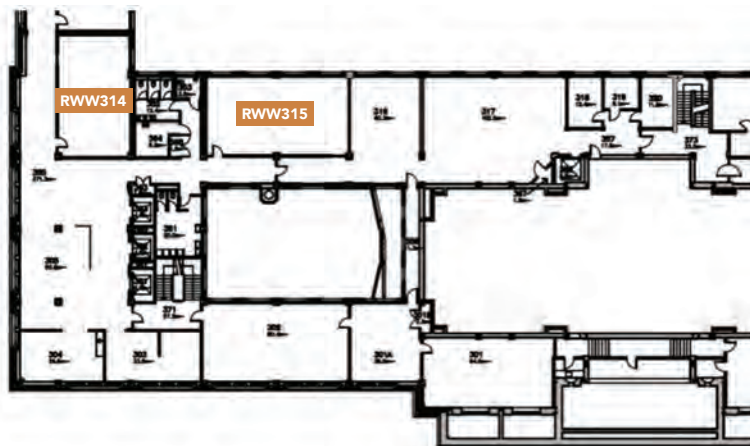
# Railway West Wing

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## Level 1



## Level 3

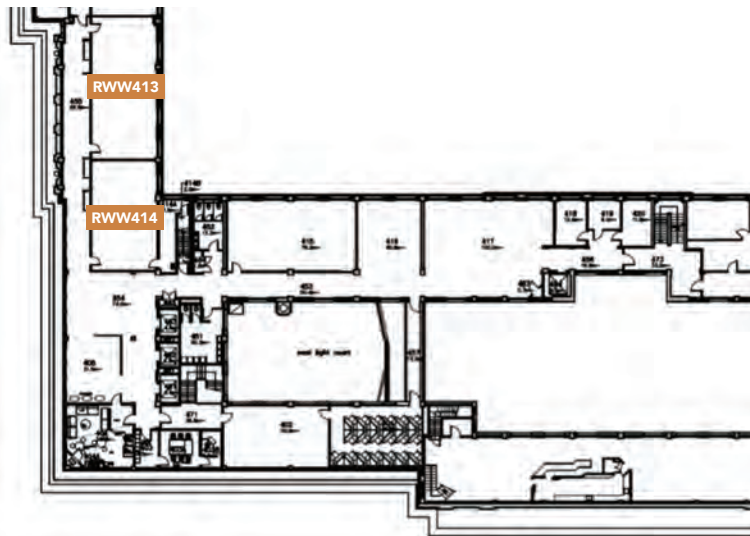




# Railway West Wing

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## Level 4



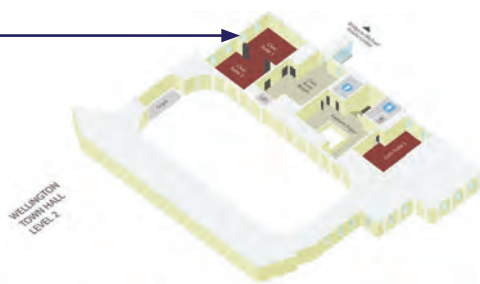


# Wellington Town Hall

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## General Assembly

Civic Suites 1&2  
Level 2  
Wellington Town Hall  
Wakefield Street



## Glossary

### Committee Name

Executive Committee  
Developing Economies Committee  
Technical Committee Chairs  
Technical Committee for Acoustics Ultrasound and Vibration  
Technical Committee for Electricity and Magnetism  
Technical Committee for Fluid Flow  
Technical Committee for Length  
Technical Committee for Mass and Related Quantities  
Technical Committee for Photometry and Radiometry  
Technical Committee for Amount of Substance  
Technical Committee for Quality Systems  
Technical Committee for Ionising Radiation  
Technical Committee for Thermometry  
Technical Committee for Time and Frequency  
Ad-hoc working group on materials metrology

### Abbreviation

EC  
DEC  
TCC  
TCAUV  
TCEM  
TCFF  
TCL  
TCM  
TCPR  
TCQM  
TCQS  
TCRI  
TCT  
TCTF  
WGMM

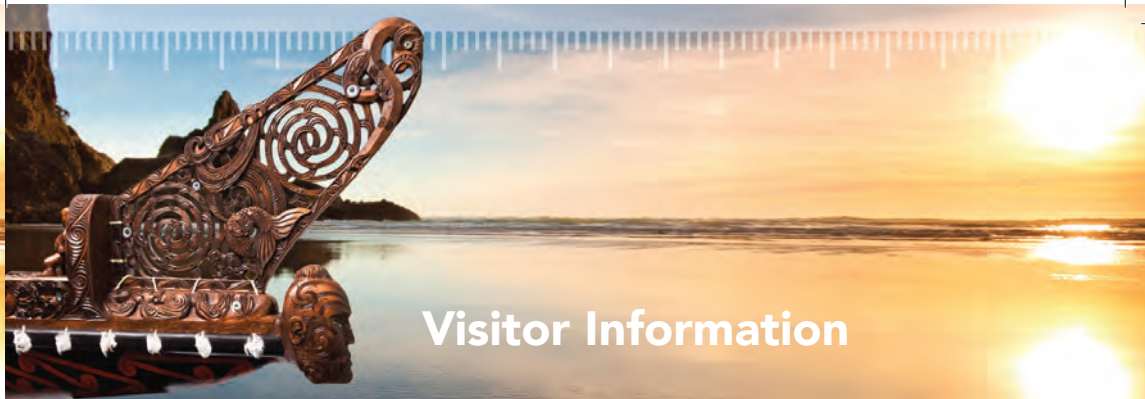


## Useful Contacts

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The country code for New Zealand is 64 and the area code for Wellington is 04.

Contact	Business Name	Local Phone	Mobile
<b>Emergency</b>	Police, Fire, Ambulance	111	111
<b>Taxis</b>	Wellington Combined	384 444	+64 4 384 444
	Green Cabs	0508 447336	
	Corporate Cabs	387 4600	+64 4 387 4600
<b>Hotels</b>	Millennium Kingsgate	473 2208	+64 4 473 2208
	Rydges Wellington	499 86 86	+64 4 499 86 86
	Comfort Hotel	385 2156	+64 4 385 2156
	Quality Hotel	385 2156	+64 4 385 2156
	Central City Apartments	385 4166	+64 4 385 4166
	Trinity Hotel	801 8118	+64 4 801 8118
	West Plaza	473 1440	+64 4 473 1440
	Downtown Backpackers	473 8482	+64 4 473 8482
	Ibis Wellington	496 1880	+64 4 496 1880
	Novotel Wellington	918 1900	+64 4 918 1900
<b>MSL</b>	IRL switchboard	931 3000	+64 4 931 3000
	Keith Jones	021 777 504	+64 21 777 504
	Tim Armstrong	029 440 3908	+64 29 440 3908
	Laurie Christian	027 485 2085	+64 27 485 2085
	Joan McSweeney	027 808 1281	+64 27 808 1281



## Visitor Information

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### General Information

For general visitor information regarding events, sights, activities, restaurants, etc. in Wellington, visit

<http://www.wellingtonnz.com>

An eBook version of the Wellington Official Visitor Guide 2012 is available from

[http://epublishbyus.com/wellington\\_visitor\\_guide\\_2012/10023675#](http://epublishbyus.com/wellington_visitor_guide_2012/10023675#)

### i-SITE Visitor Information Centre

Civic Square, corner of Victoria and Wakefield Streets

Phone: +64 4 802 4860 or 0800 933 5363

Email: [bookings@WellingtonNZ.com](mailto:bookings@WellingtonNZ.com)

### Transport

Information on Wellington Public Transit available at

<http://www.metlink.org.nz/>

Single fares or day passes can be purchased in cash on-board the bus or train.

*Note: Wellington is a compact city and many of the sights and activities suggested below are within walking distance of the conference venues (including the Rutherford House) and central hotels.*

### Things to do if you have a few hours free or less

Experience the treasures and stories of New Zealand - our land, wildlife, people, culture, art and history at **Te Papa, Museum of New Zealand**, our interactive national museum (free entry). Pop in for a few minutes or explore for the whole day.

[www.tepapa.govt.nz](http://www.tepapa.govt.nz)

Learn about Wellington's social, cultural and maritime history at the **Museum of Wellington City & Sea** (free entry).

<http://www.museumswellington.org.nz/museum-of-wellington-city-and-sea/>

Walk the **Wellington waterfront** past Queens Wharf (departure point of the harbour ferry and location of the Museum of Wellington City & Sea), and Frank Kitts Park (where there is a craft market every Saturday from 10am - 4pm) to Te Papa and beyond along **Oriental Parade**.

View panoramic sights of the city from the **Mount Victoria** Lookout. Accessible by car, #2 bus, or on foot via the **Southern Walkway** and other walking tracks in the Town Belt.

[http://www.wellingtonnz.com/sights\\_activities/mount\\_victoria\\_lookout#TB\\_window](http://www.wellingtonnz.com/sights_activities/mount_victoria_lookout#TB_window)

<http://www.wellington.govt.nz/services/walkways/pdfs/southern.pdf>



## Visitor Information

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Take the **Cable Car** up the hill for views of the city and harbour. Visit the **Cable Car Museum** (free entry) or the **Carter Observatory**, or walk back into town through the Wellington Botanic Garden and Bolten St Memorial Park.

The **Wellington Botanic Garden** (free entry) features 25 hectares of unique landscape, protected native forest, specialised plant collections, colourful floral displays, and views over Wellington city. Rose Festival, 23-25 Nov, Lady Norwood Rose Garden.

<http://www.wellingtoncablecar.co.nz>

<http://www.museumswellington.org.nz/cable-car-museum/>

<http://www.carterobservatory.org/>

<http://www.wellington.govt.nz/services/gardens/botanicgardens/botanicgardens.html>

Visit **Old St Paul's Cathedral** (entry by donation), an example of 19th century Gothic Revival architecture, constructed entirely from native timbers. Just 5 minutes walk from the Rutherford House.

<http://www.historicplaces.org.nz/placesToVisit/lowerNorthIsland/oldStPauls.aspx>

### Shopping

The main shopping district is in and around Lambton Quay, Willis Street, and Cuba Street. For a uniquely New Zealand gift or souvenir visit the Te Papa Store ([www.tepapastore.co.nz](http://www.tepapastore.co.nz)) or the New Zealand Souvenir Factory Shop in Mirimar (<http://www.souvenirfactoryshop.co.nz/>), just 5 min from the airport.

### Public Swimming Pools

Freyberg Pool & Fitness Centre, 139 Oriental Parade

<http://www.wellington.govt.nz/eventsrec/recreation/pools/details/freyberg.html>

Thorndon Pool, 26 Murphy Street

<http://www.wellington.govt.nz/eventsrec/recreation/pools/details/thorndon.html>

### Things to do if you have a half-day or more free

Take the **Hop on Hop Off City Tour** to visit the top sights and attractions in Wellington. Hop off at any of the 18 stops, explore the attractions at your own leisure, then hop back on the next bus.

[www.hoponhopoff.co.nz](http://www.hoponhopoff.co.nz)



## Visitor Information

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Take the **Dominion Post Ferry** from Queen's Wharf, across the harbour to **Days Bay** (20 min one way). Enjoy a bite to eat in a café or bring your walking shoes and hike up through a mature beech and rata forest in **East Harbour Regional Park** for stunning views over Wellington Harbour (Trail access from William's Park, across from wharf). *Note: Days Bay is about a 10 minute drive from the Measurement Standards Laboratory in Gracefield, Lower Hutt.*

<http://eastbywest.co.nz/>

<http://www.gw.govt.nz/Days-Bay-tracks/>

**Khandallah Park Loop Walk.** Walk through native bush to the summit of Mt Kaukau for stunning 360 degree views of the city, harbour, hills, and Cook Strait (3h return). To get there, take the Johnsonville train from Wellington Station to Simla Crescent (13 min).

<http://www.wellington.govt.nz/services/walkways/loopwalks.html>

Visit **Zealandia**, a fenced urban eco-sanctuary, located a ten minute drive from downtown Wellington. See some of New Zealand's rarest birds, reptiles and insects living wild in their natural environment. Also includes an indoor exhibition of New Zealand's incredible natural history and

world-renowned conservation movement.

[www.visitzealandia.com](http://www.visitzealandia.com)

Join **Lord of the Rings** and **Hobbit** fans as they gather for the November 28 premier of the movie *The Hobbit: An Unexpected Journey* <http://www.wellingtonnz.com/middleofmiddle-earth/thehobbit>

Visit the **Weta Cave** ([www.wetaNZ.com](http://www.wetaNZ.com)) (free entry) for a behind-the-scenes look at WETA Workshop or take a guided tour to some of the locations used in the filming of *The Lord of the Rings* ([www.movietours.co.nz](http://www.movietours.co.nz), [www.wellingtonrover.co.nz](http://www.wellingtonrover.co.nz)). Pre-booking is required for these tours as they are filling fast, especially in the week leading up to the premiere.

### In the Evenings

Wander **Courtenay Place** and surrounding area and enjoy food, drink, or entertainment at one of Wellington's restaurants, bars, clubs, or theatres.

Do some star gazing at the **Carter Observatory** (dusk - 9:30 pm, Tuesdays and Saturdays) or visit during daytime hours to see the multimedia exhibition and planetarium.

<http://www.carterobservatory.org/>



